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VOL. XXXVI.

LONDON, ONT., AND WINNIPEG, MAN., OCTOBER 15, 1901.

No. 536

EDITORIAL.

Judges and Judging.

The close of another fair season seems an opportune time to review the work of the judges in the live-stock departments at leading shows, and to discuss the general subject of selection and appointment of judges. Fair Boards still find the problem a difficult one to satisfactorily solve, and each year brings its budget of complaints in some classes. We are not disposed to take a pessimistic view of the situation or to conclude that progress is not being made in the system of selection and the quality of the work done. We firmly believe that Fair Directors, almost without exception, are earnestly solicitous that only competent and unbiased men shall be chosen, and we believe that the instances in which, at the suggestion of designing exhibitors, unfit or unfair judges are appointed are exceptional and rare. Taking it as a whole, we are satisfied that better selections of judges are made and their decisions more intelligently rendered than in former times, and quite as impartially. We believe, moreover, that in no country is fairer or more consistent judging done than in Canada. The system generally adopted in recent years, of making selections from the list of judges approved and published by the Breeders' Associations, relieves Fair Boards, to a large extent, of responsibility for appointments that prove unsatisfactory. But it does, unfortunately, happen occasionally that appointments are made of men who prove to be either incompetent or lacking in the manly courage to do the right thing—placing the awards solely on the ground of merit, irrespective of ownership, friendship or other consideration. It is true that no man is infallible, that all are liable to make mistakes, that men honestly differ in opinion and judgment, for all of which facts due allowance should be made; but he who presumes upon these, making them merely an excuse for what is palpably seen to be a leaning in favor of a friend, is out of place in a judging-ring, lowers his reputation and character for fairness in the estimation of all right-thinking men, and he should not again be entrusted with so important a function.

While the Breeders' Associations publish a sufficiently long list of approved judges—perhaps too long, and not sufficiently select—from which Fair Boards may make selections, yet the field is limited by the fact that many of the most capable are by common consent considered unavailable, owing to being themselves exhibitors or so related by family connections or business dealings with exhibitors as to render their appointment inadvisable, though we think this objection is often unduly pressed. A capable man, with a reputation to maintain, may generally be safely trusted to act on his judgment, and is infinitely preferable to one that is incompetent or erratic, no matter how honest in his intentions.

We do not propose in this article to discuss at length the question of one judge versus two or more, though we do not hesitate to affirm our preference for the single-judge system. Observa-

tion at the leading shows this year has doubtless led to the conclusion that neither is always an infallible tribunal, but we are pretty well persuaded that the difficulties and abuses are liable to increase in proportion to the number composing the awarding committee. But whether one or more is decided upon, it goes without saying that it is of the first importance, and essential to the permanent success of the fairs, that confidence in the impartiality of the system of appointing judges be established and maintained. Fair Boards and Breeders' Associations need to exercise more vigilance than ever in guarding the gate to the judiciary by a searching scrutiny of the character as well as the competency of the men entrusted with the duty of deciding on the merits of exhibits on the preparation of which the owners have spent a whole year's work, or it may be more. It is only by this course that new exhibitors will be encouraged to enter the list and the better class of the old retained. It will be regrettable and unfortunate if by lack of vigilance in this regard the impression is allowed to prevail that biased judges are nominated or appointed by or at the instance of interested parties to further their own ends, and that collusion is winked at in a field where only merit should win.

The inherent sense of justice entertained by all self-respecting Anglo-Saxons revolts at the idea of giving honors in a competitive examination on any other basis than that of individual merit, and no one with a fine sense of honor will feel complimented or content to receive them on any other ground.

Weeds and Insect Pests.

