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THE FARMER'S ADVOCATE

AND HOME MAGAZINE

PERSEVERE AND SUCCEED
FOUNDED 1866

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

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THE '96 GRADUATING CLASS OF THE ONTARIO AGRICULTURAL COLLEGE.

EDITORIAL.

Ontario Agricultural College Closing.

The closing exercises of the Ontario Agricultural College took place in the Convocation Hall at that institution, on Tuesday, June 30th. President Mills welcomed the large gathering on behalf of the Hon. Minister of Agriculture, who was unavoidably prevented from being present. The President, in a concise address, referred to the prosperity of the institution, and the entire harmony which has prevailed at the institution throughout the past year. The conduct and work of the students were referred to as being entirely satisfactory. "The farm," continued the President, "is well tilled, well managed, and producing good crops. The experimental department continues to increase in magnitude, and efficiency to the country. The dairy department has become favorably known, and is growing in popularity. The poultry department is going ahead well, and the bacteriological laboratory is well equipped for work. The rebuilding of the chemical laboratory is in progress, and the outlook for the institution was never brighter than now. The popularity of the institution is shown by the enormous multitudes of farmers and others who visit the Farm from year to year. During the 25 days preceding the closing no less than 11,000 have visited the College and investigated the different departments, more or less thoroughly." Reference was made to the 11 graduates and 22 associates who received their degrees and diplomas this year. Mr. Geo. A. Cox, President of the Bank of Commerce, was referred to as being worthy of the best thanks of the College and students for the ten \$20-scholarships presented and awarded this year.

Hon. James Young, a former Minister of Agriculture, who was present, presented the diplomas to the 22 second-year men. In a few well-chosen remarks, the hon. gentleman referred to the steady and substantial progress of the institution evident upon every visit. "The man must be very dead," remarked Mr. Young, "who is not moved by what one sees at this institution?" Reference was made to the prominent position Ontario holds in agriculture, which is largely due to and could not be sustained but for this College of Agriculture. The farmers are getting into the way of paying this place annual visits, as the Mahomedans did Mecca. These visits are a benefit to the districts from whence the visitors come. He hoped the Government would continue to be liberal with this department, as money could not be more profitably spent for the country. The students educated here are the flower of manhood, and every one of them will be a power for good.

Principal Caven, of Knox College, Toronto, referred to the history of agriculture as almost the history of the race. Agriculture is the basis of the prosperity of our Canadian people. To see agriculture in its perfection, one has to visit such countries as Great Britain. Canada can attain the same high position only by the instrumentality of such institutions as this Agricultural College. Agriculture has seen a steady progress. At first the land was cleared, burned, scratched, and sown with wheat. True, some have not advanced much beyond this state, but such is now generally known to be inadequate. Better ideas are taking possession of farmers. The science of chemistry is having a place, stock is being raised, a rotation is being followed, and this establishment is doing much to promote this important work. A word to the students regarding their great responsibility brought a much appreciated address to a close.

President Loudon, of Toronto University, expressed his pleasure at being able to visit this country cousin—the Agriculture College. The President spoke of the exodus of rural people to the cities, which he regards as a blessing to the latter, because their population would soon become a degenerate lot without these infusions. The rural population fill the best and most honorable positions of the State. It was very gratifying to hear the President state that the great mass of successful university students were from the country. They are noted for their enthusiasm and energy, which places them most in evidence among the honor men.

Prof. C. C. James, Deputy Minister of Agriculture, brought greetings from the Hon. Minister, who regretted that he could not be present. For some ten years Prof. James has been directly or indirectly connected with the Ontario College of Agriculture. On this occasion he was pleased to note that, notwithstanding the severe criticism to which this institution has been subjected, its popularity and usefulness is more in evidence now than at any previous time. The many students that yearly attend the College show that merit is recognized. During the past year many young men, and some women, have received education at the College, and all decide that it costs something. But whether is education or ignorance the more expensive?

Graduation does not finish, but is simply the starting point of one's education. His duty upon leaving his *alma mater* is first to himself; second, to those around him; and third, to the College; the result of which will be that the College will be judged upon its product, which cannot be other than favorable when an ex-student does his best for his own welfare.

The valedictorian for this year is Mr. J. C. MacDonald, Lucknow, Ont., who delivered a most excellent address upon "Practical Economics."

THE GRADUATING CLASS.

The students who were graduated by the University of Toronto to the degree of Bachelor of Scientific Agriculture, at the last convocation, make up the class illustrated on the front page of this issue:—

No. 1.—Mr. J. F. Clark, of Bay View, P. E. I., was gold medalist in 1895, Assistant Managing Editor of the *Review* during the past college year, and is now Resident Master at the College.

No. 2.—Mr. James Atkinson, Seaforth, Ont., won the gold medal in 1893 for having stood highest in the proficiency list of second-year students. He was one of the agricultural editors of the O. A. C. *Review* for the year 1895-6, and is now engaged upon the experimental department of the "Farm."

No. 3.—Mr. J. W. Knight, Elginburg, Ont., was awarded the Cox scholarship in agriculture and dairying in 1895; was Personal Editor of the *Review* during the past year, and is now in Kentucky, managing a large creamery.

No. 4.—Mr. R. B. Maconachie, of Gadsapur, India, farmed in the Canadian Northwest for a number of years; was Athletic Editor of the *Review* during the past year. He is now at the O. A. C., and intends to pursue agriculture in Ontario.

No. 5.—Mr. T. F. Paterson, Lucknow, Ont., was second silver medalist and valedictorian in 1895; was Managing Editor of the *Review* during the year just closed, and is now Acting Librarian at the O. A. C.

No. 6.—Mr. G. A. Smith, Morrisburg, Ont., has been President of the Athletic Association during the year 1895-6. He will remain at the College until autumn, when he intends to enter Cornell University to pursue the study of chemistry.

No. 7.—Mr. P. B. Smith, Hamilton, Bermuda, has been one of the local editors of the *Review* during the past year. He intends to pursue dairy farming in his native island.

No. 8.—Mr. A. C. Wilson, Greenway, Ont., took a special course in dairying along with his other studies during the past year, and is now engaged in cheesemaking with Mr. A. T. Bell, of Tavistock, Ont.

No. 9.—Mr. N. F. Wilson, Rockland, Ont., will remain at the Guelph College during the summer and then enter Cornell University to further pursue the study of scientific agriculture.

No. 10.—Mr. W. J. Thompson, Barrie, Ont., will remain at the College for a few months. He intends to follow practical agriculture upon scientific lines.

No. 11.—Mr. W. R. Bishop, Beachville, Ont., secured his diploma in 1888, and has taught school for a number of years. He was Agricultural Editor of the *Review* during the past year, and is now in charge of a cheese factory in Elgin Co., Ont.

SECOND-YEAR PRIZEMEN.

Gold Medalist—Geo. Owen Higginson, Hawkesbury, Ont.; also winner of Cox scholarship in Agriculture, etc.

First Silver Medalist—Percy Warburton Hodgkiss, St. Catharines, Ont.; also winner of Cox scholarship in Natural Science.

Second Silver Medalist—James Rodger Oastler Featherstone, Parry Sound, Ont.

Mr. I. I. Devitt, Floradale, Ont., won the Cox scholarship in Mathematics.

The Geo. A. Cox Scholarships.—First year: Agriculture, Live Stock, Dairying, Poultry, and Apiculture—T. A. Wiancko, Sparrow Lake, Ont. Natural Science—G. B. McCalla, St. Catharines, Ont. (first in four departments). Veterinary Science—W. B. G. Heartz, Truro, Nova Scotia. English—H. R. Ross, Gilead, Ont. Mathematics—R. D. Craig, O. A. C., Guelph, Ont.

Plant Trees.

Elsewhere in this issue we give space, with pleasure, to a contribution from Mr. Thos. Conant, on the subject of tree planting. An adept with the pen, he also speaks from experience and observation, having travelled extensively throughout the world. It was the *Globe*, we believe, that the other day spoke of him as "perhaps the best authority on forestry to-day in Canada." Be that as it may, he puts the case well in his article, but no more strongly than it deserves. Most men neglect tree planting from a careless procrastination, or because they fail to see an early return, and are, perhaps, too selfish to do anything for the next generation; but in this, as in many other things, he who plans to help others will be found to have in reality done himself at the same time grand service. Read Mr. Conant's suggestive notes on this important subject.

Inspection as Conducted by the U. S. Bureau of Animal Industry.

According to the 1895 Year Book of the U. S. Department of Agriculture, meat inspection during last year was given more attention than previously. The public, especially in the great cities, where the larger abattoirs are located, demanded that more critical and extended inspection be given, while the Department sought to inspect all animals slaughtered for interstate or foreign trade. According to the report of the Secretary for Agriculture, the work of inspection at the abattoirs during the fiscal year ending June 30th, 1895, was augmented by about forty-three per cent. During the same year over five million animals were subjected to ante-mortem inspection in the stock yards.

By order of the U. S. President, inspectors were placed in the classified service on July 1st, 1894. Since that time the number of officers has been largely reinforced. All inspectors thus appointed are graduates of reputable veterinary colleges, and have passed satisfactory examinations in veterinary science before the Civil Service Commission.

The Secretary asks, in his report, whether or not it would be wise to have the whole matter of animal and meat inspection relegated to State and municipal authority? When and where will the duties of the Bureau of Animal Industry otherwise be defined and restricted? And what will be ultimately the annual appropriation of money force to compensate the constantly increasing force of inspectors and other officials? It is suggested that owners of animals and carcasses inspected should pay for the service, which adds selling value to their commodities. During the past year inspection cost 1.1 cent per animal inspected. The aggregate sum paid out for that service was \$263,731.34.

The inspection of live animals for exportation amounted to an examination of 657,756 animals during the fiscal year 1895. Out of the cattle inspected, 1,000 were rejected during the year. The number of sheep inspected for exportation was 704,044, the number really exported being 350,808, being an increase of over 300 per cent. over 1894. Every bovine animal was tagged and numbered. Each number was registered so that the animals could be identified. All the cattle were certified to be free from disease.

Some difficulty has been found to accompany the shipment of sheep in order to prevent diseases breaking out while on or after transit. Large numbers of sheep crowded together in a vitiated atmosphere is conducive to the speedy development of scab. Flocks carefully examined and found entirely free from any symptoms of disease at the time of embarkation are sometimes found badly affected with scab when landed. It is thought probable that cars which have previously carried diseased sheep may have had something to do with the trouble. Others may be affected in stock yards, and other, again, in ships. It is therefore considered necessary to adopt regulations for the disinfection of cars, ships, and stock yards, and that inspection must be vigorous and specific so as to prevent the sale by growers and feeders of diseased sheep to be placed on the market.

During the year all vessels in the export sheep and cattle trade have been thoroughly inspected by officers of the Bureau of Animal Industry. Stock yards, too, have been subjected to vigorous inspection to prevent the spread of contagious diseases through interstate and foreign commerce.

As regards quarantine, it is reported that in all 702 imported animals from Europe were held for the prescribed period and inspected. During the same time 293,594 animals were imported from Canada, but not subjected to quarantine, as follows: 292,613 sheep, 908 swine, 48 cattle, and 5 moose.

According to the above report, the American Department of Agriculture is not lax in the matter of looking carefully after the live stock interests of the nation, which manifest interest is worthy of the highest commendation. Knowing that Canadian live stock is her most important industry, it could not be amiss for the new Government at Ottawa to take a leaf from our cousins' book over the line in the matter of more attention to the right arm of agriculture.

The grain-cutting season is usually a hard one on the horses' shoulders and necks. A good way to prevent chafing is to use close-fitting, smooth-surfaced collars. Collars should be dried every night and brushed and beaten with a smooth, flat stick every morning.

The drought which threatened to be disastrous to British farmers a few weeks ago is being rapidly forgotten, because of recent heavy rainfalls throughout the Islands. The ground is now moist enough, and a heavy aftermath is looked for to follow the very light hay crop which has been taken. The root crops are growing by leaps and bounds, and stock farmers generally have cheered up.

Elsewhere in this issue is published an able article upon Agricultural Science in Rural Schools, by J. Hoyes Pantton, M. A., F. G. S., a man of broad experience and good judgment. We have no hesitation in believing that if the Public Schools of the country were to generally adopt a course similar to that outlined by the writer, the business of the agriculturist would very soon rank among not only the most pleasant, but the most profitable of industries.

THE FARMER'S ADVOCATE & HOME MAGAZINE

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Our Portrait Offer.

The old adage, "A thing of beauty and a joy forever," was never more suitably applied to an object than to a life-like crayon portrait. The magnificent work done by the portrait company with whom we have an arrangement for premiums, as per advertisement, page 293, can not fail to give satisfaction when the photo sent us is right and no changes are asked for. They can follow copy exactly. A few hours of canvassing will easily secure one of these grand pieces of art work, 16x20 inches. Surely it is worth the trouble.

Fire at the Central Experimental Farm.

To the Editor FARMER'S ADVOCATE:

DEAR SIR,—You will doubtless have seen an account of the disastrous fire that destroyed our laboratories on the 6th inst. Perhaps you would be good enough to state in your columns that, though much of the apparatus is destroyed, we hope to be able to resume chemical work in the course of a few weeks, temporary accommodation for that purpose now being fitted up. It will be well for all correspondents who have lately sent samples for examination, to write me now, since many of the recent samples and records relating to them were lost in the fire.

Yours faithfully,

FRANK T. SHUTT,
Chemist, Expl. Farm.

Ottawa, July 10, 1896.

Advantages of Beet Sugar Cultivation.

As an indication of how sugar beet culture can stimulate other lines of farming, it is said that in 1853, when the Emperor and Empress of France came to Valenciennes, a triumphal arch was erected bearing the two following inscriptions:—

"Before the manufacture of beet sugar, the arrondissement of Valenciennes produced 695,750 bushels of wheat, and fattened 70 oxen."

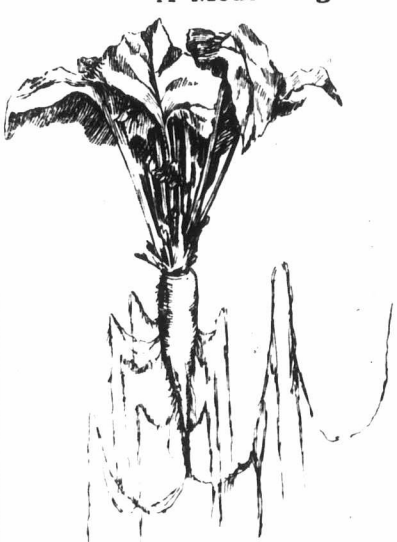
"Since the manufacture of beet sugar was introduced, the arrondissement of Valenciennes produces 1,157,750 bushels of wheat, and fattens 11,500 oxen."

Hence, beet cultivation did not supplant, but aided, other farm crops. *Beet Sugar* (of Philadelphia, Pa.), an excellent periodical devoted exclusively to this industry, gives the following resume of its advantages:—

"The beet flourishes in a soil that has been worked to considerable depth, and the crops that follow derive advantage therefrom, their yield being greater, and the cost of preparing the soil for their reception being reduced almost to a minimum. In consequence of the constant weeding during the sugar beet development the next crop will have few weeds to contend with, and hence derives the entire benefit from the plant foods of the soil. Many agronomists go so far as to assert that the beneficial effects are such that the beets may be considered as having been obtained free of cost. The residuum pulp from factories feeds cattle and means cheap milk, butter, and meat; furnishes fertilizers gratis, and by the feeding of these pulps, combined with necks and leaves, all the plant food—with the exception of that contained in residuum molasses—is returned to the soil. Besides this there is a social question too frequently overlooked. The farmer, instead of being brought in contact only with other tillers of the soil, is forced, through circumstances, to have dealings with chemists, engineers, and men of education at the factory, which stimulates his ambition for his children, and the rising generation thus becomes of a higher standard than if the factory had not been started in the locality. The transportation of beets, of raw and manufactured material of the factory, necessitates the building of railways, from which the farmer derives an advantage by his farm soon becoming divided off in lots. He avails himself of the increased value of property, makes money in a hundred different ways, and sees a certain future not only for his land but for all his belongings. The cultivation of beets demands more labor than most crops; hence, it prevents the farming districts from becoming depopulated for want of occupation. The factory working during the winter, many of the hands who were employed on the fields during the summer find work there during a period of the year when they would evidently be unable to find employment elsewhere. The fact that the women and children can do the work of weeding increases the actual money returns for each family, and the work, being done in open air, is healthful and excellent exercise when the boys are home from school.

In Europe it is admitted that for every acre devoted to beets there is a money return just double that possible to obtain from any cereal. These examples could be continued almost without limit. It should be remembered that sugar from beets may be profitable or not to the manufacturer, but beets cultivated with care always mean in the end a fortune to the farmer. He does not always realize the fact, but the truth is, the tiller after a term of years turns his capital over many times, which the capitalist is never able to accomplish when extracting the sugar from beets furnished him."

A Model Sugar Beet.



The accompanying figure represents the most desirable form of sugar beet. To obtain this sort it should be grown from good seed produced from selected beets. It must also be grown on good soil, with proper care and plenty of cultivation. Beets having long, sprawling roots often result from lack of proper care and cultivation. They have no good characteristics, are dreaded

by the factory, and are only fit for forage purposes.

A bill in the German Parliament places the manufacture and sale of oleomargarine under strictest regulations. All margarine for home consumption is to be colored red or blue, so that it may at once be distinguished from butter.

STOCK.

Our Scottish Letter.

ENGLISH ROYAL OF '96.

This is the week of the Royal Show at Leicester. All the agricultural world and his wife is there, and the event has been a great success. There have been greater shows of the Royal, but we should not say that there have been many more successful. We have, however, seen shows at which there was something more sensational in the way of stock. On the whole, the Shorthorns are the best display in the cattle section; the Shires, of course, amongst heavy horses; Shropshires and Lincolns amongst sheep; and Stilton cheese in the dairy section. Scotchmen are fairly numerous in Leicester, which is a great grazing county, but they do not seem to have taken to the pure-bred classes, as none of the Scottish colony appears in the prize list. The desire to make ends meet as rapidly as possible has accomplished this, and the commercial instincts of the North Briton triumph over his love of good animals. The Scottish Shorthorn, and the breeders of the red, white and roan in Scotland generally have every reason to be satisfied with what they have accomplished during the past few days. The two championships have come North—that for the best Shorthorn bull being secured, for the second year in succession, by Lord Polwarth, with his Booth *cruikshank* bull, Royal Harold, whose sire was Royal Riby, and his dam was by King Stephen; the latter a Cruickshank bull with a history. The reserve championship in this section went to the Prince of Wales for a fine two-year-old, named Celt, whose sire was the Scottish bull, Gael, and his dam a Bates cow. This bull was sold, it is said, for 1,000 gs., to go to South America, and in any case he and many others have recently been purchased for that market. The championship for female Shorthorns was won by Messrs. Law, Mains of Sanquhar, Forres, with Aggie Grace, a very bonnie two-year-old heifer by a home-bred bull of Aberdeenshire breeding, while her dam belongs to a somewhat notable tribe or family. The original of them came, we understand, from Northumberland, and they have been crossed for several generations with first-rate bulls. Aggie Grace came near to being the best Shorthorn in the show. She was followed in the championship competition by quite a celebrated animal, Mr. George Harrison's fine cow, Warfare, which was bred at Kinellar, and has won many prizes and championships; she was first in the cow class. Her Majesty the Queen was first with a right good yearling bull got by a Scottish sire out of one of the Margaretta cows. This is like a bull that will go on improving. He is named Marmion, and he is a fine roan, got by Volunteer, out of a cow by the 1,000-gs. bull, New Year's Gift. The best class of this breed was that for yearling bulls. No such display has been seen for many a day, and this augurs well for the future of the breed at home as well as for the supply to meet the growing foreign demand. South America has opened up again, and several large orders have been booked for that part of the world. The Aberdeen-Angus breed was fairly well represented, but a great deal of leeway has yet to be made up before it can be said to hold a position of rivalry to the Shorthorn in the greater portion of England. In almost every district now the blacks are to be found, and there are few counties in which there are not breeders of Aberdeen-Angus cattle. In Sussex, Bucks, and Bedford they are found, as well as in Yorkshire, Northumberland, and the Northern counties generally. The best bull and cow, however, came from the Northern counties; Mr. Earle, from Kirkbridge, Darlington, securing the male championship with a very grand bull, Fairy King, and Mr. Clement Stephenson, Newcastle, the female championship, with the massive, big cow, Radiant. The Marquis of Huntly was the only exhibitor from the other side of the Border. He exhibited a very pretty cow named St. Barbara, which, however, was placed second to Radiant. Galloways were mainly in the hands of Mr. John Cunningham, Durhamhill, Dalbeattie; the Countess of Carlisle, Haworth Castle, Brampton; and Mr. Graham, Harlawhill, Lougholm. Mr. Cunningham won a great share of the prizes, but Mr. Parkin-Moore, of Whitehall, Carlisle, secured an additional first prize with his still unbeaten bull, Nonpareil, which he bought as a stirk at Castle Douglas for 95 gs. Although there was no award of a championship, this would be the best bull shown. The best female was, there can be no doubt, Mr. John Cunningham's Dora of Durhamhill, but from circumstances which need not be described here, she was judged by an Aberdeen-Angus breeder, with the result that she was placed second to a cow which her owners do not regard as at all equal to Mr. Cunningham's heifer. Sir Mark J. MacTaggart Stewart, Bart., M. P., secured both championships for Ayrshires with the bull, First Choice, and the cow, Heather Honey, which he bought at Capt. Steel's sale for £58.

Horses were in force; the breeds best represented being, of course, the Shire, Hunters, and Hackneys. The English cart breed was strong in numbers, but we have seen judging which a Scotchman could follow better. The championships were both secured by gets of the Calwich stud horse, Harold, without any doubt the most impressive breeding horse in England. The Hackneys were a great display, and a notable fact was the success of the produce of one mare, Dorothy 2016, which Sir

Walter Gilbey, Bart., bought at the Rotherfield sale two years ago for 1,200 gs. Her son, Royal Danegelt, a grand two-year-old colt, was champion of his set. Her daughter, Lady Keyingham, his own sister, was champion of the female set; and yet another daughter, Lady Dereham, was first in the class for brood mares above 15 hands. Sir Walter Gilbey owns Royal Danegelt and Lady Keyingham, as well as their dam, and Mr. J. W. Temple, Leyswood, Groombridge, Sussex, owns Lady Dereham. A Scottish exhibitor, Mr. C. E. Galbraith, Ayton Castle, Ayton, exhibited three mares and won two first prizes, one second, and stood reserve to Sir Walter Gilbey for the mare's championship with his second prize brood mare, Lady Ulrica, which took the championship at Edinburgh. Lady Helmsley was first three-year-old, and Trilby, an unbeaten yearling, was first in her class; she was got by his own horse, Danebury. Leicestershire is a great hunting county—said, in fact, to be the best in England—and the show of hunting horses was a grand one. Clydesdales were a bit from home, but all the same they gave a good account of themselves. Messrs. A. & W. Montgomery exhibited for the first time their American-bred horse, Prince Shapely, whose own brother, Prince Quality, is somewhere in Canada. Prince Shapely is the three-year-old, and his full brother, Prince Sturdy, purchased at the same time from Col. Halloway, is a four-year-old; we expect he will be seen at the Highland. Prince Shapely is a very gay, handsome horse, full of quality, and an extraordinary goer. The same owners took first prize with their two-year-old unbeaten colt, Primate, by Macgregor 1487, which sired all the other first prize winners in the show, except the two-year-old filly, Kite, by Castleguard, which was bred and is owned by the Marquis of Londonderry; this is a very bonnie mare. Mr. Thomas Smith, Blacon Point, Chester, won all the other first prizes in the female section with the Macgregor mares, Royal Rose, whose career of victory is almost unique, and the three-year-old, Jean Macgregor, a very good animal.

Sheep cannot be of much interest to Canadian readers, except perhaps the Shropshire. The leading winners for this breed were Mrs. Barrs, Odstone Hall, Atherstone; Mr. J. Bowen-Jones, Emsdon House, Montford Bidge, Salce; Mr. Ambrose Salisbury Berry, Pheasey Farm, Great Barr, Birmingham; Mr. David Buttar, Corston, Coupar-Angus; John H. Harding, Morton House, Shifnal; A. E. Mansell, Harrington Hall, Shifnal; and W. F. Inge, Thorpe Hall, Tamworth. There was a very large entry, and in the section in which his father was not judging, Mr. Tom Buttar, Corston, acted as one of the judges. "SCOTLAND YET."

Another Criticism of "Claughbane" on Horse Breeding.

To the Editor FARMER'S ADVOCATE:

SIR,—Some time ago there appeared in your decidedly live paper a series of articles by "Claughbane," entitled "Horse Breeding from a Farmer's Standpoint." In these papers the writer, with no uncertain sound, condemned the use of the Standard-bred trotter as a sire to be used on farm mares, which view was criticised by your correspondent who signed himself "Subscriber," to which "Claughbane" replied, walking into his affections in good shape and leaving him not a thing to stand on.