As an additional safeguard against the spread of insect and weed pests, the "Farmer's Advocate" would suggest the formation of natural-history clubs or local botanical and entomological societies in every county in the Dominion. These might become affiliated with some of the larger societies, and thus bring the smaller local organization into touch with some of our best authorities upon these subjects. It is a matter that Farmers' Institutes and agricultural societies would do well to encourage, but which can perhaps be best developed through the instrumentality of educationists in the cities and towns, acting in conjunction with the teachers of rural schools. To properly train the youth as observers of the habits of plants and insects will benefit them beyond computation in an educational way, and in time accomplish much for the advancement of Canadian agriculture. If the teachers become actively connected with such organizations, the results will naturally have a decided bearing upon their school work. In several centers we know of local botanical societies that have been for years doing good work by making a scientific study of the plant-life of the district, and we hope that other places will take up the idea and also encourage nature study in the schools by such methods as the offering of prizes at the local shows for named collections of weeds and other plants, or of insects, accompanied by written descriptions of how best to combat those of an injurious character. Prof. Robertson, of Ottawa, is doing good service by calling public attention to the advantages of manual training in the schools, and we should be glad also to see progress made in the directions suggested above.

The Cost and Work of an Agricultural College.

(From our Manitoba and Western Edition.)

The "Farmer's Advocate" of March 5th gave a lucid and comprehensive plan for a School of Agriculture for Manitoba farmers' sons, which was practical in its outline and suited to the needs of the country. Many requests have been made that the plan as outlined be again published, which is done, for the benefit of our large number of new subscribers and those in whom the project of an agricultural college is awakening enthusiasm.

LAND AND BUILDINGS NEEDED FOR EFFECTIVE WORK.

The outlay at the start will undoubtedly be the largest, and considerably greater than what will be needed annually. The necessities would be a farm, which would cost from \$10,000 to \$16,000, depending on its size and location, neither of which, if within reason, would have much to do with the success of the institution. A common error which exists in the minds of many people is, that in order for agricultural-college education to be practical, the students should do farm work, plowing, cleaning out stables, threshing, etc. Right here we unhesitatingly state that every student should be proficient in the ordinary farm work before coming to such an institution. Life is too short and the student's time too valuable when at the College to be spent at the lowest grade of farm work, the purely manual labor.

A building in which to give lectures, having offices for the teaching staff, library, reading room and gymnasium, would cost about \$25,000, for which money a building of three stories and basement could be supplied, somewhat similar in design to some school building. Farm buildings, sheep sheds, hogpens, poultry and implement houses would necessitate an expenditure of about \$3,500 to \$4,000. Elaborate buildings are not needed, neither would they be desirable in a Province whose income is comparatively small. The College should not attempt to board or room students, such necessitating big expense for dormitory, furniture, female helps to provide meals and clean the rooms. In addition, discipline is difficult to maintain in a residence.

THE COST OF THE NECESSARY LIVE STOCK.

For teaching purposes, representative animals of breeds suited to Western conditions would be needed. Two teams of Clydesdale mares, costing about \$800, and one team of lighter horses, at \$250, would be ample for the farm work and useful for instructional purposes. An expenditure of \$2,500 to \$3,000 would be needed to provide the College with a bull and three cows of four or five of the pure breeds suited to our conditions. In sheep, \$250 would be ample to obtain good specimens of the long-woolled and medium-woolled breeds, a ram and ten ewes being sufficient in each case. Swine, of three leading breeds, of each a boar and two sows, could be got for about \$150. In addition, \$100 invested in the utility breeds of poultry would be ample. If valuable pure-breds of varieties not at the College were available in the neighborhood, they might be utilized for instructional purposes by permission of their owners or on payment of a small rent. Farm implements, incubators and brooders, a few skips of bees and miscellaneous

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Address—THE FARMER'S ADVOCATE, or THE WILLIAM WELD COMPANY (LIMITED), LONDON, CANADA.

articles would call for \$1,500 to \$2,000. Separators and other dairy utensils would doubtless be loaned by the manufacturers for the work in the dairy department, as is done in similar institutions. The total initial expenditure can be put at \$50,000 to \$60,000.

THE TEACHERS REQUIRED, THEIR WORK AND COST.

The essentials to be observed in manning such an institution is, provide men thoroughly trained and experienced in the work they have to teach, men with energy and lots of enthusiasm for the future of agriculture. While the old-established colleges have large staffs, such will not be necessary or advisable at the start. Four professors and three instructors would be ample until the attendance became very large, one of the professors also acting as head of the institution, with the work of administration in addition to his teaching duties. The staff might be constituted as follows:

1. Professor of Agriculture, whose duties would be to give instruction in the principles of soil cultivation, the growing of farm crops, cereals and grasses, drainage, silos, etc., together with such instruction as is deemed necessary in the construction and draft of implements, the application of chemistry to farm conditions, the judging of grains, roadmaking, and weather forecasts.