Now, I thoroughly agree with "Claughbane" in his views regarding the Standard-bred trotter and his grades, but when he attacks the Clyde horse it is quite another thing. Now, Mr. Editor, I have waited patiently, very patiently, for some more able pen than mine to take up the defence of our breed; but having waited in vain, and seeing that lately much of your space has been devoted to the horse, I fain would say a word for the Clydesdale—the horse of horses.

"Claughbane" had the hardihood to compare the Shire with the Clyde and endeavor to show the advantages the former had over the latter. Now, I can call this nothing else but cheek. The idea of comparing a big, coarse, clumsy brute, with round bone, coarse feather, and no action, with a horse that, while large, has splendid action, is noted for flat, hard bone, and good feet! The Clyde is an ideal farm horse; can handle the plow and harrow in good shape, and with ease to himself; can take a big load of grain to the elevator, and if the road is a long one has action enough to make good time on the road home, and it is play for three of them in harvest to make a binder hum. The Shire, on the other hand, is too slow and clumsy to be any use on a farm. It is true, he can plow—but so can an ox, and for anything else he has not speed enough; in fact, I would advise farmers to use oxen instead, as they are just as able to get through the work, costing less, and they can be converted into beef—which the Shire cannot—which is a decided advantage in favor of the ox. "Claughbane" also compares the Clyde with the Suffolk and Percheron, giving the preference to the two latter as agricultural horses. Now, how he can do so I do not understand. If they were better horses than the Clyde there would be more of them to-day. They are few and far between. The popularity of the Clydesdale is a sure proof of which is the best horse. Your correspondent also finds fault with the Scotch horse's middle, saying they have long backs, flat ribs, and weak loins. Now, I can find Clyde horses with as good middles as any Shire; and then look at their feet and legs! Shires are

not to be compared with them when you look at their pins and action.

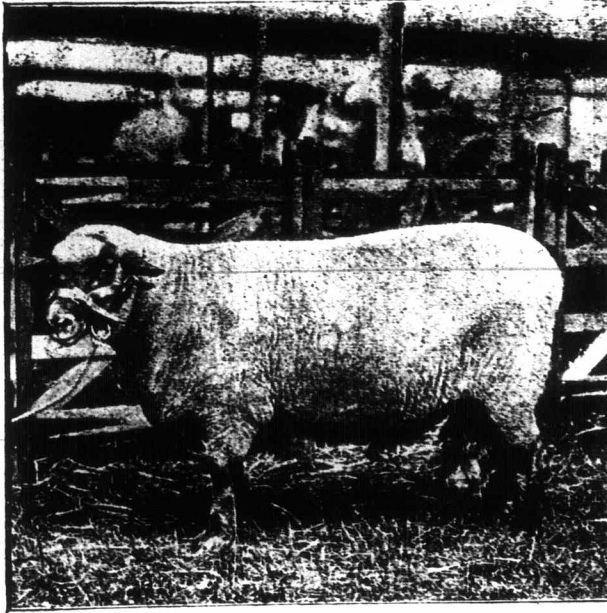
No, Mr. Editor, "Claughbane" may know something about light horses, but when it comes to a draft horse—he isn't in it! For any one who finds fault with the Clyde, when compared with other heavy breeds, does not know a good draft horse when he sees it. "SCOTLAND FOREVER."

Care of the Foal.

Foals should be taught to eat oats and other nourishing foods at an early age. This will enable them to maintain their condition and go on improving when they lose their first natural nutriment—their dam's milk—at weaning time, later on in the year; otherwise a great falling off will be found at an important crisis in their life. A severe check of strength and growth at weaning time is seldom perfectly compensated by any amount of good treatment afterwards. It is essential that steady progress should be maintained from the day of birth until maturity to perfect a horse to the extent of his powers of development. The making of a horse greatly depends upon careful nursing in the earlier periods of his existence. Nutritious food and comfortable shelter from extremes of flies, heat, and wet weather are essential to young foals.—*English Live Stock Journal.*

A Typical Hampshire.

The Hampshire shearing ram illustrated on this page was a clear winner in his class at the recent Bath and West Show at St. Alban's, and is spoken of by the *Farmer and Stock Breeder* as a finely-ribbed sheep, carrying his mutton well, and beautifully brought out. He was sired by Mr. John Barton's Aukward 37th, and stood first at the Oxford Agricultural Society's Show at Henley.



HAMPSHIRE SHEARLING, "COL. D'ARBRES 1ST."

Bred by and the property of Mr. A. De Mornay, Col. d'Arbres, Wallingford, England.

Sheep vs. Dogs.

In many parts of Canada, notably in the neighborhood of towns and villages, sheep breeding has become a thing of the past, very largely on account of the ravages of dogs. There are few situations more distressing to the farmer than to go out in the morning and find the flock, which was his pride and delight, scattered, terrified, torn and mangled, dead and dying, and to realize that he is powerless to prevent a repetition of the disaster. That being the case, the question as to what means ought to be adopted to remedy the evil is one of paramount importance.

While the law in regard to the protection of sheep from dogs is the best we have ever had, it is still defective, both in detail and in the mode of administration. As the law now stands, it is optional with the municipalities as to whether they levy a dog-tax and pay for sheep destroyed within their borders or not. Instead of the present permissive law, a Provincial law ought to be adopted imposing a tax on all dogs in town and country alike; the tax to be fairly heavy, say \$5 each; tax to be levied and collected by the municipality; dogs to be tagged; untagged dogs to be destroyed on sight. Parties failing to give a correct statement as to number of dogs owned or harbored, to be liable to a fine on conviction thereof. As the law now stands, where worried sheep are paid for each municipality pays for sheep destroyed within its borders, although the dogs may have come from without their bounds. The law ought to be amended so that while the townships assess and pay the damages, at the end of the year the county shall pay all claims of municipalities for such moneys paid. It is a well-known fact that the majority of sheep-killing dogs come from the towns and villages; it is only fair that they should pay their share of the damage done.

It is urged by some that such a tax on dogs would be burdensome. I think that few who own a really good dog would object to a \$5 tax, when they reflect that when money has to be raised any-

way, it is immaterial whether they pay it on dogs or horses; while such a tax law, stringently enforced, would rid the country of a vast army of useless curs, owned very often by people who can scarcely feed their children, much less a dog.

A very great deal of damage is also done to our flocks by sporting dogs and their owners hunting over the fields. Farmers ought to unite in forbidding hunting with dogs on their lands. A good deal of good is also done in some townships by the giving of a bonus of, say, \$5 for each dog caught in the act of sheep-killing and destroyed. If this were more generally given, very many more would be caught. In the absence of additional legislation on the above lines, every breeder ought to keep his gun loaded, and also see that the present law is stringently enforced, and to use his influence to have the sheep industry protected by obtaining additional legislation.

When a flock of sheep has been raided by dogs they ought to be at once housed and each one carefully examined; if in the spring, the fleeces removed in order to facilitate examination and treatment; any loose skin removed and the wounds covered with a dressing to prevent the attack of flies and facilitate healing. I find nothing better than spirits of tar and linseed oil. It may be necessary to keep the sheep in a darkened house for some time to lessen the danger of flies, and it will be necessary to examine every individual daily to guard against the same pest. If, in spite of care given, maggots should appear, to the oil and tar add spirits of turpentine and carbolic acid, and apply liberally, when they will speedily disappear. If badly torn, however, healing is a tedious process and may require several weeks time to effect a cure. My experience is that after sheep have been repeatedly chased and torn they fail to thrive, and unless of exceptional value, they ought to be sent to the shambles as speedily as possible. A. ELLIOTT, Waterloo Co.

[We are sure many sheep breeders will acquiesce in many of the points made by Mr. Elliott in the above letter. It is astonishing how little protection such an important industry as sheep breeding has, when the great need for such is so apparent. We hope to hear from many more shepherds and their sympathizers upon this important question.—EDITOR.]

Drying Beef in South America.

A branch of the South American cattle trade which is doing a very active business at the present time is the salting and sun-drying of beef from great numbers of cattle not good enough to ship in live or fresh dressed condition. There are a number of factories throughout the ranch region conducted on much the same principle as three large ones in Atalaya described in the *Dundee Courier*. The bullocks to be slaughtered are first lassoed by an expert, who has attached to the other end of the rope a pair of ponies that draw the subject onto a movable platform or bridge over which stands the slaughterer, who does his part of the work by means of a poleax or severs the spinal cord at the back of the head by the knife. The platform is then moved along to the skinners, who bleed, skin, and remove the head with dispatch. As the skin is removed the quarters are severed one at a time. The flesh is then taken off in one piece from the sides and neck, leaving the bones as though they had been scraped. The quarters, after being hung up, are quickly boned and cut into regular thicknesses, as is also that from the sides and neck, after which it is hung up on horizontal bars to cool. From here the meat is taken to the salting house and packed in alternate layers of salt, where it lies for 24 hours, after which it is hung up for a few days in the sun. It is again collected and put in a large square stack covered with tarpaulin for a couple of days, and on top is placed a large quantity of stones to press out the juice. It is then hung up in the sun to dry. In fifteen days it is ready to be sewn in Hessian cloth for shipment. In the three factories the daily slaughter is about 1,300, which is never beyond the demand. The bones and entrails are all boiled up by steam at a high pressure in large boilers. As the grease comes to the top it is run off into pipes for export. The refuse is used for fuel for the engines, and the charred bones are shipped as bone ash for making manure. The tongues are canned and shipped to England, where the cans are painted, labelled, and placed upon the market.

To Drive Flies Out of the Stable.

Take one ounce of camphor gum, one ounce of corrosive sublimate, one pint of oil of turpentine; grind the sublimate thoroughly, put into a strong bottle, and add the camphor gum; pour on the turpentine and shake occasionally. It should be fit for use in thirty-six hours. Heat a piece of iron and drop a few drops on it in the stable. Flies may be driven out of the house in the same manner by dropping a few drops on a hot stove-lid. By following these directions every other day I think you will soon be rid of flies.—*A correspondent Rural New Yorker.*

FARM.

A Strong Plea for Tree Planting.

"With what free growth the elm and pine
Fling their huge arms across my way;
Gray, old, and cumber'd with a train
Of vines, as huge, and old, and gray!
Free stray the lucid streams, and find
No taint in the fresh lawns and shades;
Free spring the flowers that scent the wind,
Where never scythe has swept the glades."

To the Ontario land owner who would have a quick return, these remarks will not apply. And yet I hope the day is now with us when we in Ontario have quite "made up our minds to stay." Nor do we still wish to "sell out and move on," as has been the rule in most newly settled countries. Canadians, I feel, now know that they have a "goodly heritage," and, also, that their "lines are cast in pleasant places," and they will keep and own this country.

So far being granted, arguments for tree planting are quite in order—perhaps not for the profit to the planter, but for his country's profit and that of his own blood.

In England the Beautiful, it has so long been the rule to stay and hang on, and they have for so many years, but mainly during this century, engaged in tree planting. We know that their land is beautified thereby, as well as made more valuable. Only in 1894 I called upon my kinsman and namesake, in Rutland, Eng.—he who yet owns the "paternal acres, and still cultivates them with the family hoe" (as grand old Horace speaks of in one of his earliest odes, First Book), from the time of the Pilgrim Fathers, 1623, when my forefather left it to his, for the New World—and then my relative told me the "plantings" were worth as much as the land itself. Indeed, you will notice whenever a young heir comes into possession in England, and wants to sow a particularly large crop of "wild oats," he frequently sells off the timber. Records of such sales tell us of the thousands of pounds sterling these timber plantings brought.

Not yet in older Ontario, or other eastern portions of Canada, can we say that; but the day is not far distant when, at the rate we are now consuming our timber, there will scarcely be left trees big enough for telegraph poles.

As to the kinds to plant, we will notice just a few, for there are so many. First, of course, comes the *hard maple*. This is the most natural tree to old Canada generally. It is not so valuable as a timber as those I shall mention soon, and yet it is always marketable, and pretty, clean, and wholesome. In planting some 3,000 of them, I set them so close that they mulched the ground themselves, and consequently were forced to run up into the air and form trunks and not big limbs. About one half died in transplanting. Those planted fifteen years ago are six and seven inches in diameter to-day.

The *red cedar* is too slow a grower to be profitable. And yet it has become very scarce and valuable. You all know its value as a receptacle for keeping furs; but our piano manufacturers use it very generally about their keyboards, and are always on the lookout for it. Out of some hundreds planted, about three fourths of them died, and of the one fourth only left there will some day be big pay for some one after I have gone to my fathers. But I will enjoy the fragrant, shapely beauty while I am here, and that will pay me for my effort. In Rochester, N. Y., I obtained these trees. As to maples, I would buy them of a nurseryman, because they will have been transplanted and have lateral roots and be more likely to live.

Black walnut I have planted in thousands. These I likewise obtained in Rochester, N. Y., simply and solely because I could not find them in Ontario. They had all been transplanted, the tap root having been cut, and were generally well supplied with small, fibrous roots.

There is a big piano manufactory in the town of Oshawa, and the proprietor told me I never could go astray in raising black walnut. When I asked him if the advances of science, in the way of aluminium or celluloid, or such, would not some of these days crowd it out, he replied: "Never; because it has the right grain. It will carve always best of any woods, and to-day we can only use the veneers cut from the roots of walnut trees in the mountains of Tennessee, and it costs us five cents per foot for the veneer." That is to say, as thick as your thumb-nail at five cents per foot, or about \$400 per thousand. No further words are necessary to prove its lasting value. The woods of South America or Africa never can or will supersede walnut, because their grain is too close and hard, and walnut always will be valuable. These trees grow much the same as the black ash, but I could not recommend putting them out too far from the Great Lakes, or where the mercury drops below 30 degrees. You will know in your own neighborhood if they ever grew wild. Of these trees not over five in the hundred died. In twenty-five years I hope to be alive, and then cut out the big trees (for my money), then 14 inches in diameter. At thirty years they will pay to cut generally.

Ten feet apart each way I set them, or 430 per acre; at, say 25 cents each, is, say \$108. Now, at 5¢ this will be in 14 years, \$216; in 28 years, \$532. You may add for the use of your acre, and care, \$168. Total, \$700. Out of the 430 trees, say 215

only are good and thrifty. On my judgment, reader, I cannot put the price less than \$15 per tree, or \$3,125 for the acre of walnut timber.

Reader, you know in your heart that it will be worth far more, but I prefer to make sure of my figures. And now, haven't I pursued this quite far enough? Let me add that I put the ground into a hoe crop for the first two years, and after that they will take care of themselves and will prune themselves as they crowd one another in their race to get up into the air.

Black ash for those who live where the mercury gets below 30 degrees. Its cultivation is so similar to walnut that it is not necessary to say more. As to value, you know our furniture is being made of it to-day, and as the years roll by more and more of it must be used.

White cedar will grow anywhere, almost, in Ontario. I have some thousands of seedlings fifteen to eighteen years old, now thirty feet high and eight inches in diameter. As to value, I may tell you that during the past year they were building a new electric railway line here and their telegraph and telephone poles cost them from \$2 to \$4 each.

Other kinds of trees I must not speak of in this short article, but there are others, and one cannot make a mistake in planting any of them which will bear transplanting. The beech, you know, will not, nor the birch, nor the ironwood, but the poplar will, the cherry, and the basswood.

As *rain producers* trees are more particularly valuable right off, without waiting for commercial sales years hence. They tell us from the hydrographic office that we annually get the same relative amount of rainfall, but if it comes in the fall and winter it does not help our crops. Last year, when the summer was so very dry and our hay crop generally in Ontario almost failed, the Ottawa Valley had lots of rain and abundance of hay consequently, just because of the great forests there and to the north of it. No further arguments are needed on this point, I submit. High winds will not affect trees planted in groves 430 per acre, for they will protect themselves.

Ontarians, we have a beautiful and goodly land. Let us keep it and beautify it. I say to you, seriously and honestly, that I am afraid if we do keep on cutting our trees and do not plant we shall run the risk of becoming as a large part of Spain is to-day—barren. They found out there that the raisin grape would pay, and so they cut their cork woods to make room for it. To-day they cannot on much of the land of Old Castile and Estremadura raise raisins or cork or anything, as I found when there a few months ago. In Malta and other isles of the Mediterranean they cut the forests and to-day Malta and the isles are bare rocks. In the Holy Land, over which I have ridden for six weeks on horseback, the soil is nearly all washed off the hills and is in narrow valleys at the bottoms, while the hills are bare and not worth cultivating, from an Ontario point of view.

I am afraid you will think me too long-winded if I do not close, but I am enthusiastic on the subject and love my native Province of Ontario, so the reader must kindly bear with me.

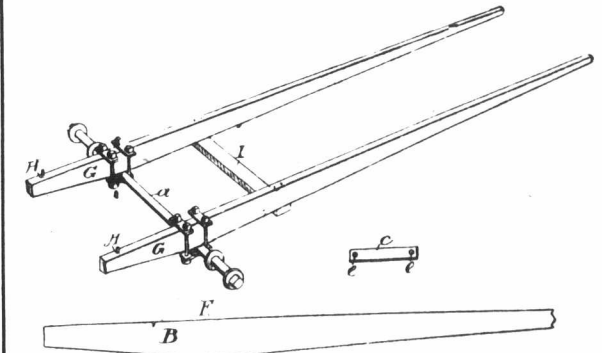
"Land of the forest and the rock—
Of dark blue lake and mighty river—
Of mountains reared aloft to mock
The storm's career, the lightning's shock;
My own green land forever!"

Ontario Co., Ont. THOS. CONANT.

A Home-Made Hand Cart.

BY J. GREEN, LEEDS CO.

Nearly every farmer is possessed of an old, worn-out buggy or vehicle of some sort from which he can obtain a pair of wheels and an axle. Take the axle



(a) to a blacksmith and have it cut and welded to measure about 2½ ft. between the wheels. Then get two strong oak pieces for handles, about 2x3 in. and 5½ to 6 ft. long, and shave them down into shape (b). Next get four small iron straps (c) with bolt holes at the ends (e) to lay across handles at f, and likewise four more to fit directly under axle. Connect these with light, strong bolts, letting ends of handles reach about twelve inches over axle (g), and just wide enough apart to admit a milk can between. About three inches from the end, at h, bore two small holes and drive in two iron or hardwood pegs, leaving about an inch out to catch in handles of can. Bolt on a crosspiece (i) underneath handles, put on wheels, and your cart is done. With this cart a man can pick up and wheel on the level an ordinary milk can of milk, water, swill or other substance; it can be used for wheeling bags of grain, baskets, boxes, etc., by setting on axle and crosspiece. In fact, no farmer knows the number of uses to which such a cart can be put till he has tried one for awhile on his farm.

Sorghum.

Varieties of sorghum which produce large, rank canes usually give a large amount of poor syrup, whereas medium-sized canes produce the best quality of syrup to be had. The Early Amber is preferred over all others, the canes being of medium size, and the foliage scant. These qualities admit of a free circulation of air and sunlight among the growing crop, which are determining factors in the economy and growth of cane.

Up to the period when the seed-heads begin to form, the elements of the plant have reached the first stage of the natural process which concludes ultimately in the production of syrup. If during the growing stage the weather continues cloudy and rainy, the sap will not have matured to the condition to produce syrup or sugar, but will produce more vegetable growth in the form of suckers from the roots. But if the weather is clear, dry and warm, the starch in the juice of the cane is by slow degrees transformed or matured into glucose or grape sugar.

Each day the juice courses from the root and cane to every leaf surface; there it is exposed to sunlight, warmth, and air, and some portion of the starch it contains goes through a natural process of change into glucose. By the counter circulation during the night, this portion is carried back to and deposited in the pith of the cane. To this fact—the transformation of starch into glucose and the return of the glucose to the stalk of the cane—may be ascribed the superior syrup-producing qualities of those varieties of cane which are not rank in vegetable growth and full-foliaged, and also the success which may be anticipated through keeping the fields clean and well cultivated.

A field of cane from which the foliage has been torn by a storm will yield no syrup; the process of nature is arrested at once. Keep the cane intact and leave nature to pursue its course with it until you are ready to work it up for syrup.

It is not well to grow the cane on land heavily manured with farm-yard manure, else the syrup produced will partake of the "stable" flavor.

Making the Syrup.—The manufacture of a strictly No. 1 sorghum syrup presupposes good-conditioned cane from which the syrup is to be made.

No practical method superior to rolling or crushing has yet been devised for extracting juice from the canes.

The sweet water, or juice, is in the pith of the cane. It is not found to any extent in the rind, the joints, the leaves, and the top of the cane. The leaves and the top should be removed preparatory to crushing.

Quantities of vegetable matter come from the rolls mixed with the sap. The former must be separated from the latter before any process of evaporation having a high grade of syrup in view can be undertaken with success. The natural acidity of the juice must be subdued or neutralized, and its tendency to quick fermentation forestalled. This is effected by the use of milk or cream of lime, and the separation is then made by heating the juice thus prepared.

If properly applied, the first effects of the heat are seen in a purging from the juice of the bulk of gross vegetable matter it contained. Following this, the heat, as a clarifier, acts upon the suspended finer particles of vegetable matter, coagulates the gummy solutions, and evolves all in a form either of scum, which rises and floats on the surface, or in the form of sediment, which settles to the bottom of the defecator, leaving the cleansed and clarified juice ready to be drawn off to the evaporator.

Open evaporation or boiling is the method generally employed in the final step of the process for making sorghum syrup. Evaporation of a shallow body of juice affords a quick separation of the scum from the juice, and, if correctly applied, reduces to a minimum its tendency to impart undesired flavors.

Details of a practical character, especially in making syrup, can be determined only by a wide range of experience, guided by constant and careful inquiry into the laws of cause and effect involved. This applies to all methods of making sorghum syrup.

Extracting Sorghum Sap.

To the Editor FARMER'S ADVOCATE:

SIR,—Regarding our method of extracting the juice of the sorghum cane, I might say that we have a mill of four iron rollers of a good size. They all stand upright and are enclosed by an iron casing. The first roller, a creased one, breaks and crushes the cane and rolls against a larger one. The other two large rollers stand a little back and sideways from the front. These rollers are set the right distance apart by set-screws on the outside at bottom and top. With two horses on the lever, which is attached to a gearing at the top of the mill, we can open the rollers a good distance and shove the cane through by the handfuls and it will be squeezed dry. The sap passes from the mill, through strainers, etc., to an underground pipe which carries it to a vat pan inside the boiling-house. This mill is an exact copy of the Southern sugar-cane mills, only a smaller size, and was bought by Dr. Joy, Tilsonburg, who had it on his farm and manufactured for the market. If run by steam power the rollers could be opened two or three inches and the cane tumbled right in.

Norfolk Co., Ont. S. GRAY.

Agricultural Science in Rural Schools.

BY J. HOYES PANTON, M. A.

From time to time it is the privilege of the writer to address large audiences at Farmers' Institutes upon topics of a scientific nature. When Institutes were first established such were not popular; the great majority cared little to hear about a subject which seemed entirely of a theoretical nature, and far removed from the truly practical work of the farm. That condition of affairs has passed away, and the average farmer to-day feels that a knowledge of science lies at the very foundation of success in the pursuit of agriculture. He has learned that science is simply systematized knowledge; that its principles are founded upon the facts which are daily discovered upon the farm; that our successful farmers to-day are those who have been scientific, close observers of facts and results from years of experience—men who have gathered together principles which underlie certain operations, and now apply them with success. In reality the farmer is one of the most scientific of men, and is surrounded by conditions especially fitted to develop observation, comparison, and method in work, and his success will be in proportion to the amount of scientific management he displays in reference to the care of his stock and the cultivation of his fields. The Farmers' Institutes have done a great work in awakening farmers to the necessity of a study of science as it bears upon their work. But we believe a greater future is in store for the people of rural districts, when their children shall have become acquainted with the teachings of science by giving some attention to its study while at the common school in their neighborhood. With a view to direct attention to how agricultural science might be taught in country schools this article has been written. Several writers have dwelt upon its importance, but few, if any, have outlined any method by which such important knowledge can be obtained. The course referred to here the writer has discussed on several occasions before Farmers' Institutes and Teachers' Associations. The former heartily endorse it, and the latter agree that it would be an excellent thing were it not that teachers are overburdened with work apparently necessary to give their schools rank in the eyes of the public.

We claim that the work can be accomplished, even crowded as the time table is, and at no additional expense, by the purchase of text-books. Our plan is that a series of talks be given on the subjects of geology, chemistry, agriculture, botany, and entomology during the last hour of Friday afternoon.

During the fall term the subject of geology might be taken up, emphasizing those parts that relate to the origin and formation of soil. Illustrate as far as possible by blackboard, chart, and specimen, and have the pupils commence a collection which would represent the geology of the section.