2. Professor of Horticulture, who would take up the teaching of plant life, small fruit culture, gardening, forestry, the suppression of weeds, the

prevention of rust, smut and other fungous diseases of plants, judging of roots and vegetables. He might, in addition, supervise Provincial weed inspection.

3. The Professor of Animal Husbandry would teach the principles of breeding, instruct the students in the characteristics of the different breeds of live stock, besides drilling them in the judging of animals for draft purposes, the block, or the dairy. The feeding of animals, elementary bacteriology and veterinary science would fill out his College work. In addition, the experiments with live stock would be under his control.

4. The Professor of Dairying would take up that science in all its branches, give the necessary lectures and practical work, instructing the students in testing with the Babcock, oil and acid tests, churning, and the handling of cream separators, together with elementary dairy chemistry and bacteriology, conduct experiments and look after the travelling dairy and supervise factory inspection.

The services of the professors would be available for Institute work. The salaries for such men would be about \$1,500 each a year to start with. Cheap men or men lacking in training or energy would be dear at any price. The three instructors needed would be: One to give instruction in farm bookkeeping, the principles of political economy, and parliamentary practice, in addition to teaching the drawing of plans of farm buildings. Such a man could also act as bookkeeper and secretary of the College, and could be got for \$800 to \$1,000 a year. A carpenter and blacksmith would be needed to give instruction during the school term. Each could be got for \$75 a month, say \$750 for the course. Three men would be necessary to attend to the live stock, each at \$40 a month. Wear and tear, incidentals, printing and advertising, would mean a yearly outlay of \$15,000 for running expenses.

As the Agricultural College is an educational institution similar to other professional institutions, it would not be expected to pay any dividends in cash for the money invested. The benefit to the agricultural interests, and therefore to the country at large, would, however, be inestimable. The course for which such an outlay and staff are described should be one of 14 to 16 weeks, running during December, January, February and March, thus not interfering with the farm work, and permitting the farm laborer who desires to render himself more accomplished, and therefore more valuable to his employer, the maximum period in which to earn wages.

Opportunities Opening.

Prof. John Craig, of Cornell University, N. Y., formerly Horticulturist at the Central Experimental Farm, Ottawa, says he has been greatly impressed the last few months by the demand for young men of education, practical experience and energy in the agricultural labor market. Requests for foremen, superintendents, experimenters and teachers at the present time greatly exceed the supply. Is not this a hopeful sign? It is to be traced, it seems, to an improved sentiment in the agricultural community, the changed attitude of capitalists to agricultural enterprises, and to the appreciation on the part of the business man of the fact that a trained foreman in agriculture, as in many other industries, is essential to successful farming. Another feature worthy of note, and a very important one, is the increase in the number of agricultural schools. Not only are some of the academies and high schools considering the question of adding agriculture to their courses, but agricultural high schools are being equipped in many parts of the country. There is also a much keener appreciation of and demand for good agricultural periodicals and books than ever before.

Stands the Test of Time.

I have been a subscriber to the "Farmer's Advocate" since its inception, and can truly say it has been worth ten times the amount of the annual subscription in the useful hints I have picked up from time to time from it. I have got a good many of my friends to subscribe from time to time, and will continue to advocate its cause as long as it continues the first-class paper it has been all along. I have got several valuable pictures and books in my possession now, got for prize essays written years ago for its pages, and hope to continue to read it while I live. It is doing a splendid work for the farmers of Canada. Long may you continue to prosper.

JAMES ANDERSON.

Wellington, Co. Oct. 2nd 1901.

STOCK.

Judging Sheep.