The winter term could be devoted to chemistry, dealing with the elements relating to the air, soil, plant, and animal, and if time permitted take up some topics connected with agriculture in general.

When spring appeared commence the study of botany and emphasize particularly the wild flowers and weeds of the section; at the same time have the pupils make a collection of plants and the seeds of the weeds. As soon as the summer term commenced, take up the study of entomology, giving special attention to such insects as are beneficial and injurious, and invariably have the pupils collect specimens to illustrate the subject and contributed to a collection that would represent the economic entomology of the section.

If such a course were followed in the rural sections of Ontario, who could estimate its influence upon the rising generation of farmers? Scientific facts to-day a wonder to farmers who have never viewed their work from a scientific standpoint would be as familiar as the most common operations in the field.

The great difficulty seems to be to secure teachers fitted for the work. Some claim the course too extended for most teachers, but it must be remembered the information required is only that which is most attractive and instructive, and consequently does not require a very exhaustive knowledge of any. We think, too, if a teacher could teach any three of the above it would be satisfactory—certainly far in advance of to-day, when none are discussed. Teachers desirous to pursue this work could readily secure books that would serve their purpose admirably.

The writer would not have pupils get text-books, but to depend entirely upon the instructions of the teacher and their own observations in the great book of nature. Then, too, we have no doubt that if a want arose teachers could have the benefit of attendance at summer schools, at which such subjects would be discussed by efficient men. We are confident that if the above method could be carried out, a great step would be made towards the uplifting of the occupation of farmers, that it would be more attractive to the young and more productive to the old.

It would result in developing observation in young minds, something that is aided very little in our system of education among rural schools. No faculty in the young mind is so ready for development as observation, and yet how little is done to assist it. Nature furnishes material on every side in the country, and surely we should take advantage of it and early train our young to be close observers.

Such a course of instruction would develop an interest in the study of science as it is illustrated upon the farm. The air, the soil, the plant, and the animal would become sources of information full of all that is interesting, instructive, and profitable.

Pupils trained in this way would become intelligent readers of useful scientific articles now of little value to many farmers who are ignorant of the simple principles a knowledge of which is necessary to their proper understanding. We have no doubt that the study of such subjects would increase the attractiveness of farm life and serve to keep many a boy upon the farm who, with such surroundings as we find to-day, seeks the shadowy allurements of a home among overcrowded centers in town and city.

Then, too, each rural school would become a museum of the geology, botany, and entomology of the neighborhood, and at an early age the pupils would be quite familiar with objects which to-day are unknown to them, though they are found constantly about them. We hope the day is not far distant when the teachings of nature will be better known in country sections, and that the boys and girls of our farming districts will see more in farm life than what some bemoan as drudgery; that they will see in it that which tends to health, peace, independence, and an ideal home; and that while they eagerly learn *how* a thing should be done, they will also know the reason *why*, so that practice and science, the handmaids of agriculture, will be more closely associated than in the past.

Nature to the Rescue.

To the Editor FARMER'S ADVOCATE:

SIR,—I have been fighting thistles for a quarter of a century, and have read and tried all the experiments and recommendations enumerated in agricultural literature. Perhaps many of your readers have done the same. But I ask for a few lines of space to note how superior nature's agency is to man's. The frost of 13th May, 1895, coming after intense heat, found the thistles well above ground. Now, the thistle weed is as sensitive to frost as the most delicate plant that the farmer tries to raise. The frost was followed in our section by drought and grasshoppers. As a consequence I find very few thistles on my farm—725 acres—this year, and these few are remarkably weak. Every one in sight has just been cut, the head being blue with bursting blossom, and this I have found to be the best time to strike them. I dare say others have noticed the wonderful decadence this year in thistle growth, as they must have observed the extraordinary luxuriance of red sorrel in the meadows. What is one weed's meat is another weed's poison, and it is lucky for us that the seasons vary as they do. Toronto, June 30th. T. C. P.

Get a Second Crop.

Harvest is well ahead this year, there being wheat and barley cut in Western Ontario in June. Land cleared so early, that is not seeded, should be made to grow another crop this year, even though it has to be plowed down for manure. Rape, buckwheat, and millet will be largely used. For either of these crops, shallow plowing will do. For sheep and young cattle pasture, rape is best to sow; for hay, millet; for a grain crop, buckwheat will give a good return; but for plowing down, any of the three will grow fast and help the land into which it is plowed. As soon as a field is cleared, put in the gang plow, if there is not time to single it. Don't allow the ground to become hard if it can be avoided. For either crop the surface must be worked finely, and rolled as soon as sown. The quantity of seed per acre should be: For rape, broadcast, 4 to 6 pounds; buckwheat, 4 to 5 pecks; and millet, about 40 pounds per acre. When the crop is to be plowed down heavier seeding may be given, especially with millet and buckwheat.

SHOWS AND SHOWING.

Should We Have Fewer Shows?

Whether so many agricultural fairs as we now have throughout the country are advantageous or otherwise is worthy of some consideration, and, indeed, is occupying the minds of many progressive citizens of our own country as well as those of Scotland, as indicated in our Scottish letter in July 1st issue. There need be no question but that the larger shows, held in Toronto, Ottawa, London, and like places, can, if properly managed, continue to grow in magnitude and advantage to the country, and pay their way. Such shows must pay or go to the wall, and the very fact that a show closes its gates is evidence that it is not commanding the patronage of the public, which, after all, pass the most correct judgment upon its worth. Changes are going on continually among the lesser fairs; very few, if any, new ones are being started, the most of the changes being confined to amalgamations of two or more societies. There are many agricultural societies at the present time which feel that to unite with a neighboring township or county, as the case may be, would save their show from failure. So light has become their patronage, in some instances it is impossible to offer prizes large enough to bring out competition, and without this the educational advantages are largely lost. The great difficulty in any readjustment of the agencies is to decide which of the wanted gatherings should be absorbed in the others. On

general grounds, however, it must be conceded that the show which secures the least popular support is the one to be first abandoned. When consolidation can be accomplished without giving rise to any feeling of soreness, no doubt a great step towards economy and efficiency would be taken.

In order for an agricultural show to be at all educative it should be able to offer sufficiently liberal prizes to draw keen competition, and to obtain judges whose decisions would be respected by the exhibitors as well as by the visiting public. Such shows, if otherwise well managed, will not have to go begging for patronage, but will have to increase their facilities from time to time in order to keep pace with the demands of the public, who are not slow to recognize merit in a concern of so great importance.

Canada's Great Exposition.

The prize list for this year's Toronto Industrial Fair has been issued and distributed, but those who have not yet received a copy can obtain one by dropping a post card to Mr. Hill, the manager, at Toronto. This great Fair, which is now one of the largest and best on this continent, is looked forward to each year with pleasurable anticipation by people in all parts of Canada and the adjoining States, who make it the occasion for their annual holiday outing. It is this year to be held from the 31st of August to the 12th of September; commencing two days earlier than last year.

The changes made in the prize list from that of last year is the addition of a prize of \$100 for Clydesdale stallion and four of his get, a similar prize for Hackney stallion, and the reinstitution of the general purpose class with over \$300 in prizes, which was struck out two years ago. In the cattle department, \$183 have been added to the Hereford class, and additions have been made to the Guernsey, Jersey, and Holstein classes. In the swine department the classes for Essex and Suffolks have been amalgamated, and the \$240 thus saved has been added to the prizes in the other swine classes. Two hundred dollars have been added in the poultry classes for new varieties.

Entries in the live stock department have to be all made before the 8th of August. The various live stock associations and the principal exhibitors having agreed to the proposition, all stock are required to be on the grounds by noon on Thursday of the first week, Sept. 3rd, so that with the exception of fruit and out flowers, every department of the Exhibition will be complete from that date, and the first week will, therefore, be fully as good a time to visit the Fair as the second week has been in the past. Cheap railway rates will be given during the entire Fair. The judging will commence on Friday, the 4th, and will all be complete by Tuesday, Sept. 8th. Many new attractions of a superior quality are being secured by the management, and the latest inventions in all departments will be on exhibition. The beautiful hangar of the Fair, which has been set out by the Association, is a most creditable sample of Canadian workmanship. The Governor-General and Lady Aberdeen have signified their intention of visiting the Exhibition, and it is probable it will be opened by the new Premier, the Hon. Wilfrid Laurier, on Tuesday, Sept. 1st.

The Western Fair.

A visit to the London Western Fair Grounds by a FARMER'S ADVOCATE representative, on July 9th, found the place alive with a little army of busy workmen. The old complaint that the Western Fair buildings are inadequate will no longer be heard. The whole of the old Stock, Carriage, Dairy, Poultry, and Machinery buildings have been replaced by monstrously grand new structures of the most modern design. Secretary Browne and other members of the Board have spent a deal of time examining the best exhibition buildings on the Continent, and have combined the good points of the best seen in the new structures, which are well forward in construction. The cattle, sheep, and swine are all to be in one monster building along the west side of the south half of the grounds. This structure is 735 feet long by 52 feet wide. This, like the other buildings, has circular bents supporting the roof, which do away with the necessity of having posts in the inside to obstruct a clear view of the whole interior from end to end. The roof has deep side and peak openings, which provide ideal light and ventilation. They cannot but be cool and fresh at all times. Sleeping berths are provided for stockmen.

The Machinery and Implement Hall is 400 feet by 60 feet, fitted with lines of shafting to drive the exhibits. It is built backing against the G. T. R. platform, so that exhibits will be transferred directly from the car to the building.

The Carriage Building, 180 by 60 feet, along the R. R. platform, has an arch roof without posts, is thoroughly lighted, and lacking in nothing.

The Horse Barn, over 1,100 feet long, has box stalls down one side and single stalls down the other. The same good light and ventilation as characterize all the other buildings is present here. All the buildings are supplied with as good as the best water in America. The buildings being arranged as they are, upon three sides of the grounds, provides for a perfect inspection of the entire exhibit in the cool shade, so that a rainy day need not adversely affect the show so far as seeing the exhibits is concerned.

The Poultry Building is large, light, and airy, and provided with fine coops, suitable to the requirements of the different kinds of poultry and pet stock.

The half-mile race track is undergoing a remodeling, making the turns less abrupt, which will be a great improvement upon the old form. The new double-decked grandstand, 300 by 45 feet, will greatly increase the pleasure of witnessing the special attractions and fill a long-felt want. The Pawnee Bill Wild West, with 80 people, 60 animals, and 50 tents, will be the principal feature.

The cattle, sheep, and horses (other than those in light harness) will be judged in the shade of the beautiful trees, where the public will have ample opportunity of viewing the competitors and learning the desirable points of the winners.

Central Canada Fair.

SOME NOTEWORTHY IMPROVEMENTS.

The official programme of the Ottawa (Central Canada) Exhibition for 1893 indicates a great improvement over the shows of previous years, not only in the prize list and accommodation, but also in character and variety of entertainment. The Association will have splendid value to show for the \$10,000 expended in new buildings and in improvements to the grounds.

The horse and cattle stables are constructed upon a plan entirely different from any in use in the country, and are splendidly adapted to the purpose of exhibiting stock to the comfort and convenience of the visiting public. Each building has a separate entrance and plank walk for the spectators, and all together form the passages used by the animals on exhibition.

New sheds for sheep and swine are also erected and upon the most modern principles; they also have plank walks around them. And by reason of these improvements rain will not impair the success of the Fair; visitors will be able to view all the live stock, in addition to the other displays, under shelter. Nothing has been overlooked that would tend to the comfort and convenience of exhibitors and visitors. The carriage building is new and much larger than the former structure, with the capacity of the machinery hall has been doubled. The building has also been considerably enlarged, and the arrangement for the display of stoves makes an important and

imposing addition to it. Besides all these, there are the improvements to the grounds, in themselves a most noteworthy feature of the generally enhanced appearance of the place. The enlarged grandstand has seating capacity for over 8,000 persons, and the turnstile arrangements having been fitted at the rear greatly facilitate the ingress and egress of visitors. Besides \$14,500 in cash prizes, there will be an added list of special prizes, including 27 gold medals, besides silver and bronze medals, which are justly distributed (chiefly as herd prizes) among the various breeds of horses and cattle, while the other departments, such as horticulture, dairy, fine arts, etc., receive a share of these trophies. The dates of this, the ninth annual Central Canadian Fair, are September 17th to 26th; entries to close on the 14th of Sept. A copy of the prize list and other information can be obtained from Secretary E. McMahon, Ottawa.

DAIRY.

Weeding the Dairy Herd.

BY F. J. S.

Individual selection is not a matter that has received much attention at the hands of our dairymen, yet none affects, pecuniarily, our dairy interests more than this; it is indeed the basis of prosperity. Most of our herds are a make-up of local conditions, of what our fathers left us, of biased judgment, or of the whims of other men. Little, very little, careful, intelligent, tending-to-profit selection is done in Canadian herds to-day. We seem not to realize that the making or marring of our possible success lies originally and chiefly here. To bring the cost of production as far below the market value of the product as possible should be the chief aim, and this must be done, not wholly, but mainly, by well-considered, well-matured means of individual selection. Our American brothers are talking and writing and printing much of one-month yields, of herd outputs for two, three, six months, of the increase of herd outputs to large dimensions, which usually cover, at most, a few months of a single season, but all these are, almost without exception, given without any corresponding data as to cost of production. We are told, for instance, that a certain herd gives 300 pounds of butter per cow, but are left wholly in the dark as to the difference, if any, between the cost of the product and its market value, without which all such information (?) is practically useless. Herd-weeding, as we see it in its dollars and cents aspect, includes, first, the establishment of a carefully ascertained standard, above which is profit, below which is loss; secondly, the accurate determination of the productive powers of each individual of the herd; thirdly, prompt removal from the herd of all animals that do not reach, or pass, this standard; and, fourthly, the replenishing of the herd, chiefly by well-raised calves from the thus ascertained best cows, or occasionally by purchased additions.

What this standard is must be left to the individual dairyman to say, since it must of necessity vary with circumstances. It will, however, be such a product as will, sold at customary prices, overtop the cost of that product in feed and labor, whether the product sold be milk, cream, butter, cheese, skim milk or buttermilk.

The accurate determination of the productive capacity of the individuals of the herd, while not child's play, is within our grasp, but not by guess work. We have no method sufficiently cheap and accurate of judging of the merits of the individuals of a dairy herd outside of the Babcock milk tester and the weigh scales. Let us see. It is patent to all that quantity, alone considered, is not a safe guide, since milk contains largely varying quantities of fat. Not only so, but some cows give large quantities of milk, but milk for short periods; while others give less quantity per day, but milk eleven months out of every twelve. Neither is color of milk a safe guide. Frequently the writer has tested samples of milk when the lighter colored milks contained more fat than the higher colored or yellow milks; and while the reverse is also common, these cases quoted are quite often enough met to make the old rule wholly unreliable. The other day we tested a rather white-looking milk that showed eight per cent. of butter-fat. Two considerations forbid the use of the churn as a basis for herd-weeding: First, it is often not well handled, the churning being very imperfectly done, much butter being left in the buttermilk; secondly, it is too much labor, where one has more than one or two cows, to set the milk and churn the cream separately of each individual often enough to get a reliable working knowledge of the herd. Using the churn once a year is less than useless. It is to the Babcock milk tester and the weigh scales that we must look for assistance in this matter.

Milk-testing is inexpensive. A four-bottle machine, complete, may be had for five or six dollars. This is large enough for any ordinary farm herd, and equally as reliable as the larger machines. One machine would do four or five farmers as well as one, which would make the cost a mere trifle. Twenty-five cents' worth of sulphuric acid would probably cover the entire cost per annum for running expenses. The work is not very difficult to learn. As to the method of testing, we would say that the testing of one sample, while it may be a partial guide, is not sufficient upon which to base judgment. A number of single tests are inadvisable and subject to inaccuracy. We would recommend that fourteen samples be taken, one at each milking for seven consecutive days, handled as a composite sample, as is done in our factories, and a test be taken of this and record this sampling and testing to be done once

each month during the whole year or season of each cow. We append a diagram of such work:—

"CINDERELLA."

Date.	Lbs. of milk.	Per cent. fat.	Lbs. of fat.	Price rec'd.	Value of product.
June 1...	15	17			
June 2...	13	16			
June 3...	13	15			
June 4...	14	14			
June 5...	13	12			
June 6...	14	15			
June 7...	15	14			
Total...	200	3.5	7.0	20c.	\$1.40

This does not entail much labor. In a herd of ten cows, four hours' work per month will suffice. It is simple and systematic and reliable. If good work is done in skimming and churning, one pound of fat in milk will make one and one-sixth pounds of butter. In the above diagram the milk must be weighed regularly and the weight recorded. From the results of the week's weighing and testing a reasonably accurate judgment and calculation may be made for that month. At the close of the year, if 2,000 lbs. of butter has been made (ten cows should do this easily), it is then no longer an enigma as to where it came from: herd selection has been initiated, and should be continued, on a rational, accurate, and conclusive basis.

Hints on Buying a Tester.—Learn how to use and operate one before you buy—you will be able to buy more intelligently. Buy a four, eight or twelve bottle machine, according to the work intended to be done. Interest two or three of your neighbors in the idea, and thus lighten the cost. Secure one whose centrifuge is geared at least ten revolutions to one of the handle. Low gears are objectionable for different reasons. First, it is hard on the machine when the handle has to be turned very fast; secondly, they are difficult to turn and preserve a steady, uniform speed; thirdly, it is harder work to turn them. Belt testers are quiet-running, but rather unreliable; there is likelihood of the belt slipping.

See that the cups on the centrifuge are hung properly, that they swing up horizontally, and that they are strongly made. Look well to the apparatus accompanying the machine, and see that the pipette, test bottles, etc., are from some reliable maker. Insist on the replacing of all incorrect pieces by correct ones. Do not buy a machine that has no cover; they are more dangerous, and temperature is not so easily controlled.

It is not necessary to pay more than three or four cents a pound for sulphuric acid, even in small quantities. Do not buy any milk-testing apparatus merely because it is cheap. If you are prepared to do careful work and believe that a milk tester is a valuable aid to successful dairying, buy one; if not, then do not buy one. They are not intended as toys for children, but as dollars and cents to would-be intelligent men.

Keeping Dairy Cows for Profit.

D. N. M'INTYRE, BRUCE CO., ONT.

The present depressed condition of the prices of almost all farm products has brought us face to face with two great questions: 1st. How can we produce the greatest quantity of food from the least ground at the least cost? 2nd. What shall we do with the food? Some say, by their actions, sell it, but these themselves are being sold out. By all means let us feed what we grow, and let the cows form the base of our operations. I do not advocate that we should buy expensive cattle. Let us select from the cows we have those that give the fullest pail, having at the same time due respect to the symmetry of the animal. She should be rangy, of good size, capable, when properly fed, of giving a large quantity of milk and raising a calf that when raised and fattened will suit the taste of the most aristocratic Englishman; and let us not forget that the value of the calf and the feed has a direct bearing on the value of the cow. There is not much use at the present time of advocating breeding either use of acute milkers or heifers, because our people are not yet educated to feed them properly. Let us make the best use of what we have, improving them as we go along. The climatic conditions of our country are such that our cattle are exposed to a great deal of cold and rainy weather in the fall, while our winters are so long that we do not care to house them before it is really necessary, for it means both extra work and extra feed. Again in the spring they are kept in the stable until the grass is good, the weather warm, and the conditions favorable to animals' comfort.

It has been the general custom to have the cows come in the spring, the object being to have a heavy flow of milk during the summer months, and by the end of December allowing them to go dry for the next four or five months, during which time they would be boarded as cheaply as possible. I wish to say, in passing, that too many of our stables are boarding-houses from which the occupants emerge in the spring without having paid either principal or interest on what they have consumed. It is a well-known fact that exposure to cold, wet weather very quickly reduces the flow of milk, and that when there is a decrease in the flow it is very difficult to again raise it to what it was. This is exactly what happens in the fall of the year: hence we conclude to try another scheme, which is to have the cows come in shortly after they are established in the fall, say from the middle of November to the end of the year. When well fed, and cows maintain a good flow of milk all winter, and when let out to grass about the middle of May

there is no abatement. They milk almost as well as if they came in in the spring, until the cold weather comes in the fall, when they require to go dry for about six or, at the most, seven weeks. These cows, however, must be liberally fed during the winter—not simply kept alive (or boarded). And here is the vital question. These animals have to be kept alive anyway, which takes so much food—say one feed of hay or corn, two feeds of straw, and a half bushel of turnips. How much more is it necessary to feed in order to have and give a fair flow of milk? If eight pounds of meal be added to the above ration, and an extra feed of corn or mangolds substituted for the turnips, there will be no trouble about the milk. Thus, for the extra eight pounds of meal there will be a product of sixteen cents' worth of milk, and the next fall the calves will be worth five dollars each more than the ordinary spring calves. This also solves the problem of stock raising in districts where cheese factories abound. The whole tendency of the present time is along the lines of the factory system, both for the manufacturer of butter and cheese. These factories only run from five to six months of the year. The proprietors require interest on the investment capital and the makers require salary enough to keep them a full year. Were these factories running ten months in a year the proprietors would require very little more profit and the makers very little more salary, the cost of manufacturing would be reduced, and the farmers would receive dividend from their cows almost all the year. Why, then, should we farmers not go into winter dairying as a body; keep more cows and feed them better? It is a common saying among dairymen that no cow should be kept that will not give 6,000 pounds of milk in a year when properly fed; and I consider that this does not place the minimum limit of what we should expect any too high. It has been already stated that cows should not be dry for a longer period than seven weeks. This leaves 316 days, which, at an average of 20 pounds per day, or ten pounds (half a pail) each milking, gives 6,320 pounds of milk per year. Suppose on an average it takes 28 pounds of milk to make a pound of butter, this would make 225 pounds; or suppose it requires 10½ pounds of milk to be the average for a pound of cheese, 6,320 pounds would make 602 pounds. I am well aware of the fact that this is probably one-third more than the present average, yet I am satisfied that, providing the cows are handled along the lines indicated in this paper, the foregoing results can be realized.

The Production of Camembert Cheese.

The popular small cheeses made in France and Germany, but used everywhere, being largely exported from these countries, are divided into two classes—one is used within a few days after the making, the other being cured for later consumption. It is plain that the latter description of cheese is more suitable for extensive manufacture, on this account, than the older kind, known as fromage frais, and, on account of the greatly improved quality, the cured ones are known as fromage fin. This term is fully justified by the most careful process of curing, by which the sharper ammoniacal taste and odor are got rid of, and a soft, rich, buttery consistence and a pronounced and pleasant flavor are given by the slow and careful curing. It is a noteworthy fact that this method of curing, which has been in use for more than a century and has been slowly evolved by gradual experience, is based on the most correct scientific principles. A typical cheese of the cured kind is the Camembert, so called from the place of its original manufacture, where it was first made, in the year 1791, by a dairyman named Peynel. The manufacture now amounts to several millions of cheeses annually, and employs the whole population of this district.

The method of manufacture of this popular cheese is exceedingly delicate and demands the greatest care in the most minute details, beginning with the milking of the cows—indeed before this, for the feeding and lodging of them are fully considered in respect of the avoiding of everything that might interfere with the perfect purity of the milk and the preservation of all the fine qualities of the pasture of this especially favored district. This extreme care accompanies all the work in the dairy until the milk is finally and carefully strained. The milk, having been drawn, is strained immediately and is set apart for three hours for the cream to rise. There is then a thin pellicle of cream on the milk, which is removed and churned into a very fine quality of butter. The milk, for the convenience of the special manipulation, is set in broad earthen jars, each holding five or six gallons, and as each has been skimmed it is set on a heater and warmed until the common, well-known pellicle or skin forms on the surface and wrinkles, or creeps, as it is called. The temperature at which this happens is somewhat over one hundred degrees. The rennet is then added, one tablespoonful to each jar of milk, in which there are twenty liters, equal to about twenty-one quarts. The rather high temperature of the milk when the rennet is added brings the curd quickly, and at the end of five or six hours each jar is set on a low bench, in a sloping direction, so as to bring the contents to the extreme edge, and the curd is then dipped out into the molds, which are of cylindrical shape.

These molds, made of pure tin, are twelve centimeters or four and three-quarters inches high and

wide. They are open at each end, and set on mats of rushes sown together. The molds are filled with the curd, from which the whey drains through the rushes on the sloping table, around which a groove is cut to carry it to the drain by which it flows away. As the whey drains from the curd, this shrinks in volume until the cheese has gained sufficient consistency to be handled out of the mold, which is at the end of the second day. They are then taken out of the molds and sprinkled with salt, and left on the mats three or four days longer. They are then placed in shallow wooden boxes with handles, and are in this way removed to the drying-room. Here they are arranged on frames, of which there are several tiers, and are exposed to a free circulation of air, regulated by swinging shutters. These windows are not glazed, but they are protected by fine wire gauze to keep out the flies, and as the direction of the wind varies so, the shutters are opened or closed fully or partially in such a manner as to direct the air currents over or under the cheeses lying on the lathed frames, through which the air has complete access to the cheeses. Here they remain from twenty to twenty-five days, according to the weather. They are then removed on large, movable tables to the curing-cellar, where the circulation of the air is much increased by the management of windows, similar to those previously described, and the shutters fitted to them. At this time the fermentation of the cheese begins to throw off moisture, which gathers on the surface of the cheese. At this stage the cheeses are removed to the finishing-cellar, in which the windows are glazed and protected by inside blinds.