An onlooker observing the work of judging breeding sheep at the fairs is sometimes led by the actions of the judges to question whether too much importance is not often attached to what is known as a good-handling back, without sufficient reference to the general appearance, character and type of the animals. A level back, well covered with firm flesh, other things being equal or nearly so, is certainly a desirable quality, but does not such covering depend largely upon condition, and the art of feeding, and is it proper to judge animals intended for breeding purposes mainly by the same standard as in a fat-stock show, where the animals are supposed to be fitted for the butcher's block? Watching the average judge at his work, the vigorous gripping and careful feeling, one is apt to get the impression that the result of his inspection depends almost entirely upon the handling, that eyes are practically an unnecessary accompaniment, and that the man might about as well be blindfolded as far as his rating of the competing animals is concerned. It is true that in sheep the art of the shearer may hide defects that can only be discovered by handling; but is it not well first to note the general appearance from the standpoint of a breeder, as to style, type, freshness, vigor, quality of fleece and bone, and the way the animal stands on his legs, before going into the more careful handling? We have in mind a case at a show this year, in one of the long-wool classes, where a ram was given a place in the prize list apparently for no other reason than that his backbone was better covered than that of others that were left out, and that were decidedly more uniform in type with the first and second prize sheep, and vastly stronger in masculine character, in bone, fleece, and the general indications of usefulness as a sire than the weak-headed, fine-boned, fat-backed winner. In another case, at the same show, the two judges differed in opinion as to the merits of two lambs, one favoring a big, coarse lamb, lacking in type and evenness of fleece, but fat and handling well on the back; the other a medium-sized lamb, of attractive style and type, with even fleece of good quality, and in good condition, but not fat. The referee who decided in favor of the big lamb gave as his reason a better handling back and a stronger "dock." The tail having been cut off a few inches further from the rump than in the other case, and the lamb being fat, would account for the latter virtue, but it was not a fat-stock show, and yet the man evidently looked at the case only from that standpoint and judged only by that standard. Handling, we admit, is an important point in judging, but it is possible to make a hobby of it and to forget others quite as essential, as was evidenced at a prominent show this fall in one of the cattle classes, where an excellent breeding cow, forward in calf, was turned down because it was considered by the judge that her flesh lacked firmness in the handling, but she was not competing as a butcher's beast. What is needed, it would seem, is a judicial summing up of all the evidence from the view-point of the breeder and of usefulness for breeding purposes.

Canadian Jersey Cattle.

In the "Farmer's Advocate" I see a good report of the Canadian cattle at the Pan-American, and I believe that, put all the herds on pasture, they would beat the lot.

About the time the Canadian Herdbook was started by Dr. Couture, of Quebec, parties interested in the Jersey and Canadian cattle started a herdbook of Canadian Jersey cattle. They were a cross of a registered American Jersey bull and a pure-bred Canadian cow. I registered the first lot in 1893, and have kept this breed for dairy purposes.

They are a tough, hardy breed, and I think will show a higher test in butter-fat than the American Jersey. My average test for the season, last year, was 5.4, at the butter factory; the testing being done by the Inspector for Brome Co., Mr. Wherry, of Knowlton; testing 5.6 in July; highest test in November, 6.2. About one-third grades, twenty-four cows in the herd; getting over \$1 per 100 lbs. for milk in July, and \$1.36 1/2 per 100 lbs. in December.

They are not a beef breed. It takes a good three-year-old heifer to dress 475 lbs. Last fall I bought a Shorthorn bull to use with some grade cattle for beef; but intend to keep my Canadian Jerseys pure, for dairy purposes.

I keep from 50 to 60 head of cattle. Feed roots in winter. I had about 2,500 bushels last year. Built my root cellar of stone, side of my barn bridge, 12 feet high. Put my granary on wall. Back cart into the granary and dump my roots in cellar. I think I like my plan better than having it under driveway, arched over, as was suggested in the "Advocate" some time ago. Hay crop here was very heavy; other crops good, only potatoes, which will be a light crop.

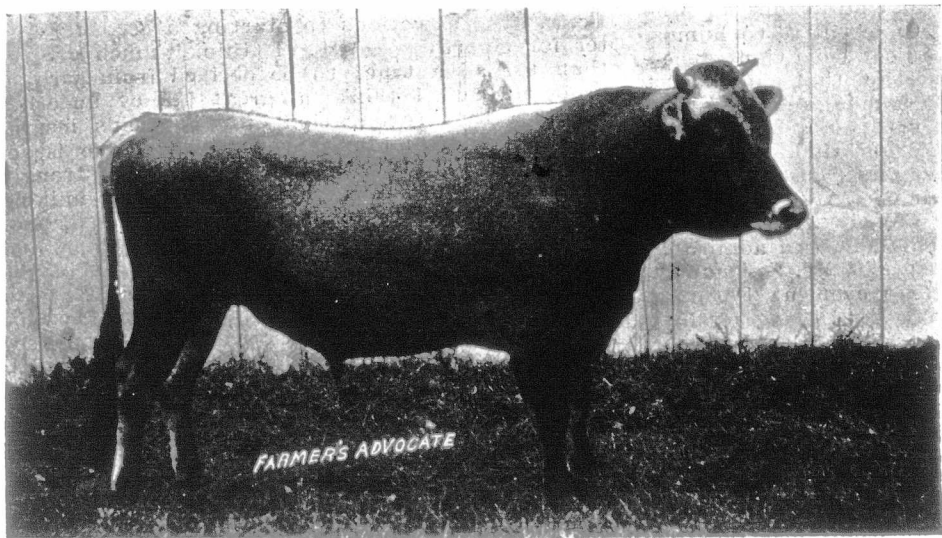
Province Quebec. L. R. WHITMAN.

Sept respect during t has been partner trade al for good trade fo trade, le prospec the anir cattle h certain to comp owners black F month l extreme

Scotlan both in years a cattle of herd of sale in 44 head useful a or £180 one of with th the bes man w at the ones, a cattle-l and Ke down happil had to when brough next r way n Arthu has h fifteen anima was d attend £42 2s and be propo the av One o at 130 herd v at 100 Mailb by on £120, Dalm leave must Th week in An the se Eassie repres Willi dispos sold v £50 6 that t avera £58 6s 5 heif quhar Mr. J Mr. V £58 3s or £11 year-went Mr. was

Our Scottish Letter.

September is the busiest month in the year in respect of sales of stock, and the trade in all kinds during the past month has been satisfactory. There has been an absence of sensational prices in any department, but there has been an excellent selling trade all round and business has seldom been better for good commercial stock of any kind. The best trade for all parties is a solid, level commercial trade, leaving a good profit to the breeder and the prospect of some profit, with the improvement of the animal, to the buyer. The leading trade among cattle has been in the Aberdeen-Angus breed, and certainly the lovers of the blackskins have no reason to complain of the values put upon their stock by owners both north and south. There are herds of black Polled cattle everywhere now, and the past month has seen quite as good trade for them in the extreme south of England as in the north-east of



CHAMPION OF BURNSIDE.

First-prize yearling Jersey bull at the Western Fair, London, Ont., 1901.
PROPERTY OF J. A. LAWSON, NILESTOWN, ONT.

Scotland. Mr. Bridges, of Federate, owns land both in Aberdeenshire and in Sussex, and many years ago, impressed with the excellence of the cattle on his northern estate, he founded a small herd of black Polled cattle in the south. He had a sale in the last week of August, when he disposed of 44 head of surplus stock, for which he received the useful average of £28 2s. 11d. apiece. He got 180 gs., or £180, for a yearling bull named Darlington, from one of his neighbors, and it shows what can be done with the breed that this bull is regarded as perhaps the best of his age at the present time. The gentleman who bought him, Mr. Batchelor, is a beginner at the business, but he is determined to have good ones, and is likely to succeed. The great difficulty cattle-breeders have to contend against in Sussex and Kent is drought. There was scarcely any rain down there during the summer, but there was, happily, plenty of spring water. This, of course, had to be pumped and carried to the cattle, but when so dealt with it is wonderful how cattle can be brought through even in such a season as last. The next notable sale of black cattle took place a good way north of Sussex, but still in England. Mr. Arthur Egginton, South Ella, Hull, in Yorkshire, has had a choice herd of A.-A. cattle for about fifteen years, and has bred several high-class show animals. He resolved to give up his herd, and it was dispersed on the 12th inst. The event was attended with great success, and an average of £12 2s. 8d. was obtained for 47 animals of all ages and both sexes. The cows were highly bred, a large proportion belonging to the famed Erica tribe, and the average price for 15 of them was £52 8s. 7d. One of them, Equalize 25327, went to Ballindallock at 130 gs., or £130 10s., and to the same famous herd went a yearling heifer, named Equidora 29949, at 100 gs., or £105. A capital breeding bull, named Mailboy 13637, in spite of his six years, was secured by one of the Sussex breeders, Mr. Schroeter, at £126, and a bull calf got by this sire went north to Dalmore, in Ross-shire, at £110 5s. These prices leave nothing to be desired, and show that much must be done to protect herds built up at such cost.