In this place the cheeses remain a month or less, as the ripening may progress slowly or rapidly. During this time they are turned once in forty-eight hours. This constant turning is a special process for the fullest exposure of the cheeses to the air, and is practised all through the curing, gradually increasing the time of the turnings if the ripening may be proceeding too quickly. At the end of the term the cheeses are complete, and are packed in paper and put in boxes. They are then packed and put in wicker baskets and sent to market. They weigh about eight ounces and sell for about one shilling and sixpence each. The finest selected cheeses are sent to special customers who pay one-fourth more. The prices vary as the season or the demand and supply, but usually they remain about the same for years. Such a desirable cheese as the Camembert is, of course, imitated and sold at a less price, but on account of the strict way the French Government has of controlling such things, the imitation is sold for what it really is, as fromage facon Camembert, which does not deceive the purchaser in any way.—*Journal of the Society of Arts.*

To Prevent Cows Kicking.

I have noticed in your paper several articles on how to break a young or kicking cow. I have tried all, but none seem to be so effectual as my plan. First put the cow in a stanchion, near the wall of the stable, so she cannot move around much, then tie a rope around the right foot, make the other end fast to a ring in the wall or a post directly behind. The foot should be drawn slightly back of the other, so when she moves or makes an effort to kick she can not strike the pail. If this is done for a few times, at the same time being very gentle to the animal, the sight of the rope will be enough to cause her to stand and give her milk peaceably. I have never known this plan to fail.

Oak Lake.

JAMES ARMSTRONG.

An English Jersey Butter Test.

In the Jersey butter test at the Royal Counties Show, Eastbourne, Eng., 18 cows competed. The cows were milked out at 5 p. m. of June 9th, the following 24 hours' milk being used for the test. The milk was separated at the close of the test, and on the following morning the butter was made. The 1st prize, consisting of a gold medal and £3, was awarded to Red Light, exhibited by the Jersey Herd Dairy Co. She is about seven and one-half years old. She had been 69 days in milk. Her yield was 41 lbs., producing 2 lbs. 10 ozs. of butter. The 2nd prize, a silver medal and £3, was awarded to Syphon, a four and one-half years old cow, shown by Dr. H. Watney. She had been 74 days in milk, and gave 42 lbs. 12 ozs. of milk, yielding 2 lbs. 4 ozs. of butter. Capt. Fraser showed the five-year-old Lady March, the giver of 44 lbs. 12 ozs. of milk, yielding 2 lbs. 4 ozs. of butter. A bronze medal and £3 made up this third prize. The next five cows received certificates of merit.

To Keep Butter Firm Without Ice.

A correspondent of *Hoard's Dairyman* gives the following method of keeping butter firm without the use of ice: "Take a tight box (ten or twelve inches high, twelve to fourteen inches wide, and eighteen to twenty-four inches long), that can be got at any grocery store, put a loose shelf about five inches from the bottom, on which to place the butter. Set a dish containing water in the bottom of the box, and place the butter on the shelf. Take a piece of cloth large enough to well cover the butter and drop over the edge of the shelf into the dish of water. Moisten the cloth, spread it over the butter, and let the end drop into the dish of water, and it will take up the water so as to keep the butter cool and hard and free from salt crystals and in fine shape for table use. Towing crash is the best cloth to use for the purpose. The box should have a cover."

Fat Burnt While Testing Milk -- Wants Light -- May be Got at the Provincial Dairy School, Guelph.

To the Editor FARMER'S ADVOCATE:

SIR,—A manager of a cheese factory in Western Ontario writes to the Dairy Department that he is willing to pay for milk by the test plan as soon as he is satisfied that everything is all right, but that he could not do so "on the present testing." A description of his method of taking samples and testing is also enclosed, from which we learn the cause of his trouble: "The fat on rising to the top is not clear, but in a dark condition, as if it were burnt. There is very little showing of clear fat in the neck of the test-bottle, and sometimes none at all." The causes of this are at least two, as described in letter:—

1. Too much bichromate is used. The writer says he used one half a teaspoonful of bichromate of potash to each sample. Half this amount would preserve the samples and give clearer readings when tested. At present we are using a milk preservative made as follows: Seven ounces of potassium bichromate are mixed with one ounce of corrosive sublimate, and we use about what would lie on a five-cent piece to preserve a sample for two weeks. We take about a fluid ounce of milk each day from the patron's can. The mixture was made by a druggist in the City of Guelph. Any druggist would prepare it, and it ought not to cost over thirty to forty cents. We would recommend six ounces of chromate to two ounces of sublimate as likely to give better results than the seven-one mixture.

2. The second cause of this maker's trouble is to be found in the fact that he "put in five drams of sulphuric acid," which is too much. A measure holding 17.5 c. c. should be used for the acid. Five drams is about 19 c. c., and if the acid were proper strength it would burn the fat.

The Babcock tester and the making of composite samples are fully explained at the Provincial Dairy School, which opens Jan. 15th, 1897. Any maker who has trouble in testing or who does not understand the Babcock tester ought to avail himself of this opportunity to become familiar with the tester, besides learning many things that will be valuable to him as a cheese or butter maker.

O. A. C., Guelph.

H. H. DEAN.

GARDEN AND ORCHARD.

Cultivation of the Orchard.

(Given by W. W. Hilborn before Farmers' Institute, Div. No. 5.)

This is about the northern limit (Simcoe Ont.) in which the apple succeeds, and must, therefore, receive special care to make it a very profitable crop.

There is no doubt in my opinion but that this fruit can be grown very extensively in this section and give greater returns for the time and money expended than can be obtained in growing most other crops. We all know that grain farming does not pay as it once did. We should therefore look around and see what changes in crops can be made that will pay. There is a large portion of this country admirably adapted to the growth of the apple. The farther north we can perfect this fruit the higher color, finer flavor, and better keeping qualities will it have. These are all points of the greatest importance, and I have visited no locality where they can be obtained to a higher degree. More care and skill, however, is required in the cultivation and management of the orchard where the growing season is somewhat shorter and the cold of winter is more intense. We must aim to get an early, vigorous growth of wood, and to ripen the wood and fruit buds thoroughly in the autumn. With this end in view, I would recommend the following method of planting and cultivation of the orchard as likely to give the greatest measure of success:—

Selection of Trees.—Always select young, healthy trees, two years old from the bud, or not more than three years old from the graft. If they show any appearance of *black heart* do not plant them, as they will not recover. This may be detected by looking at the scars made on the trunk of the tree where the side branches have been pruned off in the nursery. If these wounds have healed over nicely there will be no danger of black heart. If they have not healed over, but have turned black, and the bark around them shows a dark discoloration, caused by the sap oozing out, I would expect to find the heart of the tree dead or discolored, from which they do not recover, and never make healthy trees.

Soil.—The soil should be a good friable loam, well drained, either naturally or by underdraining. A northern slope is to be preferred. Select the highest elevation you have, other conditions being equal.

Planting.—This should be done when growth begins in early spring. Plant a little deeper than they were in the nursery. First prune off all injured roots, and one half or more of the top. Dig the holes larger and deeper than required to admit the roots of the tree—use soil of good, medium fertility to put in among them. This should be

well rammed in among the roots. Always save the richest soil or loam to put on top as a mulch around the tree. Never let manure come in contact with the roots of any plant or tree when planting. Never plant when the soil is wet enough to cleave together badly in handling. Another important matter is to keep the roots covered while out of the ground; many a failure can be traced to the neglect of this precaution. My own method is to place a large box on a stoneboat, put the trees in the box and mix wet straw with the roots. Drive along when planting and take out the trees just as wanted.

They should be planted at least forty feet apart to give best results, especially now that spraying has to be resorted to.

Cultivation.—This is the all-important matter. We find most all of the orchards throughout the country are very much neglected in this respect. Especially is this true with old or bearing trees. This gives one the impression that they are now considered old enough to take care of themselves. This method of treatment will pay just as well as it pays to keep dairy cows around the straw stack during winter with no other food or protection.

Very many farmers do not know that an old orchard requires cultivation. This no doubt is largely owing to the fact that many of the agents who go around selling trees tell them that no special cultivation is required; that they can grow grain or other crops among the trees while young, and seed down when older and get a crop of hay as well as apples.

With the experience I have had I would recommend that no more trees be planted than can be well cared for every season. With the method of culture I shall outline, more net profit can be obtained from one acre than is usually taken from ten as usually managed.

We must know something about the needs and requirements of a tree before we can cultivate intelligently. We must ever keep in mind the fact that mother earth is the greatest storehouse of plant food, and that all fertilizers we can add are only of secondary consideration. We must therefore cultivate or stir the soil often to prepare the plant food, or bring it into a condition to be utilized by the tree. We must also remember that however great the supply of plant food contained in the soil, it can be of little use to the tree without a sufficient supply of moisture during the period of growth. Moisture is present in sufficient quantities in the spring, and may be conserved by oft-repeated stirring of the soil during dry weather. While the trees are young, any crop may be planted between them that will admit of early and constant cultivation. When they are old enough to produce paying crops of fruit, no other crop should be grown. Give all of the space to the trees and continue to give good cultivation from early spring until the middle of August or first of September. At this time sow to rye, fall wheat or crimson clover. This early sowing of grain will give a covering to the soil that will catch and hold the snow during winter, and prevents the rapid changes of freezing and thawing. The greatest benefit, however, is usually derived from the great evaporation that takes place of the surplus moisture through the medium of the growing plants. This would otherwise go to stimulate a late growth of wood in the tree that would not fully mature their fruit buds. This crop must be plowed under early in the following spring, and the same treatment as above outlined should be continued from year to year. Never on any account allow the land to remain for a single season in grain or grass. Cultivation should always reach to about the same depth, whether done with the harrow, cultivator or plow, especially among large trees. The small fibrous or feeding roots of the tree naturally come towards the surface, or as near to the surface as the soil is undisturbed. It will be quite evident that if the soil is worked shallow for some time and then turned up deep, that countless numbers of those rootlets are destroyed. I would therefore advocate shallow cultivation at all times in the orchard. I am pursuing this method with very satisfactory results.

Trimming.—This may be done every spring as soon as hard freezing weather is past. Cut out all superfluous branches and shorten in the new growth of young trees if growing rapidly. It is quite common to find the pruning of the bearing orchard neglected for two or three years at a time. The professional pruner comes along in the winter looking for a job, and if he has an oily tongue usually succeeds in getting it. When he invades an apple tree his first operation is to cut out the center of the top, as he says, to let in the sunshine, but more properly speaking, to make room for himself to stand while mutilating the tree. When done it is hard to tell whether the tree or the ground contains the most of the top. This sudden check to the growth of the tree is most ruinous. Where the sun shines directly into a tree top that has heretofore been shaded, and its rays strike the larger limbs, they are sun-scalded, and borers get in their work and ruin is the result. Should the pruning of an orchard be neglected for two or three years, it will not answer to take out all in one season that should be removed. Rather take two or three years to rectify the mistake or neglect. Thin out the top enough to admit of a free circulation of air, and leave enough foliage in the center of the tree to shade the large limbs. If properly trimmed every spring there will be but few large limbs to be taken out at any time, and thus the health of the tree will be preserved.

Asparagus -- Wild and Cultivated.

The asparagus belongs to the natural order of Liliaceae or Lilyworts, so that when we exclaim against the Japanese custom of eating lily bulbs as a vegetable, we must not forget that our own select vegetable is closely allied to the fragrant lily and likewise a family connection of the classic asphodel, the flower of departed spirits. The mountain asparagus gathered by Invenal's bailiff wife was the wild variety, as popular in Rome as that cultivated in the gardens of the Ravenna, or Nesis in Campania, and frequently referred to by the Apicii Luculli and other equally renowned connoisseurs of Roman days. In England "the habitat of the wild asparagus is marshy ground near the sea, productive also of rushes," hence its name of sea asparagus, and in a botanical work of the seventeenth century we read: "Sperage found in sundry places as in the marshes near Bristow. I found it growing on the cliffs at the Lezard Point, in Cornwall," where a tiny islet is called Asparagus Island--Aspear-grass-island. As salt air and soil seem to conduce to the growth of the wild variety, many gardeners use seaweed freely as a manure on the beds, and add salt in the proportion of two pounds to the square yard. In every country of Europe it grows freely, even to the banks of the River Euphrates. On the salt steppes of Russia and Poland it is so prolific that the horses and cattle graze on it, so that it is veritably "grass"; but it is to France we must turn to find it cultivated to perfection and sold at a price within the reach of all purses. The Parisian artisan can feast on it freely for half a franc, and the poorest student in the Quartier Latin gets a dainty plateful for a quarter of a franc. But to the British workman, and indeed to the great mass of the people, it is still the "select vegetable" at a prohibitive price. Our most popular variety is the Asparagus Lativus of Linnaeus, but the Asparagus Albus is most freely cultivated in Canada.

POULTRY.

Management of Poultry.

[Compiled from a paper by Mr. J. Hartley, Brant Co., Ont.]

Varieties.—The sorts of poultry for the general farmer are those which have a reputation for having good business habits. The Plymouth Rock is a contented bird, can be retained within a reasonably low fence, is always thrifty, looks well when dressed, is a reliable sitter, a careful mother, and producer of a high average of eggs with reasonable care. The Leghorns are beautiful birds, great layers, but are too small for market. A cross between the Brown Leghorn and Buff Cochins, or between the White Leghorn and Light Brahma, gives fine, profitable birds.

Management.—The conditions for success in poultry raising are: Warm, light, and dry quarters, clean water, wholesome food, and a moderate range. My cold-weather ration for 30 hens consists of as much finely-cut hay as can be grasped in both hands, two quarts of bran, and the refuse from the table for the last 24 hours. This is scalded, cooled and fed in the morning. They get grain, usually wheat, with an occasional feed of barley and corn, at noons and evenings. They get warmed water twice a day, which is liberally taken.

They should be kept well supplied with coal ashes, and receive ground bone twice a week. Hens should scratch for their grain, which keeps them healthy and prevents egg-eating. The house should be cleaned twice a week, and given a sprinkling of fresh lime. To keep the fowls free from vermin, sprinkle the roosts once a week with coal oil and turpentine, supply plenty of coal ashes for dust baths, and whitewash the house once a year.

To keep up the stock to a high standard the hens should not be kept till over four years old. In the early part of March select about eight of the best hens and mate them with a male possessing as many as possible of the points desired to be perpetuated. Only the eggs from this pen should be set. This care will pay well for the doing. There is no profit in the haphazard system of management.

To Break Up a Sitting Hen.—I use a light frame two feet square and two feet high. I cover the top with a board, and around the four sides I have wire netting, about two-inch mesh. I put this frame in the yard among the other hens and enclose the criminal in it. She can see the flock, and while endeavoring to gain her liberty she forgets her broody habit. A day or two in the box is enough.

The Poultry House.—A flock of 50 hens is as large as is profitable in one pen. A house 8 x 20 or 25 feet, with liberal yard room, is about right. The hens should be confined each day until they are through laying, so that absolutely fresh eggs will always be secured, and an honest man's reputation is thus saved from question.

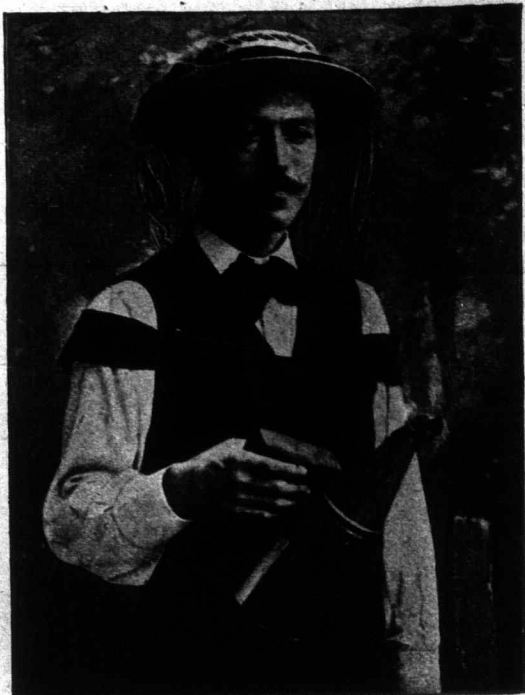
The Poultry-keeper.—The man who allows his hens to roost in cold quarters, exposed to winds and storms, gets eggs only when they are cheap, and decides that hens do not pay. The poultryman who builds an expensive house, keeps a large number of high-priced fowls, spends his whole time and a lot of money on them, rarely finds poultry-keeping an unqualified success. But the man who exercises common-sense and good judgment in housing, feeding, and attending to the details, not as a separate industry, but as one branch of farming, is usually able to get enough out of it to largely keep the house in groceries.

APIARY.

Quieting and Manipulating Bees.

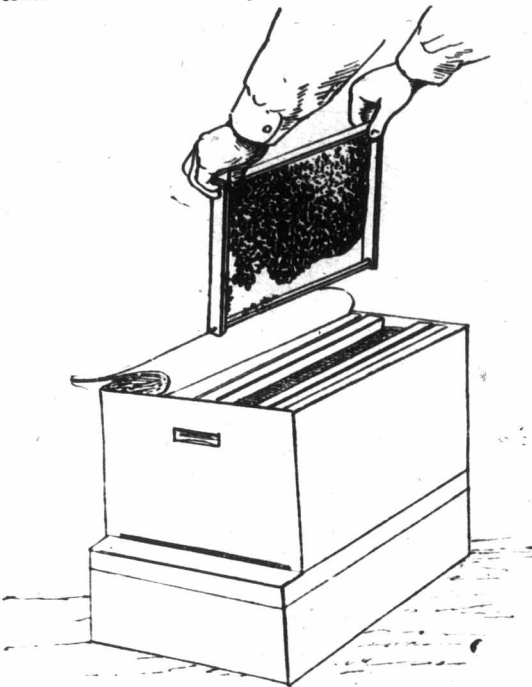
The demeanor of bees toward an individual depends largely upon his bearing and treatment of them. Langstroth, in his excellent treatise, "Langstroth on the Honey Bee," says:—

"Let all your motions about your hives be gentle and slow; never crush or injure the bees; acquaint yourself fully with the principles of management, and you will find you have little more reason to dread the sting of a bee than the horns of a favorite cow or the heels of your faithful horse."



[Use of veil and bee smoker.]

Most bee manipulators, however, grow somewhat indifferent to stings, since in time they become so inoculated with the poison of the bee that the pain of the sting is less severe and the swelling slight. But to avoid the sting is, with some of the races more recently introduced into this country, simply a question of care in manipulation and a free use of smoke. It is not meant that the bees should be stupefied with smoke, but merely alarmed and subjugated, and whenever they show any disposition to act on the offensive recourse is to be had to smoke. It is not necessary that the smoke should be from a particular source, but that from certain substances, as tobacco, subjugates them more quickly, while burning puffballs stupefies them for the time. There are some objections to these substances which do not apply to wood, either partially decayed or sound, and as the latter when in a good smoker holds fire best and is very effective, it is advisable to keep a good supply at hand. Seasoned hickory or hard maple are best, though beech, soft maple, etc., are good. The most improved bellows smokers, when supplied with such fuel sawed five or six inches long and split into bits a half inch or less in size, will burn all day and be ready at any time to give a good volume of blue smoke, by which bees of most of the races now cultivated in this country are subdued at once.



[Manipulation—removing comb from hive.]

With Italian or black bees a puff or two of smoke should be given at the hive entrance, and the cover and honey board, or quilt, removed slowly and carefully, smoke being driven in as soon as the least opening is made and the volume increased enough to keep down all bees as fast as the covering is removed. The smoker may then be placed on

the windward side of the hive to allow the fumes to pass over the top and toward the operator. The frames may then be gently pried loose and lifted out carefully without crushing a bee if it can be avoided. Crushing bees fills the air with the odor of poison, which irritates the bees. So also when one bee is provoked to sting, others follow because of the odor of poison.

Too much smoke will often render certain manipulations difficult; for example, when queens are to be sought out, or nuclei or artificial swarms made, volumes of smoke blown in between the combs will drive the bees from them so that they will cluster in clumps on the bottoms of the frames or in the corners of the hives. A little observation and judgment will enable one to know when the bees need smoke and how much of it to prevent any outbreak on their part, which it is always best to forestall rather than be obliged to quell after it is fully under way.

The frame hive as now made—with metal rabbets and arrangements for surplus honey, and quilts instead of honey boards—reduces propolization to a minimum and renders the danger of irritating the bees by jarring when manipulating much less. As a prerequisite to rapid and safe manipulation perfectly straight combs are necessary.—[Frank Benton's Manual of Apiculture, issued by U. S. Dept. of Agriculture.]

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.]

Legal.

SALARY OF SCHOOL TEACHER.

"READER":—"In 1894 I signed a contract with school trustees to teach at their school for 1895. And I taught during 1895 and continued on under the same contract for 1896 and taught till May, when I sent in my resignation, to take effect on 30th June. Under the contract my salary was to be paid as follows: The grants as received, and the balance at the end of the year. I now want to know when should my salary be paid to me?"

[If you resigned, against the wishes of the trustees, in June, being in the middle of the term of your contract, you would not be entitled to any salary for 1896, as you have broken your contract. If, however, your resignation was assented to by the trustees, you can collect the proportion payable by the contract, namely, the grants as received, and the balance at the end of the year—31st December.]

GRAVEL FOR REPAIRING ROADS.

T. W. P., Grey Co., Ont.:—"What right has the municipality to take gravel off my place for repairs to roads, and who is to control the entrance to the pit?"

[The rights are given to the municipality by the Municipal Act: 1st. To purchase the land, if it chooses to do so, entirely. 2nd. To search for and take gravel, etc., without purchasing the land, upon the conditions that the right of entry upon such lands, as well as the price or damage to be paid, shall, if not agreed upon by the parties concerned, be settled by arbitration. A corporation acting under this provision must, by the by-law or by the notice to the owner, define the quantity of gravel required, and the arbitrators should fix the value of the quantity required, and also fix the amount to be paid for the right of entry to take the same away.]

Veterinary.

ABORTION IN COW.

T. W. P., Grey Co., Ont.:—"My cow slipped her calf at about four months. The casing that held calf had whitish matter all over it in patches as large as a fifty-cent piece. Will you please give your opinion on the matter in the ADVOCATE?"

[There is good reason to believe that prolonged milking during pregnancy is a fruitful cause of abortion. The placental membrane, or, as you call it, the casing, owes its white color in the case you mention to the effort on the part of nature to be rid of the foetus. The patches, as you call them, are the cotyledons or membraneous tufts which connect the foetus to the parent, and they become white, in cases of abortion, owing to the loss of nutrition.]

DR. WM. MOLE, M.R.C.V.S., Toronto, Ont.]

Miscellaneous.

PLANTAIN (Plantago major).

"READER," Toronto, Ont.:—"Kindly identify and prescribe method of eradicating the enclosed weed? It has overrun two lawns in Toronto, totally displacing the grass."

[We find the specimens sent us to be the common plantain (Plantago major). It is too well-known to need a minute description. It grows about dwellings and on the edges of paths where the grass has been much trodden. It is a simple perennial, having broad, smooth-edged, oblong, dark green leaves. The seed, which closely resembles some of the clovers, grows in spikes upon straight stems, growing up from the root. No doubt the lawns in question received the plantain seed when the grass seed was sown. The only plan

which appears to us at all likely to succeed in extirpating the weeds from badly infested lawns is to remove the present sod and re-sod the lawn with clean grass.

RENEWING OLD PASTURE.

"FARMER," Prince Edward Island:—"I have 30 acres of pasture land which I wish to remain in grass, but it has been taken possession of by a tough covering of a class of moss peculiar to old meadows in this Province, and unpalatable grasses.

[To undertake to destroy a species of vegetation peculiar to a district, and which has of itself taken possession of grass land, would seem a hopeless task by any other than a careful working of the surface to the depth of at least three or four inches.

USELESS BOAR.

"SUBSCRIBER," Oxford Co., Ont.:—"I purchased a Berkshire boar last spring. He is a year old, and will not serve sows. He takes no notice of them whatever.

[The hog should be first examined to ascertain whether he is perfectly formed in all parts, and that he is in good health. These conditions being present, he should be turned out with sow or sows.

SICK FOWLS.

"FARMER'S WIFE," York Co., Ont.:—"I would like to know if you, or any of your numerous readers, could give a remedy for a disease among poultry, both hens and turkeys? They seem to be in perfect health, fat, and laying, until some morning you see them wanting to stay on the roost, and refusing to eat, and by next morning they are dead, or perhaps you will find them dead under the roost without noticing them drooping at all.

[There is evidently something seriously wrong with the poultry referred to by "Farmer's Wife." The trouble differs from any of the common diseases of fowls to such an extent that just what it is we cannot say at present.

TO TELL THE WEIGHT OF LIVE CATTLE.

A. P. WILLIAMS, York Co., Ont.:—"Would you kindly give rule for finding the weight of an animal by measurement?"

[The weight of live cattle can be found by measuring around, back of shoulders, square the length, multiply by 7, divide product by 2, and multiply quotient by 5.]

LIVE STOCK MARKETS.

Toronto Horse Market.

Trade has been moving fairly strong at Grand's Repository, Adelaide St., a few stylish drivers being taken by outside buyers. A nice pair of cobs were sold for Buffalo at \$250, suitable for park driving.

Toronto Markets.

There is no particular change to comment on. The supply exceeds the demand. Cables are low, the hay crop small, and farmers are compelled to get rid of their stock.

Export Cattle.—Twenty many cattle offered at the seaboard, and lack of space prevents free purchasing; only a few loads being held for future shipment.

Shipments of live stock last week were as follows:—S. S. Bellona, London, 426 head of cattle; Brazilian, London, 504; Laurentian, Liverpool, 314; Lake Winnipeg, Liverpool, 600; Lycia, Bristol, 302; Alcides, Glasgow, 504; Scandinavian, Glasgow, 417. Total, 3,567.

Butchers' Cattle.—Excepting those cattle taken by city buyers, prices were very low. Buying for Montreal was moderate, about 12 carloads being taken.

Bulls.—Steady at fair value; those changing hands went for from 2 1/2 to 3c. per lb. A few enquiries for bulls; not many on offer.

Calves.—Prices ruled from \$1.60 to \$1.00; only a very few good ones touched \$5. Quite a number were left over at the close of the day.

Milk Cows.—The ruling figure for the general run was from \$20 to \$30 per head. Two nice Jerseys sold for \$53. A good dairy cow with calf at heel fetched \$36.

Hogs.—Offerings were not liberal to-day. Market held firm at former quotations. All sold, at 4 1/2c. per lb. for choice selection of bacon hogs; store hogs, \$3.70 to \$3.75; thick fat, \$3.45 to \$3.50; boars, \$1.00 to \$1.50.

Mr. George Mathews desires to contradict the report that they intend to shut down their packing-houses for the summer. Business will be conducted at the same rate as hitherto; the price of hogs will go higher next week—4 1/2c. No stores wanted.

Wool Market.—The home market is dull so far as export enquiry goes. The receipts are liberal and already a good proportion of the crop has been marketed.

Cheese.—Demand fair; attendance of export buyers good; prices unchanged; \$8. to \$9. There is no change in the market to record.

Hay.—On the street market a few loads of hay sold at from \$12 to \$15 per ton, old; and \$9 to \$11 per ton, new.

Straw.—Very few loads on offer; all sold, at \$10 to \$10.50 per ton. Loose straw at \$8. Oat straw on stack offered at \$8.

Wheat.—White sold at 75c. per bushel quoted; none on offer. Oats were plentiful and easy, at 2 1/2c. to 2 3/4c. per bushel; three loads on offer this morning. Very little local demand.

Hides and Skins.—There is some improvement, due to enquiry from Chicago. No. 1 green sell at 6c; cured, at 6 1/2c. Calf skins—No. 1 green, 7c. Sheep skins, fresh, \$1 to \$1.25. Lamb skins, 35c.; pelts, 15c. July 10th, 1896.

Buffalo Markets.

Hogs.—Receipts here to-day, July 8th, about twenty double-decked cars. Markets steady to strong. Choice to prime heavy shipping grades, \$3.40 to \$3.45; mixed loads, mediums and odds, \$3.20 to 30 lbs. average, \$3.55 to \$3.60; Yorkers (corn-fed), 140 to 170 lbs. average, \$3.80 to \$3.85; pigs, good to choice, 100 to 120 lbs. average, \$3.90 to \$3.95; pigs, common to fair, \$3.70 to \$3.80; roughs, \$3.60 to \$3.10; stags, \$2.00 to \$2.50.

Cattle.—Receipts on Monday about 125 cars compared with 120 cars the week previous. The market generally was steady on all kinds of medium class and heavy cattle, of which there was the largest supply that we have had in six months.

Bulls, oxen, and stags and coarse cattle of all kinds sold about steady. Stockers and feeders.—The former continue in poor demand, especially for the light, thin kinds, which buyers don't seem to want at all.

Milk cows and springers sold steady to strong for good kinds, and common to fair, and medium grades sold about steady.

We quote as follows: Prime to fancy steers, \$1.50 to \$1.60; good to choice, \$1.25 to \$1.40; good, ripe, 1,100 to 1,250-lb. steers, \$1.20 to \$1.40; common to fair, \$3.35 to \$3.50. Feeders, fair flesh, good quality, \$3.25 to \$3.50; fair, \$2.90 to \$3.10. Stockers, good quality, \$2.80 to \$3.00; common to fair, \$2.25 to \$2.50. Prime to fancy heifers, \$3.30 to \$1.00; good to choice heifers, \$3.40 to \$3.70; light fair-fleshed heifers, \$2.90 to \$3.15. Prime heavy fat cows, \$3.60 to \$3.75; common cows, \$2.00 to \$2.25. Bulls, prime to fancy, \$3.10 to \$3.35; bulls, good, \$2.85 to \$3.00; common and light bulls, \$2.00 to \$2.25. Milkers and springers, fancy, \$45.00 to \$50.00; choice, \$31.00 to \$36.00; common, \$15.00 to \$17.00. Veal calves, extra fancy, \$1.50 to \$1.75; heavy fed calves, \$2.50 to \$2.75.

Sheep and Lambs.—Receipts of lambs at this point are not very heavy, still they are enough to supply the demand as it is confined mostly to the local trade. The markets in the East are so bad and prices so low that order buyers will not come this way.

Trade has been moving fairly strong at Grand's Repository, Adelaide St., a few stylish drivers being taken by outside buyers. A nice pair of cobs were sold for Buffalo at \$250, suitable for park driving.

lambs are selling very low all over the country. Sheep are steady to strong, especially good kinds or those suitable for exporters. There is a demand for them just now and how long they will remain is of course uncertain.

Montreal Markets.

The general tone of the market in all branches has been steady during the past two weeks. The only line that has made any considerable movement has been export cattle, for which as high as 4 1/2c. per lb. has been paid here in the yards.

Monday (July 6th) quite a number of cattle were purchased for export account, all suitable offerings being taken in to fill space. This had a beneficial effect on what would otherwise have been a very bad market, and at the close most everything was cleaned up.

Export cattle ranged in price from 3 1/2c. to 4 1/2c. per lb.; butchers' from 2 1/2c. to 3 1/2c. per lb. Sheep and Lambs.—Good, choice sheep, suitable for shipping, are only making 3c. per pound, and very few being purchased.

Calves.—Little enquiry; ranging in price from \$2 to \$7. The Heavy Beef.—One very remarkable fact worthy of notice is the big slump that has taken place in heavy beefs in the English market, a difference of from 1c. to 1 1/2c. being made between heavy and medium weight steers, with very little enquiry.

Live Hogs.—Receipts of hogs have been fair, but the price has steadily moved downward till 4c. is the best that can be got on this market for choice hogs, mixed grades making down to 3 1/2c. per lb.

Hides and Skins.—There has been no change of note in this market beyond the usual monthly advance of 5c. on lamb skins. We quote for green salted hides, 59 pounds and down each: No. 1, 6c. per lb.; No. 2, 5c. per lb.; No. 3, 4c. per lb. Heavy steer hides, 60 lbs. and up: No. 1, 6c. per lb.; No. 2, 5c. per lb. Calf skins, No. 1, 6c. per lb.; calf skins, No. 2, 4c. per lb. Sheep skins, 75c. to 90c. each; lamb skins, 35c. each.

Notwithstanding the present state of the foreign markets, shipments are going forward in unabated numbers.

Chatty Stock Letter from Chicago.

(BY OUR SPECIAL CORRESPONDENT.) Top prices for different grades of live stock, with comparisons:—

Table with columns: CATTLE, Present Prices, Two weeks ago, 1895, 1894. Rows include 1500 lbs. up, 1350 to 1500, 1200 to 1350, 1050 to 1200, 900 to 1050, Stks. and F., Fat cows, Cammers, Bulls, Calves, Texas steers, Texas C. & B., Western, Western C. & B., Hogs, Mixed, Heavy, Light, Pigs, SHEEP, Natives, Western, Texas, Lambs.

Cattle are fetching fair prices in comparison with other products of skill and industry, but that is not saying very much. There is no cattle famine in sight, but should business pick up, as it seems certain to do after the political pot stops boiling and people go to business again, it looks as if there might be quite an improvement in cattle prices.

The cattle are in good condition on the range and getting better every week. They wintered without loss. The calf crop is good and with plenty of feed in prospect it would take very much better prices than cattlemen expect to cause them to ship out as closely as they did last year.

Texas and Indian Territory cattle continue to arrive freely and they are selling well, largely at \$3 to \$3.50 for grass steers. Distillery cattle are selling freely at \$4.00 to \$4.35, largely at about \$1.15 to \$1.25. They are making very good killers, averaging about 1,400 lbs. on the hoof.

Pennsylvania farmers are short on cattle and are going to want a good many feeders in the fall. Farmers in Lancaster County raise a great deal of tobacco and other exhausting crops, and for that reason they want to feed cattle in order to get the manure. If it were not for this they would turn the fattening business over to the Western farmers, who grow corn more cheaply, and the slaughtering over to the Chicago beef men, who do the business most economically.

During the first six months of 1896 Chicago received 57 per cent. of all the cattle, hogs, and sheep at the four Western markets; Kansas City received 22 per cent.; St. Louis, 13 per cent.; and Omaha, 8 per cent. Stock yearling enterprises are doing well at many other points, but there seems to be no danger that the greatest live stock market in the world will lose its prestige.

The Kansas City Yard Company reports 120,129 stock cattle taken to the country during the first half of 1896, against 118,496 the same time in 1895. That is quite a "feeder" market, and these figures show that farmers, while complaining of low prices for fat cattle, have been ready to do business again and take chances on betterment in the future.

The hog situation does not change much. Prices are low, and will hold some profit to feeders, and the packers seem to buy very freely whenever there is a decrease in receipts or a sag in prices. The hogs are in good demand, and if times in general were so much out of joint there would be an enormously increased consumption of hog products.



THE LONDON OMNIBUS.

BY PHILLIS PEYTON.

Nowadays, when ladies as well as mankind travel so much on omnibus tops, it behooves them to beware of a gentleman who may be met thereon.

A lady comes up from the country for a regular shopping expedition, so does to the fair sex. She is met by a town friend who assures her that quite the cheapest and most pleasant way of getting into the city is by omnibus top.

But how can we tell whether or not there exists in his soul a fervent love of beauty, or whether he be utterly insensible to its charms, when Poverty has laid upon him her restraining hand, shutting him out from that world of witching color, grace, and beauty where his fancy revels?

Occasionally the thief is still more bold. A bright young girl gets into a rather full omnibus. A gentleman sitting next the door politely makes room for her, and receives her smiling thanks.

A coroner's verdict read thus: "The deceased came to his death by excessive drinking producing apoplexy in the mind of the jury."

A member of a school committee writes: "We have two schoolrooms sufficiently large to accommodate three hundred pupils one above the other."

THE CHILDREN'S CORNER.

A "Proverb Hunt" will now begin this column. A prize is offered for correct solutions of the first three pictures. Only children of subscribers may compete, and competitors must be under sixteen years of age.



HIDDEN PROVERB—No. 19.

Bread Land.

(Continued from page 276.)

A delicious odor of fresh bread blew up from the valley. Fields of yellow grain waved in the breeze, a river of milk flowed through the peaceful land, and fountains of yeast rose and fell with a pleasant foam and fizz.

"Thank you. Who is Muffin?" asked Lily. "He was Ginger Snap once, but is a Muffin now. We work up to the perfect loaf by degrees.

Lily burst out laughing at the idea of racing with these old friends of hers; and all three ran as fast as they could into the middle of the village, where they sat down on some soft rolls to rest.

"We farm, we study, we bake. It's school time now and we must go. Will you come?" said Sally, jumping up as if she liked it.

"Our schools are not like yours. We only study two things—grain and yeast. We have yeast to-day, and the experiments are jolly," added Johnny, trotting off to a tall brown tower of rye and Indian bread, where the school was kept.

The brown loaf was hollow and had no roof, and when Lily asked why they used a ruin Sally told her to wait and see why they chose strong walls and plenty of room overhead. All round was a circle of very small biscuits, like cushions, and on these the Bread children sat.

The experiments with the yeast were quite exciting, for Fraulein Pretzel showed them how it would work till it blew the cork out, and go fizzing up to the sky if it was kept too long; how it would turn sour or flat and spoil the bread if care was not taken to use it just at the right moment.

The children were very bright, for they were fed on oatmeal and Graham bread. Hearty, happy boys and girls they were, and their yeasty souls were very lively in them, for they danced and sung as if acidity, heaviness, and mold were quite unknown.

In the bakehouse Lily found her old friend, Muffin, hard at work making Parker House rolls.

"Well, isn't this better than Candy Land or Saccharissa?" he asked, as he rolled and folded his bits of dough.

"Ever so much!" cried Lily. "I mean to learn all I can. Mamma will be so pleased if I can make good bread."

"Glad to hear it. Learn all you can. I have to work my way up to the perfect loaf, you know; and then, oh! then, I'm a happy thing."

"What happens then?" asked Lily.

"Then I am eaten by some wise, good human being and become a part of him or her. That is immortality, for I may help a poet to sing or be crumbled into the golden porringer of a baby prince who is to rule a kingdom. Isn't that an end worth working for?" asked Muffin, jubilantly.

Lily stayed in Bread Land a long time, but at last, when she had made the perfect loaf, she wanted to go home, that her mother might see and taste it.

"I've put a good deal of myself into it, and I'd love to think I had given her strength by my work," she said, as she and Sally stood looking at the handsome loaf.

"You can go whenever you like. Just take the bread in your hands and wish three times and

you'll be wherever you say," said Sally, kissing her good-by.

"Where is Muffin? I must say good-by to him," said Lily.

"He is here," answered Sally, touching the loaf. "He was ready to go, and chose to pass into your loaf rather than any other, for he said he would like to feed so good a little girl."

"How nice of him. I must be careful not to disappoint him," said Lily, touched by his devotion.

Then she hugged her loaf close, wished three times to be in her own home, and like a flash she was there.

Whether her friends believed her wonderful tale I cannot tell; but I know she was a nice little housekeeper from that day, and made such good bread that other girls came to learn from her. She also grew from a sickly, fretful child into a fine, strong woman, because she ate very little cake and candy except at Christmas time, when the oldest and wisest love to make a short trip to Candy Land.

L. M. ALCOTT.

Is He a Stranger?

There's a little fellow I have seen, with one besetting sin. He doesn't with a merry "Yes," begin it. When he's asked to do a task, but he answers, "Must I now?" Then, "I'll do it, if you'll only wait a minute!"

MINNIE MAY'S DEPARTMENT.

MY DEAR NIECES,—

It would seem that the delicate task of weighing the mental and moral possessions of our neighbor was a mighty important work. Many are the scales and yardsticks supplied us for this calculation, on which so much depends. How often we are told that a man's surroundings give a fair idea of the real man; that his character may be pretty accurately guessed from his associates; that his disposition may be read in his features; the inner man is revealed in his very garments; that we may estimate his gray matter by the mental food he chooses. And a thousand and one other tapelines are recommended.

But how can we tell whether or not there exists in his soul a fervent love of beauty, or whether he be utterly insensible to its charms, when Poverty has laid upon him her restraining hand, shutting him out from that world of witching color, grace, and beauty where his fancy revels? "A man is known by the company he keeps," says an old proverb. But is he? In his childhood and youth his associates were chosen for him—thrust upon him by Fate; he is no more responsible for them than he is for his parentage. The same thing is true in his later life. A certain number (and it is a very insignificant number, compared with the whole) will be of his own choosing. Perhaps of not one in a hundred of his acquaintances can he say: "There is a man whose character compelled my admiration, whose mind I longed to know intimately; therefore I sought his friendship." Could it be said of one in five hundred? One's friends are usually the chums of school and college life, those whom we meet in our daily business, the acquaintances of our acquaintances. Can a man be fairly judged by the company he keeps?

Another measuring-rule recommended to us is a man's books. "Look at his bookshelf," we are exhorted, "and learn not only his individual character, tastes, and mental ability, but his real inner life, his influence among men." True to some extent, but is it yet just? Many a noble soul has passed on to its rich reward without ever having known the A B C of human lore; and it often happens that conceited, hypocritical ignorance sits before a library of magnificently imposing volumes, while genius must remain content with a few stray works of a barren bookshelf.

We will not pause to consider the theory that a man's features at all times form any very accurate exponent of his mind. Nobody has been known to achieve any very remarkable success in character-reading upon this basis, save novelists and their supernaturally clever subjects.

But there is one thing by which we may fairly and truly estimate our friends (?). Not by their faces, for which Nature is mainly responsible; nor by their habiliments, provided by the more or less liberal Goddess of Fortune; not by their possessions nor attainments; but by their ideals, if we can get at them. Find out, not what sort of a person your friend is oftenest seen with, but the qualities he most admires in his friend, and you will have a tolerably fair picture of what your friend is or would gladly become. Find out the life your friend would pursue were it in his power, and you need seek no farther.

The importance to the young of cherishing a high ideal is often dwelt upon, for "as a man thinketh in his heart, so is he." It is no new theory, though new evidences of its working are constantly being brought to light. The subtle connection between thought and action, between the ideal and the real, was well understood by the divine writer who said, "Whatever things are pure, whatsoever things are lovely, . . . think on these things."

Think on these things! For, again, "As a man thinketh in his heart, so is he." MINNIE MAY.

St. Michael's Mount, Cornwall.

Our picture is one of those creations of Turner's genius which never fail to attract and interest. A large school of modern art has elevated the prosaic reproduction of the more ordinary aspects of nature almost into a religion. The naturalists, as they may be called, are entitled to great respect, but we doubt whether they will retain a large hold upon the public mind. A keen observer of nature will always appreciate and enjoy a faithful and sympathetic rendering of the more ordinary aspects, and the artists who devote themselves to revealing to the casual observer the beauty and fullness of intention of scenes and objects over which, without their help, the eye would wander listlessly, render no small service to culture and the growth of a healthy taste. They also enlarge the resources of enjoyment that lie around us, at all times accessible. But these sincere and enthusiastic expositors of nature are little likely ever to supersede in public regard those master minds which have been able with fair measure of truth to record for us the grander and more picturesque scenes which can never fail to dominate in interest. Of these master minds, Turner ranks amongst the highest. None have ever excelled, perhaps none have ever equalled, him in representing the greatness of the clouds. Much of the interest of the present view of St. Michael's Mount is due to the way in which the clouds are handled. Apart from this the scene itself from almost any point of view arrests the attention.

Situated on the coast of Cornwall, this giant boulder, two hundred and forty feet above the level of the sea, and some three-quarters of a mile in circumference, towers over the adjacent country, and bids defiance to the sea. At low tide a narrow bank of pebbles connects it with the mainland. Over this, as far back as the pre-Roman times, the ancient Britons carried their tin to ship in the small harbor of the Mount. Here forty vessels can be safely moored, and it is a welcome refuge to the boats of the plicard fishery, an industry of large extent on this coast. For centuries Mount St. Michael was the stronghold of different forms of worship. In the dawn of history we find it covered with oaks; a sanctuary of the Druids. With the triumph of Christianity it passed into the hands of the Benedictine monks, and from time to time there are records of the founding or renovating of religious houses, the granting of charters of indulgences, and the crowding of pilgrims to its famous altars. Like many another favorite haunt of religion, it is now the property of a British baronet, and the old priory does duty as a summer residence. Thanks, however, to that reverence for the past that has preserved so many vivid memorials to rejoice the heart of the modern pilgrim whenever practicable, the rooms retain as much as possible their original appearance, and the chapel is a good sample of the old English style.

A Day in the Life of Tommy Atkins.

BY AN INFANTRY N. C. O.

Our little war in West Africa has once more drawn attention to Mr. Atkins on his travels, and to the hard work which lies before him in Ashanti. There is a long-cherished conviction on the part of the British public that, when at home, every moment of a soldier's day is fully occupied in the pursuit of those practices which are considered to be "conducive to the maintenance of good order and military discipline"—or at all events in a manner that is useful as well as beneficial. I should be sorry to dispel this illusion. Nevertheless, it is a fact that the average soldier, who has in all probability for several years previous to his enlisting been accustomed to work from six in the morning until six in the dewy evening for five and a half days a week, enjoys a large and liberal amount of leisure. How greatly this is the case will be seen from the following account of a typical day in the life of a private soldier of any infantry regiment. Of course the day's routine varies according to the

season of the year and the station; service at home, by the way, being under totally different conditions to foreign service.

I will suppose it to be in the winter months. At 6.30 a. m. reveille sounds, at which time all good soldiers promptly turn out of bed. The average soldier, who is, however, not always good, very probably thinks that the state of his health requires a few minutes' extra repose. Nevertheless, he deems it advisable to turn out when the sergeant in charge of the room does so.

The first thing which he then does is to roll up his mattress and fold his sheets and blankets neatly and with mathematical precision in the regulation manner. This done, he proceeds to sweep under and round his bed cot; every soldier in a barrack-room being responsible for that portion of the room in the immediate vicinity of his cot. He now rushes off to the washhouse, where he performs his necessary, if at times somewhat hurried, ablutions. I may here remark that the British soldier is in person, as a rule, clean. This cleanliness is, however, often due to force of circumstances rather than, in every case, to personal inclination. It is, nevertheless, no unusual thing to see a soldier using a toothbrush, but in this article of toilet he is economical, procuring it, when possible, second-hand.

At seven o'clock he attends, unless employed on duty or otherwise exempted, three-quarters of an hour's parade. During this exercise he undergoes the exhilarating process of doubling two or three times round the square—this manoeuvre is generally known as a chest expander, and is an excellent

Perchance, however, even long-suffering Atkins is dissatisfied with the matutinal meal, the richness and variety of which fails to recommend itself to him this morning. I should here mention that the Government's sole contribution to the meal is one pound of bread (which has also to serve for dinner, tea, and supper) per man. In like manner, nothing beyond the three-quarters of a pound of meat, including a more than adequate allowance of fat, bone, and gristle, is provided at dinner time. All extras, such as butter, jam, fish, eggs, cheese, etc., after which hankers the soul of the recruit, have to be paid for by him. Even the tea, and such obviously necessary articles of consumption as sugar, milk, and potatoes, not to mention salt, pepper, and mustard, have to be purchased with his own money. To raise the necessary funds for this purpose, every soldier is subjected to a compulsory daily deduction, varying from 3d. to 4d. in the infantry, to as much as 7d. or 8d. in the cavalry and marines. This is termed *messing money*, and is expended by the color-sergeants in the purchase of the necessary groceries for their companies. If this messing money has been carefully expended, it often happens that on three or four days in the week there is sufficient to provide the company with some little extra for breakfast or tea. This extra generally takes the shape of butter or jam, or occasionally even porridge, fish, liver and bacon, or eggs (sometimes of doubtful freshness). I am writing now of 1890; in the present year of grace, according to the army pamphlets lately published, the soldier has half a dozen courses for breakfast, various snacks to sustain him through the day, and an elaborate menu at dinner.

We will suppose that Tommy has made up his mind on this occasion to complain about the tea, the quality of which he considers not up to the standard. This is very often the case. Even the best-intentioned contractor can hardly be expected to supply, at a profit, tea of a particularly fragrant variety at a price to be retailed for 1s. to 1s. 6d. per pound, and this after the rapacious and grasping man of the canteen, through whose agency it has to be purchased by the soldier, has enacted its percentage.

A Hindu Chatterton.