The final series of black Polled sales took place a week later in Scotland—at several of the best herds in Angus and Banffshire. The phenomenal sale of the series was held on the second day at Hatton of Eassie, in the fertile vale of Strathmore, when representatives of the three herds owned by Mr. William Whyte, Spott, and his two sons, were disposed of without reserve. All the 52 animals sold were females, and the average overhead was £50 6s. 4d., an extraordinary figure, considering that the constituents of the sale were 14 cows at an average of £44 6s. 6d., 17 two-year-old heifers at £58 6s. 1d., 16 yearling heifers at £53 18s. 10d., and 5 heifer calves at £28 7s. Mr. Arch. Whyte, Inverquharity, Kirriemuir, sold 23 head at £45 3d.; Mr. James Whyte, Hayston, 12 head at £49 7s.; and Mr. William Whyte, Spott, the father, 17 heifers at £58 3s. 7d. The highest price of the day was 120 gs., or £120, received by Mr. James Whyte for the two-year-old heifer, Ida VI. of Lednock 28102. She went to Great Marlow, Bucks, to join the herd of Mr. Hudson, at Danesfield. The next best price was £110 5s., paid by Mr. Bainbridge, from New-

castle-on-Tyne, for a yearling heifer in the lot of Mr. Arch. Whyte. One of the Hayston cows made £106 1s., to Mr. Shaw Adamson, of Careston Castle; and a like figure (101 gs.) was paid by Mr. Kennedy, Doonholm, Ayr, for one of the two-year-old heifers from Spott. The high level of the heifers in this lot may be understood from the fact that nine two-year-olds made the fine average of £63 11s. 8d., and eight yearlings, £52 2s. 1d. The most extraordinary feature in this sale is the fact that at no time during its long, unbroken history of more than half a century has the Spott herd, of which the others are offshoots, been headed by a bull costing even as high as £50. Mr. Whyte is a first-class judge, and his sons run him hard in the same respect. Their "herd-headers" have been bought with rare skill and discrimination, as the above summary abundantly proves. At present the stock bull at Inverquharity is Melville Castle. He was bought at Perth, an undersized, poorly-milked calf, for £23. He is one

of the best breeding bulls in the breed today. Like many another good one, he was bred by Mr. Smith, Powrie, Dundee, from whose herd a draft was sold on the previous day. The 16 head, which were all females except one bull calf, made an average of £29 1s. 5d. On the same day 38 head were sold from Mr. McIntosh's herd, at Balquharn, at an average of £21 16s. 7d.; and nine head—cows and heifers only—were sold from the Careston Castle herd of Mr. Shaw Adamson, at £28 14s. Similarly, eight head from the Earl of Airle's herd, at Cortachy, made £28 7s.; and nine from one of the oldest and best herds in Scotland, that of Mr. Patrick Chalmers, of Aldbar,

made £30 11s. 4d. The sale on the day following that at Hatton of Eassie was held at Tochnial, in Banffshire, when very good trade was again experienced.

Contemporaneously with these sales of black cattle, there has been a considerable number of sales of Shorthorns in the north of England, but the averages have been much tamer than those quoted. Forty-one cows and heifers at a sale held by Lord Brougham and Vaux, at Brougham Hall, near Penrith, drew an average of £30 19s. 9d., and 11 bulls made £49 8s. 11d. There was a good attendance at this sale, and several animals were bought for His Majesty the King. The next sale in the same district did not turn out so well. The average for 48 cows and heifers was only £23 12s., and twelve bulls averaged but £16 6s. 6d. These were nearly all cattle of Booth breeding, with perhaps an occasional dash of Bates blood entering into the composition of some of them. A much more significant sale still was held a week later at Underley, which used to be the home of one of the greatest herds of Bates cattle in the world. Fifty-five head of the stock sold, not now pure Bates, but mixed with almost everything in the Shorthorn way, except Scottish or Cruickshank blood, made an average of £27. There could be no more eloquent testimony to the changed conditions of cattle-breeding in this country than these figures; and while sympathy must be felt for breeders reared in particular schools, who cannot abandon the prejudices of a lifetime, the evidence is conclusive that without the thick-fleshed, stout, short-legged cattle from the north, it is not now possible to breed Shorthorns profitably. Men will have to abandon these predilections, and then they will be more prosperous financially than they are ever likely to become by adhering to an exploded cult.

This lesson has also been taught at the great Border Leicester ram sales at Kelso. Formerly these sales were characterized by the undisputed dominance of the rams bred and exposed by Lord Polwarth. The best pedigree for a Border Leicester tup was simply: sire a Polwarth ram. Two years ago there came a change; the tups sent in by His Lordship did not take the market and suffered a severe drop. Last year they made a recovery, but this year, in place of the wonted supremacy—Polwarth first and the rest nowhere—it was a case of singing "We're a' John Tamson's Bairns." The highest average was made by a Forfarshire breeder, Mr. David Hume, Barrewell, Brechin, whose ten made the respectable average of £30 13s.; and the next best was the Messrs. Smith's lot of 24, from Leaston, in E. Lothian. Their average was £25 6s. 8d., and they sold one ram at £122. Lord Polwarth's average for 32 was £15 18s. 8d., a fall of £12 as compared with the price made last year. Various

reasons have been advanced to account for this drop in public estimation of a flock which held undisputed supremacy for a long series of years. Perhaps the most reliable is that the Mertoun (Lord Polwarth's) rams have been bred too long in one particular way. His Lordship never buys a ram or a ewe, and the flock is thus always recruited from within itself. It is doubtful if this can be done indefinitely, and although it used to be thought that Lord Polwarth had solved the problem, it is proved now that he has not. An eminent firm of breeders of Blackface sheep, with a much larger flock to draw upon than Lord Polwarth, carried on this policy with much success for a long time. At length this breed began to decay. There was not the same demand for this class of sheep, and it was recognized by those responsible that the plan of keeping the tribe self-contained had gone far enough. They, therefore, openly purchased sires in the best markets, and this year they have a good trade with the produce of these in-bought sires. Therefore, alike with cattle and with sheep, the lesson is being taught, and that in the hard school of experience, that line-breeding can only be followed within certain limits, and outside of these the results may be disastrous.

Great activity prevails amongst those who are in favor of repealing the law prohibiting the importation of Canadian store cattle, and meetings have been held in Perth and elsewhere in support of this movement. A conference is to be held in Edinburgh on the 9th of October, with the President of the Board of Agriculture, Mr. Hanbury, when he will be urged to undertake the repeal of the statute which makes slaughter at the ports compulsory. Certainly the zeal of those who are carrying on the agitation deserves success, but it may be doubted whether that will come. "SCOTLAND YET."
Sept. 28th, 1901.

Supports Koch's Position.

The Times correspondent, writing from Berlin, says: The Berliner Klinische Wochenschrift publishes an interesting paper by Professor Baumgarten, of Tubingen, in support of the theory that bovine tuberculosis is not transmissible to human beings. Professor Baumgarten, who shares with Professor Koch the honor of having discovered the tuberculosis bacillus, and who has made a special study of the disease, describes a series of experiments made by a Dr. Rotikansky some twenty years ago. Dr. Rotikansky, who was working in a hospital of which Professor Baumgarten was surgeon, had charge of patients who were suffering from incurable tumors, and whose deaths were only a matter of time. He hit upon the idea that, as cancer and tuberculosis seemed at that time to be mutually exclusive diseases, it might be possible to cure his patients by inoculating them with tuberculosis germs. He proceeded to make the experiment, using large quantities of bacilli from tuberculous cattle. No results, however, were obtained, and



BLOOMING HEATHER 2ND

Sire Imp. Blue Ribbon = 17085 =; dam Heather Blossom = 26500 =, from Imp. Charlotte by Gravesend. Shorthorn heifer calf to be sold at the dispersion of the herd of A. & D. Brown, Jona, Ont., November 12th, 1901.

none of the patients became infected with the disease, although some of them survived the experiment for several months.