It is now about twenty years since the English-speaking race received its first knowledge of an

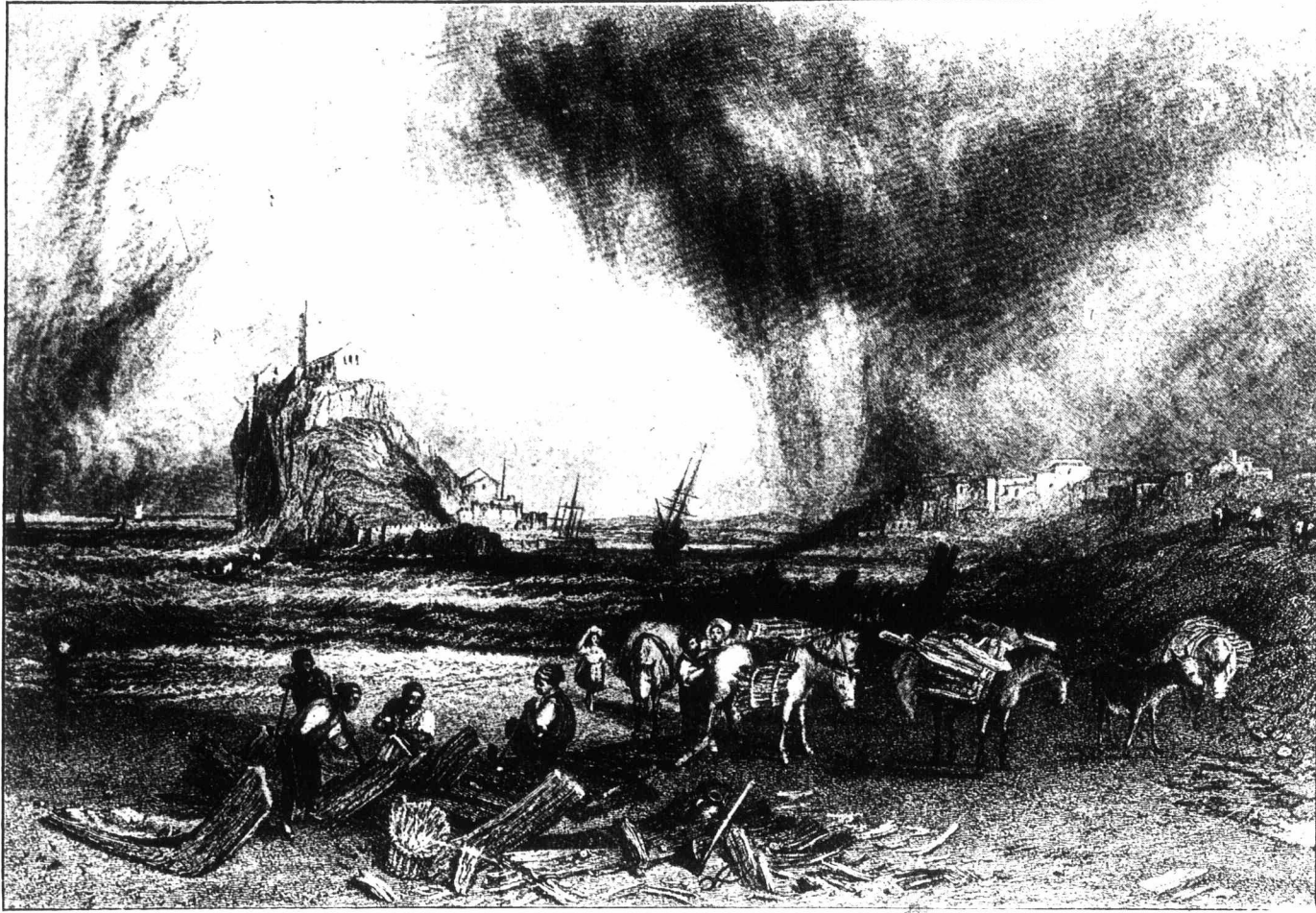
author whose works are yet not so widely known as others of less merit. It happened in this way: One sultry morning in August, 1876, Edmund W. Gosse, an English poet and critic, sitting in the office of the London *Examiner*, was complaining of the dullness of the season, and that it brought no books worth the reviewing. But that morning's mail brought an odd, shabby little book of about two hundred pages, bound in glaring orange color, without any introduction save the announcement that it was published at Bhowanipore, by the Saptahiksambad press. It bore the title, "A Sheaf Gleaned in French Fields." Opening it, the first thing the critic's eyes lighted upon was the translation of "The Morning Serenade," by Victor Hugo. It ran somewhat as follows:—

"Still barred thy doors! The far East glows,
The morning winds blow fresh and free.
Should not the hour that wakes the rose
Awaken also thee?
All look for thee, Love, Light, and Song:
Light, in the sky, deep red above,
Song in the lark, of pinions strong,
And in my heart, true Love."

The reviewer's only comment was: "When poetry has this flavor, it matters little whether Bouveyre prints it on Whatman paper, or whether it steals its light in blurred type, from some press in Bhowanipore."

The book was the work—not the first—of a young Hindu girl, Toru Dutt, then under twenty years of age. She was the youngest child of Govin C. Dutt, an Indian officer, and was born in Calcutta, in 1856.

In her early childhood, accompanied by her mother, she went to Europe; visited France, Italy, and England. She went to school in France for



ST. MICHAEL'S MOUNT, CORNWALL.

the first time in her life—her previous education having been obtained from her parents. During her stay in France she gained the reputation of being a wonderfully clever French scholar. "Her French is fluent, graceful, idiomatic, not the laboriously acquired accomplishment of a Hindu student, but the natural speech of a Parisian." On leaving that land, for which she ever afterward retained the greatest affection, she came to England and attended the lectures given for women at Cambridge. From this place she returned to Calcutta, in 1873, and devoted herself to the study of Sanskrit, under her father's tuition, until her failing health obliged her to give it up. Before her invalidism had rendered hard study impossible, she had added to the rest of her accomplishments a tolerably wide acquaintance with the best English and American authors. The Brownings were her favorites among the former, as were Irving and Longfellow among the latter. The same reason which attracted her to Browning's verse made her a warm admirer of the French poet, Leconte de Lisle. A criticism of this author was Toru's first literary venture. It appeared in the Bengal magazine when the author was about eighteen.

Then followed criticisms of other French poets, illustrated by translations from English prose. It was in French that her best work was done. Her first book was a volume of translations from the French. Her one long prose work was in that language (French), and two of her best English poems treated of French subjects. Her one novel, "Le Journal de Mlle. d'Avers," was not published until after the death of the author. One year previous to that event the book entitled "A Sheaf Gleaned in French Fields" was published.

It has been said that this remarkable book of translations from one foreign language into another—the work of a young Hindu girl—found but two reviewers in all Europe: the one a French poet and novelist, Andre Theuriot, who was himself represented in its pages and who gave it an impartial judgment and cordial endorsement; the other, the man who received it so reluctantly that sunny summer morning in a London newspaper office and who claims the distinction of having uttered the only note of welcome which reached the dying poetess from England.

At the time of her death, which occurred in 1877, she was almost unknown. A few men in France and England who had made a special study of Oriental literature had mentioned her as a Hindu genius. It has been said that the last mentioned book alone was enough to secure for her an honored place in literature, for while it contains much that is commonplace, it has also many undoubted gems. A second edition was followed by the publication of her one novel, edited by Mlle. Bader, a warm personal friend of the writer and herself an author of note. Lastly, there came a volume of poems published under the name "Songs and Ballads of Hindustan."

These, too, vary greatly in point of merit. She had not mastered the English language as she had French, consequently the poetry is not without a suspicion of the prosaic. Yet they are always interesting—sometimes by reason of their very oddities—and often delicately beautiful. It is in her descriptions of nature that she is most happy. Perhaps her best known English poem is "Our Casuarina Tree." In this, as in many of her shorter poems, she reveals her intense love of nature. Her pictures are the harvests of an artist's eye, which, though accustomed to all the luxuriance of growth and richness of coloring in its far Eastern home, is yet keenly appreciative of the beauties of our colder landscapes.

Her works, in short, are just what one would naturally look for from a warm, even passionate, beauty-loving nature—a nature which, by its simple earnestness and steady devotion to a high ideal, won not only the affection of those privileged to know it intimately, but also the ready homage of those whose delight it is to linger in the byways of literature.

The Summer Boarder's Invention.

"Yes," said the Inventive Man, as he lay in the hammock under the trees at the summer boarding-house, "I have a great plan in mind. You folks have been girding at me for a week for lying here and watching the chickens scratching in the garden, but all of this time my mind has been active."

"No way to stop it?" enquired the Other Fellow.

"Those chickens, with their fierce rearward scratch," went on the Inventive Man, without noticing the gibe of the Other Fellow, "have given me an idea of untold value."

"Why ruin it by telling it, then?" enquired the Jeering One.

"It won't ruin it," returned the Inventor. "It will still take a man of brains to apply it. Observe, now, how those hens scratch. One fierce backward fling of the left foot, instantly followed by three as wild rearward strokes of the right foot. Then they look at the ground with one eye, and repeat the operation. All chickens scratch that way, my investigations show."

"Extremely odd that some chickens don't scratch by kicking out front like a football player!" interrupted the Trifler.

"So I have thought," assented the Earnest One, complacently. "Or strike out sideways like a cow kicking at a dog. Or reach up in the air like a male saluting the dashboard. Or stand on their tails and braid their legs over their backs, like a

fly. But they don't, you see; they just launch out to the rear with all their strength, their claws ripping up the surface of the earth and sometimes throwing gravel several yards. And another thing: the chicken is phenomenally strong in its legs. If a college football player weighing one hundred and seventy pounds, were as strong in his legs in proportion to his size as a hen, he could kick a cannonball weighing ninety pounds twenty-three miles. The muscles of a chicken's leg are like rawhide, and tendons like steel."

"Yes," said the other, "I'm with you there. I've noticed it at the dinner-table since we've been here."

"Precisely," answered the Inventor. "That's where my attention was first called to the matter. Now, you understand the principle of the treadmill, I suppose? How the horse keeps walking without getting anywhere, what he is walking on moving back instead of moving forward? The principle of the treadmill is going to enter into my invention. I shall call it the Sir Isaac Newton Hen-Scratch Mill. I shall have a large rubber blanket made. It will be rough and resemble the surface of a newly plowed and harrowed garden. It will go around shafts like the bed of a horse treadmill. The rough, soft rubber surface will suggest unlimited angle-worms and other food products just below the surface. I shall stand my mill out-of-doors, with the front end toward the wind. A hen always faces the wind when she scratches, so her feathers won't get ruffled. On my rubber garden surface I shall then place twenty or more active chickens. They will instantly begin to scratch with all the ferocity of their gallinaceous nature. Result, rapid movement to the rear of my rubber apron and consequent revolution of the shafts at a high rate of speed. With the power I shall operate factories and—"

"Oh, come, come!" broke in the Other Fellow; "this is all!"

"Don't interrupt me in that familiar and incredulous fashion. When the chickens are too old longer to scratch on the Sir Isaac Newton Hen-Scratch Mill, I shall sell 'em to landlords of summer boarding-houses patronized by such improvident and non-inventive fellows as you. There's the supper bell; we'll go in and tackle the tendons again, cold."—H. C., in *Harper's Bazar*.

UNCLE TOM'S DEPARTMENT.

Puzzles.

1—ANAGRAM.

To Miss Hampton.

Fair Cousin: so you think my mind
By study has been turned.
Alas! I wish I were inclined,
But arder never burned
Within me for the hidden lore;
I'd rather dream than lessons pore.
So you must make another guess.
And this advice retain,
That inspiration ne'er will bless
A puzzle on my name.
The letters—though you spun them in,
Will not conform success to win.
But I am mixed, and well I may;
Nor lucid feel us yet:
I understood your rhyme to say
That we were a "dull set."
Such slander well deserves COMPLETE;
So never it again repeat.

CHARLES S. EDWARDS.

2—NUMERICAL ENIGMA.

1, 4, to depart.
3, 6, present.
2, 7, 5, 8, a bar.
Whole is first. A. P. HAMPTON.

3—CHARADE.

Oh, Jack and Jill climbed up a hill,
As you have heard before;
I now will take the pains to make
That rhyme a little more.
Said Jack to Jill, "Good dame, be still,
You'd drive a fellow first."
Said Jill to Jack, "Just take that back
Or I your head will burst."
Quoth he, "COMPLETE, you're not so sweet
And I SECOND not more sad
As when we met, you a wee pet,
I an enormous lad." A. P. HAMPTON.

4—CHARADE (partly by sound).

FIRST—D are the TOTAL, who for many, many years
Received throughout the country three hearty, ringing cheers;
Wrought they for the public weal and not for the public woe;
Glance thou at our country's progress, and see what it doth
show.
WHAT LAST OF THIRD in the far, far West,
Have helped to make our country known;
When we possess of the earth the best,
SECOND—N ot wise to cling to our own? CLARA ROBINSON.

Answers to June 15th Puzzles.

1—Country dance—hop. Winter wraps—furze. Poisonous snake—moccasin-flower. Paul Pry—medlar. Thunderstorm—scarlet lightning. Two letters—ivy (IV). Jar with large ear—pitcher-plant. Emblem of constancy—rosemary. Rich in flowers—polyanthus. 4—Dullest (dull set). 2—Forbearing. 3—Charlie Edwards.

The winners of prizes for the past three months are as follows: For original puzzles, Clara Robinson, Annie P. Hampton, and Charlie Edwards were so nearly equal that I decided to divide the prize money equally among them. Each will thus receive 50c. For most and best solutions: 1st, Clara Robinson; 2nd, Ada M. Jackson; 3rd, Charlie S. Edwards.

SOLVERS OF JUNE 15th PUZZLES.

Clara Robinson, Charlie S. Edwards, Ada M. Jackson, Charlie S. Edwards, A. P. Hampton, and Ada M. Jackson sent correct answers to June 15th puzzles, but were too late for publication last issue.

THE QUIET HOUR.

The Changed Cross.

It was a time of sadness, and my heart,
Although it knew and loved the better part,
Felt wearied with the conflict and the strife,
And all the needful discipline of life.

And while I thought on these as given to me—
My trial tests of faith and love to be—
It seemed as if I never could be sure
That faithful to the end I should endure.

And thus no longer trusting to His might,
Who bids us "walk by faith and not by sight,
Doubting, and almost yielding to despair,
The thought arose—"My cross I cannot bear.

"Far heavier its weight must surely be
Than those of others which I daily see.
Oh! if I might another burden choose,
Methinks I should not fear my crown to lose."

A solemn silence reigned on all around—
Even nature's voices uttered not a sound;
The evening shadows seemed of peace to tell,
And sleep upon my weary spirit fell.

A moment's pause, and then a heavenly light
Beamed full upon my wondering, raptured sight:
Angels on silvery wings seemed every where,
And angels' music thrilled the balmy air.

Then one, more fair than all the rest to see—
One to whom all the others bowed the knee—
Came gently to me, as I trembling lay,
And, "Follow Me," He said, "I am the Way."

Then, speaking thus, He led me far above,
And there beneath a canopy of love,
Crosses of divers shapes and size were seen,
Larger and smaller than my own had been.

And one there was, most beautiful to behold—
A little one—with jewels set in gold.
Ah! this, methought, I can with comfort wear,
For it will be an easy one to bear.

And so the little cross I quickly took,
But all at once my frame beneath it shook;
The sparkling jewels fair were they to see,
But far too heavy was their weight for me.

"This may not be," I cried, and looked again
To see if any here could ease my pain;
But one by one I passed them slowly by,
"Till on a lovely one I cast my eye.

Fair flowers around its sculptured form entwined,
And grace and beauty seemed in it combined;
Wondering, I gazed, and still I wondered more
To think so many should have passed it o'er.

But oh! that form so beautiful to see
Soon made its hidden sorrows known to me:
Thorns lay beneath those flowers and colors fair,
Sorrowing, I said, "This cross I may not bear."

And so it was with each all around:
Not one to suit my need could there be found.
Weeping, I laid each heavy burden down,
As my guide gently said, "No cross, no crown."

At length to Him I raised my saddened heart—
He knew its sorrows, bade its doubts depart.
"Be not afraid," He said, "but trust in Me—
My perfect love shall now be shown to thee."

And then, with lightened eyes and willing feet,
Again I turned, my earthly cross to meet,
With forward footsteps, turning not aside,
For fear some evil might to me betide.

And there, in the prepared, appointed way—
Listening to hear, and ready to obey—
A cross I quickly took of plainest form,
With only words of love inscribed thereon.

With thankfulness I raised it from the rest,
And joyfully acknowledged it the best—
The only one, of all the many there,
That I could feel was good for me to bear.

And while I thus my chosen one confessed,
I saw a heavenly brightness on it rest;
And as I bent, my burden to sustain,
I recognized my own old cross again!

But oh! how different did it seem to be,
Now I had learned its preciousness to see;
No longer could I unbelieving say,
"Perhaps another is a better way."

Ah, no! henceforth my own desire shall be,
That He who knows me best should chose for me,
And so, whatever His love sees good to send,
I'll trust it's best, because He knows the end.
—Bickersteth.

Being Where We Ought to Be.

We ought to be where we ought to be. There is no place for us like our place. But just where our place is God knows better than we know. Hence it is all-important for us to have God's direction as to our path of duty, and as to our station in life. God is ready to show us by His Spirit, by His word, and by His providences, just where we ought to be, and just what we ought to do. It is for us to listen to God's voice, and to be open to God's influences, and then to be and to do accordingly. Guided by Him, we can say in confidence at all times, "I know that I am where God wants me to be, and therefore I know that I am in my place for now, however strange it seems for me to be just here."

With patient steps the path of duty run,
God nothing does, or suffers to be done,
But thou thyself would do couldst thou but see
The end of all He does as well as He.

I saw a dark shadow resting on the bare side of the hill. Seeking its cause, I saw a little cloud, bright as light, floating in the clear blue above. Thus it is with our sorrow; it is dark and cheerless here on earth; but you look above, and you shall see it to be but a shadow of His brightness, whose name is love.

The Western Fair SEPTEMBER 10th TO 19th LONDON, ONTARIO. 1896

Canada's Favorite Live Stock and Agricultural Exhibition. Oldest Fair in Canada. Established 1868. Buyers and sellers find this the Live Stock Market of the Dominion. Exhibitors find it pays them to show here. Entries close September 9th.

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CAPT. A. W. FORTE,
President.

THOS. A. BROWNE,
Secretary.

Central Canada Exhibition Association

NINTH ANNUAL **OTTAWA,**
EXHIBITION AT
September 17th to 26th
ENTRIES CLOSE MONDAY, 14th SEPT.

\$14,500 offered in prizes, besides a list of "specials," including twenty-seven gold medals, silver and bronze medals, and special cash prizes.

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Over \$40,000 expended since last Exhibition in the erection of new buildings for all classes of live stock.

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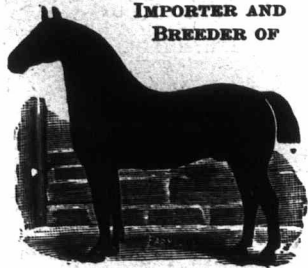
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HILLHURST STATION, P. Q.

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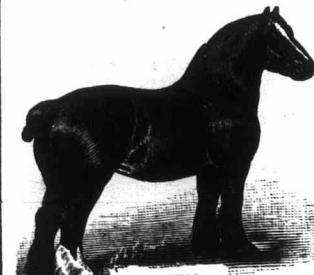
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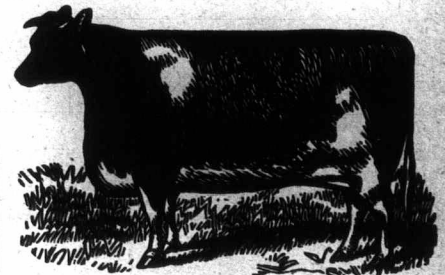
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E. BRIEN, RIDGETOWN, ONTARIO.

We offer for sale a three-year-old red bull, sired by "Daisy Child" = 13674 =, by "Indian Chief" dam "Gipsy Queen 3rd" = 20690 =, by "Tot Hill" (imp.) = 6456 = (56656); and a five-year-old cow with calf at foot; also one or two yearling heifers. Also choice Berkshire sows and boars about seven months old, and excellent pigs about two months old. 2-2-y-om

Shorthorns, Shropshires, and Berkshires.

Six young Bulls from 10 to 14 months old; 25 Shropshire Ewes, one, two and three years old, due to lamb in March; 15 ram and 20 ewe lambs. Twenty Berkshire Sows, from 5 to 12 months old, several of them due to farrow in March, April, and May. The above choice stock are all registered, and FOR SALE at GREAT BARGAINS. 15-y-om

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GOSSIP.

In writing to advertisers, please mention the Farmer's Advocate. We draw attention to the advertisement of Mr. Jas. H. Shaw's (Simcoe, Ont.) Berkshires and Chester Whites. The herds are excellent strains and in good form. A British Columbian correspondent writes: "I find that in the Coast region the medium wool (Southdown preferably) is the most popular cross on scrubs. The foundation stock, judging from size and appearance, are mostly grade or scrub Merinos from south of the line. These can be had pretty low in price, and, crossed with a pure-bred buck of some one of the Down breeds and properly cared for, should prove fairly profitable stock to handle. Wool is so low that it is almost not a factor in the sheep question. There are not many sheep in the Agassiz district, but more are being bought and the prospects are that more medium sized flocks will be kept in the near future. At present on the mainland in the Coast region there are not many sheep. In some districts on Vancouver Island and some of the smaller islands more are kept, with, I believe, satisfactory results."

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Sir Archibald Masoot, No. 353, C. H. F. H. B., 4 years old 8th of October, 1895; was never sick a day; is very active, and a splendid stock getter, and is in every respect a first quality bull. We have used him as our stock bull with the very best results. Only part with him to change breeding. He was a prize winner three years in succession at Toronto Industrial Exhibition.

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FOR SALE - Yearling Bull, Sir Aaggie Barrington; fine dairy form, good color, and in good condition. His grandam, Imp. Kaasje DeBoer, is now making, in my herd, from 2 1/2 to 3 lbs. of butter per day, at 12 years old. The bull resembles her very much in form and markings. Price, \$40.00. 11-y-om G. W. CLEMONS, St. George, Ont.

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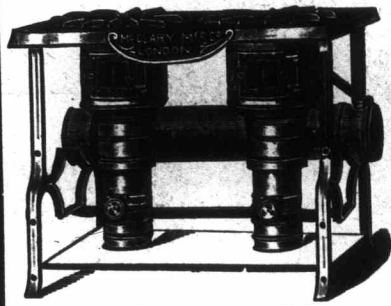
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JAS. MILLS, M. A., President,

Guelph, July 13th, 1896.

14-c-o

Guelph, Ont.

A Monster Barn.

Capt. D. Milloy, proprietor of Oak Park Stock Farm, assisted by some 400 friends and neighbors, on June 2nd, 1896, raised successfully what, for the accommodation of his various lines of pure-bred stock, promises to be the most complete building of its kind in Brant Co. The superstructure is of pine, supplied from the North Bay district. The framer, Mr. W. H. Worden, of Manchester, Ont., who was superintendent of works at Guelph Agricultural College barn building, and who built the mammoth barns of Hay & Co. at New Lowell, also many of the most extensive barns in Ontario, says that it has seldom been his good fortune to work upon such perfect timber as is going into the Milloy barn.

The building measures 140x60 ft., and with gothics and cupola will stand over 80 ft. in height. The roof will be covered with steel galvanized metallic shingles, supplied by the Eastlake Metallic Roofing Co. of Canada, Toronto, Ont.

This is not a bank-barn, but stands on the level of the foundation, which is of massive stonework, 14 ft. high by 24 in. thick, the door and window sills, lintels, keystones, etc., being of red Credit Valley cut stone, which greatly adds to the appearance of the work, which was built by Messrs. Carnie & Son, of Paris, and whose ability in this line is too well known in Western Ontario to need comment. The basement (for cattle only) will comfortably hold ninety head, has spacious root cellars, pulping and feed rooms, and will have concrete floors throughout. The windows of the basement are of plate glass and measure 45x38 in. The ventilation and sanitary arrangements are excellent. The Oak Park Stock Farm, which comprises 600 acres en bloc, is beautifully situated upon the Grand River, two miles from Paris and four miles from Brantford, and is therefore capably located in what is conceded to be the garden of Canada. It is on the line of the G. T. R. system, and is perfectly fenced throughout with 4 ft. 9 in. fences.

We might here mention that the residential buildings on the place are of solid cut stone, are heated by hot water radiators, well supplied with bathrooms, lavatory, and all modern conveniences. The water supply is derived from a series of living springs, forced by two powerful rams in such quantities as to give a more than ample supply for both houses and barns. The barns are also supplied with spacious soft water cisterns.

GOSSIP.

Fall wheat sowing, which should be done about the latter end of August, cannot be done without seed. The field of "Genesee Giant" in which the seed advertised in this issue by Mrs. H. H. Spencer, Brooklin, Ont., was grown was hard to surpass, while most fields of other sorts in the same neighborhood were not worth leaving in the spring.

MR. W. B. BOWMAN'S SHORTHORNS.

Mr. Bowman's farm lies near Mt. Forest, Ont. The Shorthorns, of which there are now quite a number, are of the milking type, and do duty at the pail instead of nursing their offspring, as so many Shorthorns have to do. Among the young stock now offered for sale are several strong, lusty young bulls, including a two-year-old by Huron's Motto - 15511 - a strong, thick, red bull; a fifteen months old bull by an imported sire, and several promising calves. Golden King - 21962 - a two-year-old roan, is now at the head of the herd; out of Lady Lansdowne - 16079 -, and sired by Perfection - 9100 -. Mr. Bowman also offers an Aberdeen-Angus bull, Lord Wanton of Willow Grove, at a low price.

Berkshire swine are also a specialty with Mr. Bowman. The stock bear in use is Count Vasil - 325 -, by Enterprise, while the choicest among the sows is Riverside Jewell - 3235 -, by Duke of Woodsome (Imp.), dam Riverside Lady - 2190 -. The above sow is due to farrow in August, by Count Vasil. A few good young sows are still on hand from this sow, farrowed last fall. Note Mr. Bowman's advertisement.

MR. W. M. RIVERS' SHORTHORNS.

On a recent trip north a few pleasant hours were spent at the home of Mr. Wm. Rivers, of Walkerton, Ont., strolling over the farm and among the Shorthorns, of which there is quite an extensive herd. A number are being offered by Mr. Rivers at reasonable prices in order to reduce the stock. A ready market has been found for the young bulls, and several strong, lusty calves are coming on. The cows are of the milking sort, and are kept as much as their utility at the pail as for their other good qualities. Since our last visit, the young bull, Perfection's Hero - 20081 -, has been placed at the head of the herd. He is out of Cecilia - 19362 -, who was by Eclipse (49236), a winner of second money at the Royal Northern Societies' Show at Aberdeen, first at Huntley and various other large shows, never being beaten in Scotland, except by the renowned bull, Goldfinder and Field Marshal. Mr. James Merson, of Craigville, near Huntley, one of the most successful exhibitors of Scotland, from whom Eclipse was purchased, said that he never before owned so satisfactory a sire or so good a bull as Eclipse. Mr. Merson paid 75 gs. for him at ten months old at auction. Perfection, the sire of Perfection's Hero, is a bull of great style and substance, quiet, active and sure, and the sire of some of the best show bulls in the Dominion. He was a first winner at Toronto as a yearling and calf, also at Ottawa, Kingston, and Hamilton. The grand-sire of Perfection's Hero was the renowned stock bull, Bampton Hero - 324 -, a winner of sixteen first prizes at leading exhibitions, one gold and two silver medals, and stood at the head of first prize herds no less than ten times. Therefore, with such blood at his back, Perfection's Hero should prove a good stock getter.

Electricity

Mechanics: Mechanical and Architectural Drawing; Steam Engineering (Boilers, Locomotives and Marine); Heating; Architecture; Mining; Plumbing; Civil Engineering, etc. References: Bureau of Patents, Circular, State Subject you wish to Study.



To Electrical Workers.

Mechanics, Draughtsmen, Steam Engineers, Carpenters, Plumbers, Steam Fitters, Miners, Surveyors, and young men wishing to learn trades and professions. The International Correspondence Schools, Box 900 Scranton, Pa.

HOLSTEINS!

WE now offer young stock that have won prizes, and calves from our show herd, from one month to one year old, whose dams have large records—any age or sex—FOR SALE, at very low prices to quick buyers. Also some Poland-China Pigs, 1 and 6 months old; same quality (the best).

A. S. G. RICE, Brookbank Stock Farms, CURRIE'S CROSSING, Oxford Co., Ont. 18-y-om

FOR SALE!

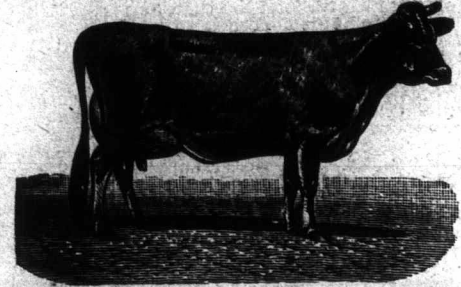
HALF THE FAMOUS BELVEDERE HERD OF JERSEYS, owing to most of my farm being sold. Not a Culling Out; but purchasers given their choice at Lowest Prices I ever offered. For many years I have taken everywhere

FIRST HERD PRIZE,

and some of these animals, with their descendants, are for sale. There is seldom such an opportunity to get together a superb Dairy Herd, that will also SWEEP THE SHOW RINGS.

MRS. E. M. JONES, Box 324, BROCKVILLE, Ont., CAN.

"Dairying for Profit," By Mrs. E. M. Jones. Best book ever written. 50 cents by mail. ROBT. BROWN, Box 107, Brockville, Ont., Can.



JERSEYS FOR SALE—Young Cows and Heifers in calf. Heifer Calves and Bull Calves, richly bred, best testing strains, and good color. Also first-class Berkshire Boars and Sows, bred straight from imported stock. Come and see or write for prices.

J. C. SNELL, - Snelgrove P.O., Ont. R. R. Station, Brampton, G. T. R., and C. P. R. 8-y-om

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D.H. KETCHESON

MENIE, - ONTARIO, BREEDER OF CHOICE A. J. C. C. JERSEYS (St. Lambert and St. Helier strains) and REG. SHROPSHIRE.

A couple of good young bulls now for sale; also Shropshire rams. Prices right. Correspondence solicited. 12-2-y-om

JERSEYS FOR SALE

At the head of the herd is the grand young St. Lambert bull, Nabob, son of Nell's John Bull. Stock of both sexes and different ages, and of choice breeding, now on hand.

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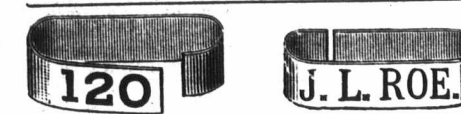
Jersey Sale!

The entire herd of A. J. C. C. H. R. Lee Farm Jerseys. Forty head of reg. bulls, cows, heifers, and calves; same number of high grade cows and heifers. Excellent chance to start a herd cheap, as they must be sold within the next 90 days. Come and see, or write!

E. PHELPS BALL, 17-y-o Lee Farm, Rock Island, P. Q.

GLEN ROUGE JERSEYS.

WILLIAM ROLPH, Markham, Ont., offers twelve Jersey Bulls and Heifers (pure St. Lamberts), out of tested cows. Grand individuals. Prices right. 21-y-om

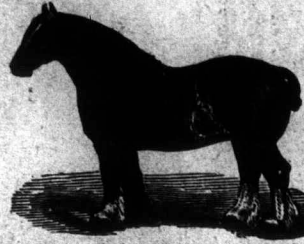


Dana's Ear Labels for sheep, cattle, etc. Stamped with any name or address and consecutive numbers. This is the genuine label, used by all the leading record associations and breeders. Samples free. Agents wanted. C. H. DANA, 6-L-om West Lebanon, N. Hamp.

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Conducted in all parts of the country. Pedigree stock a specialty. Write for terms. References: J. C. Snell, Edmonton; Hon. M. H. Cochrane, Compton, P. Q.; or this office. JOHN SMITH, Brampton. 11-2-y-o

THORNCLIFFE STOCK FARM!



I have on hand the best young GYVES-BLE Horses and Mares on this continent. Bred from the well-known sires, Prince of Wales, Darnley, Macgregor, Energy, Lord

SHROPSHIRE.

Orders can now be booked for Shearling Rams, Ram Lambs and Ewes, sired by the celebrated prize-winning English ram, Bar None. Also Rams and Ewes of this year's importation.



SHORTHORNS!

CHOICE YOUNG HEIFERS and BULLS

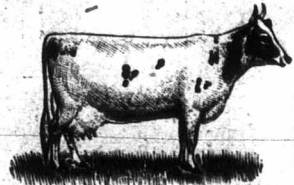
by the celebrated Cruickshank bulls NORTHERN LIGHT



—AND— VICE CONSUL

Montrose, The Ruler, Carruban Stamp, Knight Errant and other celebrities. My stock in the above lines were very successful at all the large shows last year. Call and examine our stock before purchasing elsewhere. Terms reasonable. 18-1-y-om

ROBERT DAVIES, Proprietor. P. O., Toronto.



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Pine Grove Stock Farm, ROCKLAND, ONT.

Ayrshires, Jerseys, Shropshires, Berkshires.

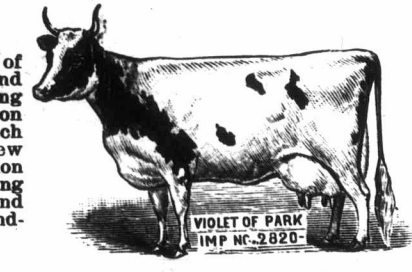
Shropshires and Scotch Shorthorns.

Our excellent aged herd of Ayrshires is headed by our noted imported bull Cyclone. Tam Glen heads the young herd, and Lisgar Pogis of St. Anne's heads the Jerseys. The young stock are all from time tried dams. ED. McLEAN, Manager.

The imported Cruickshank bulls Knight of St. John and Scottish Sportsman are at the head of this herd of imported and Home-bred Cows and Heifers of the most approved Scotch families. 7-1-y JOS. W. BARNETT, Manager.

JOHN H. DOUGLAS, Warkworth, Ontario,

Importer and Breeder of High-Glass Ayrshires.



My stock is of the most approved type, and of uniform, fashionable color. Choice imported and home-bred stock of grand individuality, including Violet of Park (imp.)—2820—Alice of Hatton (imp.)—Queen May—2009—Fairy Queen, Peach Blossom—2816—, and Isabel—2817—; also a few choice calves, and our grand stock bull, Dominion Chief—1214—. I also offer a couple of good yearling heifers (of the milking type), Heather Bloom and Snow Flake, Vol. XII. Prices right. Correspondence solicited. 12-2-1-om ST. NORWOOD, G. T. R. CAMPBELLFORD, G. T. R.

GREAT JERSEY SALE!

The Famous St. Anne's Herd of Pure St. Lambert Jerseys

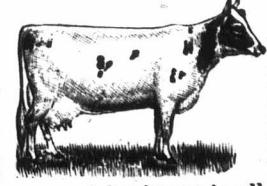
will be sold, without reserve, about the middle of August; containing at time of sale nearly 100 head. Look out for full particulars in August 1st issue. Send for copy of catalogue.

GEO. W. A. REBURN, 19-y-om

St. Anne de Bellevue, P. Q.

ISALEIGH GRANGE STOCK FARM,

DANVILLE, QUEBEC.



A CHOICE assortment of the following pure-bred stock always on hand: Ayrshire and Guernsey Cattle of the choicest breeding and most fashionable type and color. High-class Improved Large Yorkshires of all ages, "Sanders Spencer stock." Shropshires of the finest quality. Our breeding stock has been selected, at great cost, from the choicest herds and flocks of both England and Canada, and have been very successful winners in all leading show rings. Young stock supplied, either individually or in car lots, at the lowest prices. Prompt attention given to all correspondence.

J. N. GREENSHIELDS, Proprietor. 9-y-om T. D. McCALLUM, Manager, Danville, Que.

MAPLE GROVE Ayrshire Stock Farm.



FOR SALE!

Two Bull Calves Imported in Dam. To head herd they have no equal. Save risk and expense importing and secure one at reasonable price.

ROUGH-COATED COLLIES

AT STUD. Imported Clip, Stud Fee, \$15.00 Bisleys, 25.00 Of most noted Champion Smithport Perfection strains.

R. G. STEACY, Importer and Breeder. 16-2-y-o LYN, ONT.

Mount Vernon Dairy and Stock Farm.



FOR SALE:—A fine four-year-old Holstein Bull, Artis Anggie Prince, No. 17, C.H.F.H.B., the sire of many prize-winners at Toronto, Montreal, Ottawa, and Gananogue, in 1895. Sire, Prairie Anggie Prince, one of the best bulls ever imported to Canada; \$800.00 was refused for him. Dam, Artis Kattie, gave 49 lbs. 2 oz. of milk in one day as a two-year-old, and gave over 70 lbs. milk in one day on ordinary feed on the Model Farm, Guelp. Also a lot of fine Tamworth Pigs for sale, ready to breed and of the very best quality. Address—W. C. QUICKFALL, GLENALLAN, ONT. 2-2-y-o

WILLOW GROVE HERD OF JERSEYS.

Sweepstake herd of 1894. Stock from imp. bulls and imp. and home-bred dams of St. Lambert St. Helier, and Signal strains.

Young of splendid individuality always for sale; also Plymouth Fowls. Eggs, \$1.00 per setting. Highfield St., G. T. R. 6-2-y-om J. H. SMITH & SON.

J. YULL & SONS,

MEADOWSIDE FARM, CARLETON PLACE, ONT.

We have a few young Ayrshire bulls left—2 two-year-olds, 4 yearlings, and a fine lot of calves of both sex; also Shropshire sheep and Berkshire pigs; pairs not akin for sale. Visitors met at Queen's Hotel. Give us a call before buying. 20-y-o

Ayrshires!

PURE-BRED, of different ages, and both sex. No inferior animals. Write for particulars.

A. McCallum & Son, Spruce Hill Dairy Farm, DANVILLE, QUE. 22-y-o

James Cottingham,

RIVERSIDE FARM, Ormstown, Que.

Breeder of Ayrshire cattle. Herd is headed by the prize-winning bull, White Prince of St. Anne's—6408—. Choice bred stock for sale at all times, including some very choice young bulls and heifers. 4-2-y-o



HAVE NOW 3 Young Ayrshire Bulls,

ON HAND. 1, 2 and 3 years old, respectively; all prize-winners; the 3-year-old having won 1st at leading exhibitions. Write: MESSRS. ROBERTSON & NESS, Howick, Que.

AYRSHIRES FOR SALE.

Several good yearling bulls by Earl of Percy and Prince Leopold, also cows and heifers. My spring calves will be by the noted bulls White Prince, Sir Colin, and Earl of Percy. Prices right. 4-2-y-o Wellman's Corners, Hoard's St.

F. W. TAYLOR, 4-2-y-o

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.

JAS. McCORMICK & SON, ROCKTON, ONT. 20-2-y-o

Thos. Drysdale,

Allan's Corners P. O., Quebec. Breeder of high-class Ayrshires, headed by Lord Sterling, winner at Montreal in '95. Extra choice young bulls and heifers for sale. Farm 1 1/2 miles from Bryson's, G. T. R. 4-2-y-o

GLENGARY STOCK FARM.

My herd comprises the best strains procurable. Am now offering young bulls and heifers descended from the importation of the late Thos. Brown. PRICES RIGHT. JNO. A. McDONALD, JR., Williamstown, Ont. 4-2-y.



AYRSHIRES - AND - YORKSHIRES.

The largest herd in the Province of Quebec; selected from deep-milking strains. Also choice Yorkshires. Orders booked for young pigs. W. F. & J. A. STEPHEN, Trout River, Que.

DANIEL DRUMMOND BURNSIDE FARM, PETITE COTE, Montreal, Quebec, BREEDER OF AYRSHIRE CATTLE. 16-2-y-om

GUERNSEYS

This is the Dairy breed for ordinary farmers. Large, vigorous and hardy, giving plenty of rich milk. Several fine yearling bulls and bull calves for sale at farmers' prices. A few heifers can be spared. Address: SYDNEY FISHER, 17-y-0 Alva Farm, Knowlton, P.Q.

HILL HOME SHROPSHIRE

We have for sale shearing rams of exceptional merit; ram and ewe lambs of choicest quality and covering, sired by Tinker, a winner at New York and London and now heading our exhibition flock of '96, and an imp. Parker ram. Can also furnish grand show pens, right. Lambs from this flock won all specials offered at Toronto, London, New York, Guelph, and ten county fairs in 1895. Parties wishing stock of extra quality should visit this flock before purchasing elsewhere. 14-L-0 D. C. Hanmer & Sons, Mt. Vernon, Ont.

OXFORD DOWN SHEEP.

A FINE LOT OF YOUNG STOCK FOR FALL TRADE. A FEW NICE YEARLING RAMS AND EWES. PRICES REASONABLE. INSPECTION INVITED. 6-2-y-om

HERBERT WRIGHT, Box 47, Guelph, Ontario.

SMITH EVANS, Gourock, Ont.

Breeder and importer of registered Oxford-Down Sheep. Selections from some of the best flocks in England. Stock for sale at reasonable prices. Inspection invited. 6-1-y-0

Henry Arkell, ARKELL P. O., Ont.

Pioneer importer and breeder of registered Oxford-Down sheep. Won many honors at World's Fair. Animals of all ages and sexes for sale reasonable at all times. 9-y-om

IMP. LARGE WHITE YORKSHIRES FOR SALE

I am now prepared to supply young pigs of this noted breed at hard times prices. Orders booked for young pigs due Oct. 1st. Write me for prices and particulars. Mention "Advocate." 18-2-y-0 WM. TEASDALE, Dollar.

R. HONEY, Warkworth, Ont., Northumberland Co., BREEDER OF

Reg. Holsteins, Large White Yorkshires, and Cotswold S'eps. Choice young Yorkshires for sale at prices to suit the times. Orders booked for choice Cotswold ram lambs. 12-2-y-0

The MARKHAM HERD OF IMPROVED

Large White Yorkshires. A choice assortment of young stock now for sale; all sizes and ages; either sex. Pairs and trios not akin. Only first-class stock shipped to order. Prices to suit the times. Correspondence solicited. Shipping G.T.R. and C.P.R. 18-2-y-0 JNO. PIKE & SONS, Locust Hill, Ont.

IMPROVED LARGE YORKSHIRES

FOR SALE--of the best type and breeding. Young boars fit for service and sows fit to breed. Can furnish young pigs of all sizes and ages, and No. 1 quality. Can supply pairs not akin. 18-2-y-0 E. DOOL, Hartington, Ont.

ADVERTISE IN THE ADVOCATE

THE "WATERLOO" ENGINE

(LOCOMOTIVE AND RETURN FLUE BOILERS)

For Threshing and General Farm Use.



UNEXCELLED IN SIMPLICITY, DURABILITY AND FINISH.

POSITIVELY NO EQUAL IN POWER.

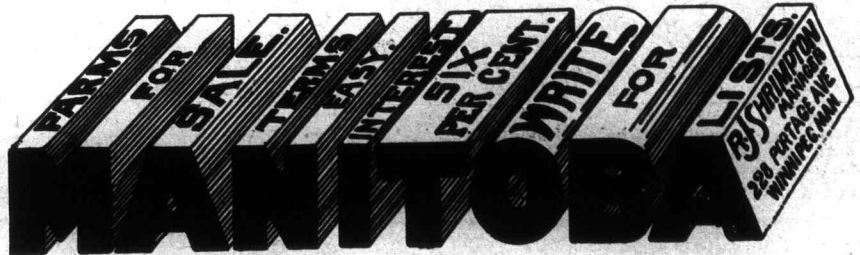
VERY ECONOMICAL IN FUEL AND WATER.

THE "CHAMPION" SEPARATOR

STEEL STRAW DECK. PERFECTLY COUNTERBALANCED. SIMPLE AND EASY RUNNING. WRITE FOR CATALOGUES AND PRICES.



WATERLOO MANFG. CO., Limited, WATERLOO, ONT.



Specialty of Improved Large Yorkshires



I have now on hand a choice lot of young boars fit for immediate use. Prices very moderate. Orders for spring will receive careful attention. Pigs of the most desirable type and at reasonable prices. 3-y-om J. E. BRETHOUR, Burford, Ont.

FOR good healthy BERKSHIRES and YORKSHIRES two months old, boars ready for service, and sows in pig of good quality, write

H. J. DAVIS, Box 290, Woodstock, Ont. Breeder of LARGE ENGLISH BERKSHIRE and IMP. WHITE YORKSHIRE SWINE, SHORT-HORN CATTLE, and SHROPSHIRE SHEEP.



ENGLISH BERKSHIRES

The home of the famous imp. sires Baron Lee 4th and Star One. Young litters arriving every month out of matured sows. Highest quality, best breeding. Now is the best time to order spring pigs. Write for prices, or come and see us. J. G. SNELL, Sneigrove P. O., Brampton Station, Ont. 2-y-om

Large English Berkshires for Sale

A number of very fine young Berkshire Boars fit for service; young sows fit to breed, and younger ones of all ages, either sex, of choicest breeding. All stock guaranteed to be as represented. Write me for prices, or come and see my stock. 18-2-y-0 W. J. SIBLEY, HARROWSMITH, ONT.

H. GREGG & SONS, Salford, Ontario.

Breeders of Berkshires and Chester White Swine. We have for sale young stock of either sex, and any age, at prices to suit the times. Correspondence solicited. 8-2-y-0

For Sale--

Six Berkshire boar pigs, seven months old, eligible for registration; also two Shorthorn bulls, twelve and fifteen months old, of A 1 milking strains. Prices right. Correspondence solicited. F. A. GARDNER, Britannia, Ont. 22-2-y-0



Ayer's Pills

"I have taken Ayer's Pills for many years, and always derived the best results from their use."

For Stomach and Liver

troubles, and for the cure of headache caused by these derangements, Ayer's Pills cannot be equalled. They are easy to take, and

Are the Best

all-round family medicine I have ever known."--MRS. MAY JOHNSON, 368 Rider Ave., New York City.

AYER'S PILLS

Highest Awards at World's Fair.

Ayer's Sarsaparilla for the blood.

LARGE ENGLISH BERKSHIRES. My herd won 246 prizes, 10 diplomas, 5 medals; also Prince of Wales prize, and sweepstakes over all breeds since 1838 at the leading fairs in the Dominion. Choice stock of all ages for sale. Pairs supplied not akin. GEO. GREEN, Fairview P. O., Ont. Stratford Station and Telegraph Office.

E. D. GEORGE

PUTNAM, ONT. Importer and Breeder of Ohio Improved Chester White Swine

The largest and oldest established registered herd in Canada. I make this breed a specialty, and furnish a good pig at a fair price. Write for prices. 14-2-y-om

GOSSIP.

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

Jos. Yull & Sons, Meadows Farm, Carleton Place, Ont., write under date of July 8th: "Our stock are doing remarkably well, although the pasture is poor. We still have Leonard Meadows at the head of our herd, with Farmer Boy in reserve. Farmer Boy is sired by White Prince 2nd. We have a toy bull left and a fine lot of heifers and calves of both sex. Our Shropshires have surpassed our expectations this year, and we have a fine lot of lambs for sale, bred from the best ewes, and the lambs will hold a favorable position in the show-ring. Our Berkshires have outstripped anything of past years; some of them are perfect pictures. We have quite a few to dispose of yet. You will hear from us after exhibitions are over."

THE GRAND VALLEY STOCK FARM.

Close to Grand Valley, Ontario, is the stock farm of Messrs. G. & W. Gier. The specialties with these gentlemen are Shorthorn cattle and Yorkshire swine. The Shorthorns are of the Bates blood, topped with Cruickshank. The cows of the herd are of the useful milking type and good pedigree. A number of good young heifers were seen, sired by Goldfinder-15943-, who was by Barmpton Hero-324-. The young bull, Lord Stanley 4th, out of the famous white bull, Lord Stanley-17849-, has recently been selected from the herd of Messrs. J. & W. Russell, Richmond Hill. He is now about eighteen months old, and promises to mature into a remarkably fine bull; a fine handler, with good style and finish (like his sire), and a bull without that should leave his mark in the herd. A couple of young bulls are still left, from Goldfinder, and some of the best cows of the herd.

Among the Yorkshires are to be seen Oak Lodge Millie-1684-, bred by J. E. Brethour, Burford; sired by imp. Dominion 3rd, his great stock boar; dam Stamina 7th-1395-; and Pet 2nd-1787-, by Real Diamond-861-; dam Pet-286-, by Holywell Physician-38-(imp.); while the herd is headed by Oak Lodge Profit-3045-, also bred by J. E. Brethour, and sired by Kincroft Hero-23-(imp.); dam Cinderella-1856-, by Diamond-189-(imp.). A number of fine youngsters from the above sows and Oak Lodge Profit are now ready for shipment, and are of such quality as should give satisfaction. Messrs. Gier Bros. offering may be seen in our advertising columns.

THE ETRICK FARM HERD OF JERSEYS.

The above herd has been quietly bred up from a choice foundation for several years, until it now comprises some thirty-five individuals of choicest breeding and quality throughout. The proprietors, Messrs. Humpidge & Laidlaw, of London, Ont., with the view of bettering the individual merit of their herd, if possible, and to introduce fresh blood in the herd of the richest strains, a few months recently made a valuable addition to the herd by an importation from the herd of C. H. Babcock, Friendship, Pa. (of the Miller & Sibley stock), of several beautiful heifers; their stock bull, Prince Frank, having been imported from the Miller & Sibley herd the year previous, thereby making the Ettrick herd, for uniformity and quality throughout, one of the choicest in the Province. The two-year-olds of the herd, of which there are a number, are a grand lot. New Trilby 103318 (imp.) is a grand heifer, beautiful in conformation, rich in the Stoke Pogis blood, a capital handler, and carrying a well-developed udder for a two-year-old. She was sired by Terrifier 21510, having Blossie Pogis 6143 for her dam. An exceedingly fine bull calf was seen from New Trilby, bred at Mr. Babcock's farm. Cowmag, another of the imported heifers, is also a very nice two-year-old, out of Salesman 21518, and tracing to Stoke Pogis on sire's side, and Shropshire and Expounder on dam's side. Cor-donnet 107729 is a remarkably fine yearling heifer, of Mr. Babcock's breeding; handsome as a picture, typical in conformation, full of quality, and giving promise of maturing into an exceptionally good cow. She has Stoke to Ricker 2nd 469 on sire's side, while she traces to Angelo Pogis 29149. Her mate, Helen Tarick 107727, also by Angelo Pogis, is also a handsome, promising heifer. The above quartette of imported heifers should prove a valuable acquisition to the Ettrick herd. The home-bred stock are a particularly handsome lot. Zoie of Glen Rouge 104280 is a beauty, and should do herself credit in any ring, while St. Lambert's Jeanette, St. Lambert's Mary Ann 94066, St. Lambert's Lucy 94543, Wilton Queen 86141, and other cows of special merit may be seen in the herd; while the young stock are of the right sort, and testify to the grand breeding qualities of the stock bull, Prince Frank 33872, imported from the Miller & Sibley herd, and who, for quality and breeding, is hard to surpass. The young bulls on hand comprise Westminster Duke 37624, a capital two-year-old, whose dam has tested as high as seven per cent. butter-fat, and the yearling, London Stoke Pogis 41438, out of Queen of Glen Duart, sold to J. W. Chapman, London, for the neat sum of \$225. She has since been tested, making 22 pounds of butter in seven days. The two above bulls are handsome fellows, and should be ready sellers; while on the pastures were seen a couple of remarkably fine bull calves rising a year old, by Prince Frank, as also is the yearling, and from choice cows. A number will be selected from the herd and exhibited at the leading Canadian fairs this fall, and of which we expect to hear favorable results. Parties desiring show and choice breeding stock should not fail to write or call on Messrs. Humpidge & Laidlaw.

BOOK TABLE.

We have received in pamphlet form, from Mr. Mortimer Levering, Lafayette, Ind., the rules, constitution, scale of points, and list of members of the American Shetland Pony Club, of which he is Secretary.

Vol. VIII. of the English Oxford Down Flock Book has been received from the Secretary, Mr. R. Henry Rew, Norfolk House, Norfolk St., London, Eng. It contains the registered pedigrees of rams Nos. 1996 to 2208, and of ewes Nos. 904 to 915; the list of members; show record, 1895; objects of the Association; and other information usually found in such works. The book is handsomely bound in boards and is well printed and compiled.

Highland and Agricultural Society.

ENTRIES FOR PERTH SHOW.
The entries have now been closed for the Highland Show, to be held at Perth, on Tuesday, 21st July, and three following days. The totals in the various sections are as follows:—Cattle, 292; horses, 257; sheep, 198; swine, 20; poultry, 368; dairy produce, 45. The following table shows how these figures compare with the entries at Dumfries last year, and at Perth in 1887:—

	Perth. 1886.	Dumfries. 1895.	Perth. 1887.
Cattle	292	271	—
Horses	257	332	239
Sheep	198	226	311
Swine	20	26	26
Poultry	368	213	210
Dairy produce	45	114	72

In the implement department there will be a very large and representative display, the amount of space taken exceeding 4,500 feet. A novel feature of the show will be the exhibition of horseless carriages. As at the shows of the last three years, the jumping contests will be an interesting feature of the Perth Show. The prizes for jumping amount to \$107, and there are two competitions on each of the last three days of the show, besides competitions on Thursday evening. Entries for jumping are received in the show-yard up till the evening preceding each day's competition.—*Scottish Farmer.*

GOSSIP.

HILL HOME STOCK FARM.

Beautifully situated in the fine agricultural district of South Brant, near the village of Mt. Vernon, five miles west of the progressive manufacturing City of Brantford, and convenient to the town of Paris on the north, and Burford to the west, is Hill Home Stock Farm, the property Messrs. D. G. Hamner & Sons, Mt. Vernon, Ont. The farm particularly convenient and well adapted to the purpose to which it is devoted, viz., the breeding of pure-bred stock for exhibition and breeding purposes, being accessible from several points by rail, a great convenience for visitors to the farm as well as for shipping purposes, while the farm, with its rich, rolling fields of green pastures, well watered by living springs, and belted with handsome rows of oaks and maples, makes it, as stated above, exceptionally well adapted to stock raising, and particularly so for the handsome flock of fancily-bred Shropshires, which are a specialty with these gentlemen, and of which we more particularly wish to make mention.

The buildings, which are beautifully situated on an eminence overlooking a richly-wooded valley, through which winds one of the tributaries of the Grand River, are commodious, convenient, and substantial, while the rows of beautiful evergreens and well kept lawn evince the good taste of the proprietors.

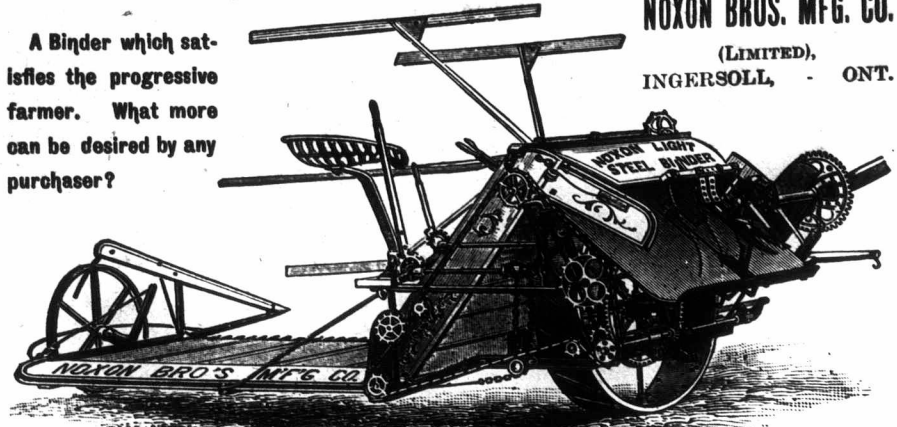
Returning to the sheep, Messrs. Hamner have for the past 25 or 30 years made a specialty of sheep breeding; handling and exhibiting during that time no less than six different breeds, but finally choosing the noble and aristocratic Shropshire as the breed of their choice, some fifteen years ago, and since that time they have devoted unceasingly their best energies to the production of a flock second to none in our great Dominion, having before them a high ideal, and endeavoring year by year to bring their flock to a higher standard of uniformity and choice quality, so that at the present time the flock, which now comprises some 200 head, unquestionably is one of the best in Canada, a place which it has honorable held for several years at the leading Canadian fairs, always securing a large share of the best trophies for the best Canadian-fitted and home-bred stock; their wings in 1895 being 140 prizes, a large number of which were won at the Madison Square Gardens, New York; the Toronto Industrial; and London, Ont.; including first on pen of five lambs, owned and bred by exhibitor, at each of the above fairs—a prize accorded to this flock for several years—and also three specials out of four given by the American Shropshire Association, at Toronto and London. Selections have been added to the flock at different times from some of the best English flocks, and in 1891 one of the firm visited the Old Country and selected a large number from leading flocks. Therefore the flock at Hill Home now contains stock from such well-known breeders as Bradburn, Bach, Barber, Blanters, Nevill, Evans, Thomas, and other leading breeders. For a number of years Messrs. Hamner have held a lucrative American custom for exhibition and breeding stock, and more lately have secured an extensive ranching trade with the West, more especially for rams, of which several hundred are yearly shipped. The Hill Home flock now comprises upwards of 100 breeding ewes, a large number of which are imported; 40 yearling rams; and a large flock of lambs of choice quality, sired by an imp. Parker ram, and Tinker, a winner at the Madison Square Gardens, New York, last year; a ram of grand conformation, strong bones, and of rare quality, being exceedingly well covered on the face and legs, and having a dense, thick fleece and beautiful pink skin. His lambs this year are a strong, growthy lot, and exceptionally well covered. He is now in grand form, and will head the exhibition flock at the coming fall fairs with credit. The pens now under fit are a particularly handsome lot, and for quality and covering they would be hard to better, and we predict that a large share of the best trophies must surely fall to their lot. Parties desiring show stock or breeding stock of high quality should pay a visit to this flock, where they undoubtedly can get their wants supplied at reasonable figures.

CHOICE JERSEYS TO BE SOLD.

An opportunity to secure extraordinary Jerseys at the buyer's price will present itself about the middle of August, as per advertisement in this issue of St. Anne de Bellevue great Jersey sale. We may state that this herd has held a prominent place in the show-rings of Canada for a number of years, which means that the individuals comprising it are as good as the best to be found on the Continent.

NOXON No. 8 STEEL BINDER

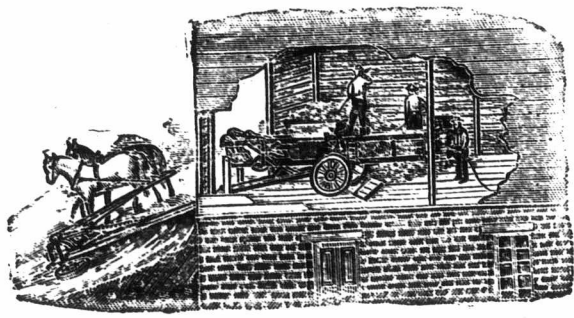
A Binder which satisfies the progressive farmer. What more can be desired by any purchaser?



NOXON BROS. MFG. CO. (LIMITED), INGERSOLL, ONT.

Full Circle Steel Hay Press!

FEED CUTTERS, TREAD POWERS, FEED GRINDERS, THRESHERS, FLAX BREAKERS,



DRAG SAWS, CIRCULAR SAWS, PORTLAND CEMENT, SHELLERS, SWEEP POWERS,

Our Hay Press makes bales 17 inches by 22 inches in size. It has a gong to indicate when the dividing boards should be inserted. It makes no difference in working of press if the sweep power is higher or lower than the press itself. Write for catalogue and prices. Manufactured by **Matthew Moody & Sons, Torrance, Que.** Western General Agents, Estate of T. T. COLEMAN, Seaforth, Ont.

Geo. White & Sons, LONDON, ONTARIO.

THE "WHITE" THRESHING AND TRACTION ENGINES

Will stand examination and comparison.

INSPECT and test them before purchasing elsewhere, or write for catalogue and particulars.

SECOND-HAND ENGINES OF DIFFERENT MAKES ALWAYS IN STOCK.



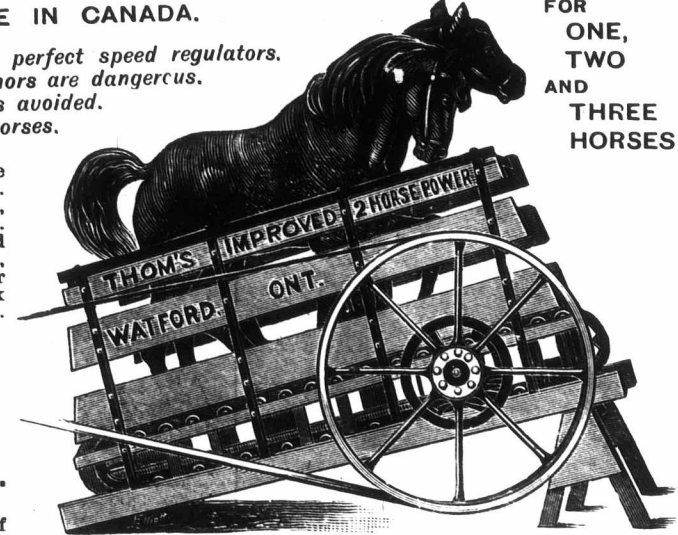
The Latest Improved Up-to-Date Tread Powers

MADE IN CANADA.

Our Governors are perfect speed regulators. Poor Governors are dangerous. Accidents to horses avoided. Safety for unruly horses.

Thom's Implement Works, Watford, Ont.

Established 1875. 13-1-o-1f



The Election is Over. How are you Satisfied?

Engines, Threshers, Tread Powers, "Duplex" Feed Mills, DAVIS CREAM SEPARATORS, Saw-mill Machinery. High-class goods. Prices right.

THE JOHN ABELL ENG. AND MACHINE WORKS CO. (Limited), TORONTO, CANADA.

HANDSOME NEW CATALOGUE FREE BY MAIL.

ADVERTISE IN THE FARMER'S ADVOCATE.

JAS. H. SHAW, Simcoe, Ontario,

CAN BERNKSHIRES and CHESTER WHITES

OF ALL AGES. PRICES REASONABLE. WRITE OR CALL. 14-d-om

IMP. CHESTER WHITE and TAMWORTH SWINE

Having won the sweepstakes for the best boar and two sows at Toronto Exhibition of 1895, we are booking orders for spring pigs from Imp. stock in pairs not akin. Stock for exhibition purposes a specialty. Pedigrees furnished. Reduced rates by express. Drop a card for prices before buying elsewhere. H. GEORGE & SONS, Crampton, Ont., Middlesex County, 7-y-om

SPRINGRIDGE STOCK FARM

WILLIAM J. DUCK, Morpeth, Ont., Imp. and Breeder of POLAND-CHINA SWINE. Imported Blackmoore's head of herd. Nothing but first class stock ship ped. 10-2-y-om

OXFORD HERD OF POLAND-CHINAS

Our herd made a clean sweep of all the first prizes (30) at the late Toronto, Montreal and Ottawa Exhibitions. DARKNESS QUALITY, the unbeaten winner at the World's Fair, heads the herd. Stock for sale. Write for prices.

W. H. JONES, Mount Elgin, Ont. 15-y-om

CANADA: WILKES

Stock hogs of all ages and sexes for sale. Single choice pig, either sex, \$10; pairs not akin, \$18; trio, \$26; fall boars from \$15 to \$20. Honey in season. Send for new illustrated catalogue free. Correspondence solicited. Visitors welcome. Address: 17-y-om CAPT. A. W. YOUNG, Tupperville, Ont.

DUROC-JERSEY SWINE

We have the best and greatest prize-winning herd in Canada. Write for what you want. We have everything. TAPE BROS., Ridgeway, Ont. 20-y-om

FRUIT EVAPORATORS.



Evaporates all kinds of fruits and vegetables. Made substantially of galvanized iron, and is fireproof. The best and most economical Evaporator on the market. A profitable investment for any farmer having fruit. It also bakes bread, pies, etc., and roasts meat, turkey, chicken, and game. Prices reasonable. Illustrated circular and full particulars on application to **The G. H. GRIMM MFG. CO., 84 Wellington St. 13-d-o MONTREAL, QUE.**

G. BENNETT & PARDO, CHARING CROSS, ONT.

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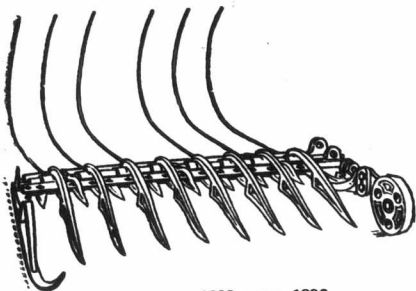
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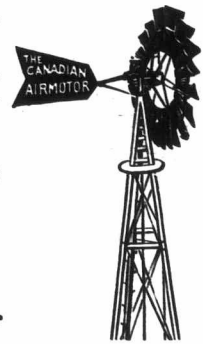
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In less than carloads (not less than 2,000 pounds), carload price, with car freight deducted from invoice. These twines are made from the best stock obtainable, and the process of manufacture has been so improved during the three years since the factory was established that it can be safely said there is no more profitable twine for the farmer in the market than the Central Prison Brands.

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Wide-awake farmers and fruit growers make money by using Fertilizer.
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FOR BUILDING... STABLE, SILO, AND OTHER WALLS, CISTERNS, STABLE FLOORS, HOG TROUGH, ETC.
As the building season has commenced, all parties using our cement, and where its use is not understood, kindly give us about ten days' notice and we will come or send an expert at our own expense. We shall be behind our orders this year; on this account order cement two or three weeks before you want to use it.
SEND FOR OUR NEW PAMPHLET CONTAINING FULL INSTRUCTIONS, FREE.
For prices of Cement and other particulars, apply,
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UNEXCELLED in Simplicity, Effective Working Qualities and Durability.
GUARANTEED TO GIVE FULL POWER CLAIMED AND TO BE AS REPRESENTED.
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It will pay you to write us before buying. Pamphlet free.
A fair supply of second-hand and re-built engines at moderate prices.
WATEROUS, BRANTFORD, CANADA
ADVERTISE IN THE FARMER'S ADVOCATE.

Meeting of Executive Committee of the American Guernsey Cattle Club.

A meeting of the Executive Committee of the American Guernsey Cattle Club was held at the office of the Club, in Peterboro, N. H., on June 16th and 17th. Appreciation was expressed of the valued services of the late Silas Betts, President of the Club, and the following resolutions were passed and placed on the records of the Club and sent to the family of the deceased:—

Silas Betts, President of the American Guernsey Cattle Club. Died May 21st, 1896.
Born May 9th, 1828.

Resolved—That we have learned with great regret of the death of our late President, Silas Betts.

Resolved—That his constant and faithful service, his energy and good judgment, have been of the greatest value to the Club from its foundation.

Resolved—That from his careful studies and long experience in breeding and agricultural subjects, and by his facility in writing and expression, he contributed largely to the advancement of his favorite breed of dairy cattle, as well as to the principles and methods of dairy farming in the United States.

Resolved—That the sterling honesty and frankness of his character won our respect and esteem.

Mr. James M. Codman, of Brookline, Mass., a member of the Executive Committee from the establishment of the Club, and one who did a great deal in bringing the earlier records together, and who has ever been an interested member, was chosen Acting President until the next annual meeting of the Club.

There were a great many matters of business considered pertaining to the current work of the Club, especially with the coming fall exhibitions.

It was found that the work of the office of the Club, which showed a gain last year, has still kept gaining this year. The prospect for the future of the breed never seemed more encouraging. Wm. H. CALDWELL, Secretary. Peterboro, N. H.

GOSSIP.

In Japan most of the horses are shod with straw. Even the clumsiest of cart horses wear straw shoes, which, in their cases, are tied around the ankle with straw rope, and are made of the ordinary rice straw, braided so as to form a sole for the foot about half an inch thick. These soles cost about a half-penny a pair. In Iceland horses are shod with sheep's horn. In the valley of the Upper Orux the antlers of the mountain deer are used for the same purpose, the shoes being fastened with horn pins. In the Soudan the horses are shod with socks made of camels' skin. In Australia horseshoes are often made of cowhide. A German not long ago invented a horseshoe of paper, prepared by saturating with oil, turpentine, and other ingredients. Thin layers of such paper are glued to the hoof till the requisite thickness is attained, and the shoes thus made are durable and impenetrable to moisture.—Horseshoer.

SHORTHORNS FOR SOUTH AMERICA.

Six highly-bred Shorthorn bulls, the property of Mr. H. Smith, of Mountmellick, left Liverpool for shipment to Buenos Ayres, on the 27th inst., by the S.S. Bellona. Four of these bulls, viz., Bridgemoor 66723, Freeman 67097, Londale 67328, and Rosario 69115, are by British Forester 68751 of the Flower tribe, bred by Mr. T. Talbot Crosbie, of Ardferd Abbey. British Forester is by British Hope 60415, out of Flower of Aylesby 9th, by Star Fitz-Halmsby. Another of the bulls, Water Beau 68064, is by British Beau 63725 of the Medora tribe, also bred by Mr. Talbot Crosbie. The sixth is Elmsmark 68709, a pair was Pol Royal, a bull bred by Mr. Trothevery, that was awarded second prize in a strong class of seventeen entries at the Royal Show at Plymouth in 1890. These bulls are all two years old, at which age they are better fitted to stand the hardships of the long voyage than yearlings are.

THE HAWTHORN HERD OF SHORTHORNS.

A representative of the FARMER'S ADVOCATE recently spent a few hours at the home of Messrs. Wm. Grainger & Son, of Lonsdale, Ont., looking over their herd of heavy-milking Shorthorns. As is well known to breeders, these gentlemen, since they first began breeding, have given special attention to the production of strong-milking cattle, and after years of careful management and breeding along this line, it is not to be wondered at that they have succeeded in establishing a reputation as breeders of this class of Shorthorns; and, therefore, as there is usually a good call for a general purpose cow, a place which the milking Shorthorn undoubtedly fills, Messrs. Grainger & Son find ready sale for their surplus stock. Therefore it will be to the interest of parties desiring such stock to note their advertisement and speak quickly. They have decided to offer for sale a few of their choice young heifers, descended from the Fair Maid of Hullet, their great milking cow, and her daughters and granddaughters. Fair Maid of Hullet is the cow selected from this herd to show in the milking test at Chicago. The herd also contains a couple of half-sisters to this cow: Britannia Lass and Busy Bee. The bull, Golden Nugget 17548, by Imp. General Bosh, has recently been replaced by a grand young bull from the herd of Messrs. John Miller & Sons, Brougham Ont. Beau Ideal = 22554 =, as his name implies, makes a grand head for the herd. He is out of the grand cow, Bessie Lass (imp.) = 24824 =, by Banner Gearer (49634), and has for his sire, Siltyn Stamp (imp.) = 18963 =, Mr. Miller's magnificent stock bull. Beau Ideal is now about eighteen months old, a deep, rich red in color, a fine handler, with grand top and under lines, while for quality, style, and finish, he is the counterpart of his sire, and should follow Golden Nugget with great success. Several very fine bull calves were noticed, got by Golden Nugget, and out of pail-filling cows. These calves are rising a year old, are red and roan in color, and are in good, thriving condition.

BREEDERS' DIRECTORY.

32 Cards up to six line space inserted under this heading, one issue a month, 25 per line per annum; every issue, 25 per line. Payable in advance.

A. ELLIOT, Pond Mills, breeder of Collie Dogs, Fawn worth and Duroc-Jersey pigs, Oxford Sheep & sweepstakes strain B. Turkeys.

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H. I. ELLIOTT, Danville, P. Q., breeder of Scotch Shorthorns & Southdown sheep.

JAS. TOLTON, Walkerton, Breeder and Importer of Oxford Sheep, also Breeder of Shorthorn Cattle and Bronze Turkeys.

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THE CELEBRATED "Maple Leaf Grider"

Ten-inch reversible plates, Relief Springs, Ball-bearing Plates, Shake Feed, grinds fine and fast.



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Has during the season of 1895 given the best satisfaction on account of Purity, evenness of crystal, and splendid working qualities.

It is now used in all the largest Cheese Factories and Creameries in Canada.

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The Improved **KNITTER** Family..... Will knit 15 pairs of sock a day. Will do all Knitting required in a family, homespun or factory yarn. **SIMPLEST KNITTER** on the Market.

This is the one to use. A child can operate it. We guarantee every machine to do good work. We can furnish ribbing attachments. Agents wanted. Write for particulars Dundas Knitting Machine Co., Dundas, Ont.

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We absolutely guarantee every moldboard, whether on plow or as a repair, the very best United States soft-center steel.

Our name in full on all castings assures the farmer that he is not having inferior repairs palmed off on him. Ours last twice as long and ALWAYS fit. Our STEEL HEAD GANG stands high over the stubble and cannot be broken.

Municipalities prefer our SCRAPERS because they are heavier steel, therefore last longer; they hold more and are better finished.

PLOWS of all kinds: RAILROAD, ROOTER, PICK, etc. WHEELBARROWS of all kinds: GARDEN, BOYS', STONE, NAVVY, etc.

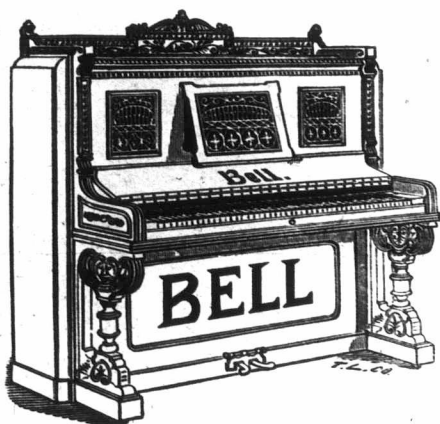
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HARROWS, DRAG and DISK.

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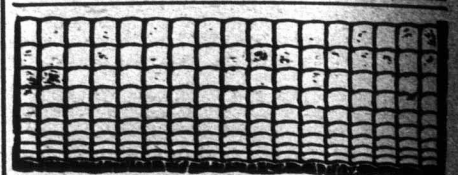
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This rule was unquestioned in the days when "two old cat" was the favorite ball game. Applying the same rule to farm stock, we raised the standard height to five feet. Through the fence is as bad as over. So, with abundant ELASTICITY and double strength wire, we "shot them out" (or in) and rule the world on fence. Send for free copy of COILED SPRING and our price list.

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Our Fence contains all the claims made by other companies, besides having the following exclusive points:-

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