Professor Baumgarten regards this as positive proof that bovine tuberculosis is not transmissible to human beings. He does not, however, follow Professor Koch in holding that the two diseases are essentially different, but believes that the tuberculosis bacilli suffer modifications in the bodies which they inhabit, and that these modifications are different in human beings and in the various animals. Bacilli which have accommodated themselves to the organisms of the lower animals become comparatively innocuous to man. He does not regard tuberculosis in cattle as constituting a great danger to human health, but does not think it would be wise to do away with the precautions which are now taken to prevent the spread of the disease by milk and butter.

Grain and Live Stock in Canadian Northwest.

To the Editor "Farmer's Advocate":

Viewed from the standpoint of the agriculturist, the heading of this paper gives in a nutshell the present and the future of the Canadian Northwest, exclusive of British Columbia. The extent of the vast region possessed of high adaptation in both lines of production does not appear to be even known as yet to its utmost limits. Every year the production of both is pushing toward the pole. Long years will probably elapse, even in this progressive age, before it will be fully known how far north the plowman may turn his furrows with the confident expectation of harvest, and how far toward the pole the stockman can safely winter his flocks and herds.

This means that an immense empire of virgin soil lies open to the enterprise of the settler in this land that stretches away up toward the midnight sun. The soil, or at least very much of it, is of surpassing richness. While in some places there is, in some seasons, too little rainfall for the production of maximum crops, the country is, with the exception of limited areas, sufficiently watered. In no part, probably, do those downpours occur which are so potent a factor in rainy countries in washing fertility out of the soil. When we are inclined to murmur about scant rainfall, we do well to bear in mind that there is usually associated with it the blessing of unwasted fertility. In this fact rests our reason for the amazing fertility of much of the land that is found in semi-arid regions. When this great fertility is linked with the modest rainfall of this region, the conclusion is legitimate, that for years and years it will be capable of high production, even under a system of farming that may be termed relentless and absolutely unfair to the land. With the marked fertility in the soil, with the little waste, relatively, that is caused by excessive rains, and with the moderate temperatures that characterize the entire region at the time of the ripening of the grain, this great realm of productive power will grow good crops of grain for many years.

But will it grow these forever under a system of tillage that is forever taking away and putting nothing back? I met an old Scotchman at Qu'Appelle. His view on this question was, that the men who advocated mixed farming for the country around Indian Head were giving advice that was not good. They could grow just as good crops of wheat around Indian Head as ever they could. The chief danger they had to guard against was that of getting too much straw. I did not say to the honest and successful old farmer what I will say now, viz., that so surely will the lands around Indian Head, with all their fatness, cease to produce good crops of wheat, if managed in the future as they have been in the past. I did not say this at the time, as I felt it would be no use, for when an old Scotchman gets an idea into his head, like the Quaker's balky horse at the foot of the hill, it is there. It is useless to hurl reasoning and energy against such rock-like ideas. It is a thousand pities, all the same, to destroy or even to seriously impair the productive power of such land.

Can the productive power of the grain-growing lands of the Canadian Northwest be maintained? Unquestionably they can. If asked how, I answer, by growing fewer crops of grain and more crops of grass, and by keeping more live stock. The power that lies in the grass, "*Bromus inermis*," to provide grazing is being well brought out by Mr. S. A. Bedford, the eminently successful manager of the Experimental Farm at Brandon. Should it be objected that the Northwest is not a corn country—and this objection will be expressed by every would-be American settler—I answer that Ontario became famous for its stock before it gave much attention to growing corn. If asked, "Will the farmers generally take care of the fertility of their magnificent soils?" I answer, No, not generally, until they begin to feel somewhat seriously the pinch of failing crops through a waning fertility. It is not human nature to do so. The average farmer who can reap good crops from his land through a period of successive years does not think any more about the fertility of the future than the average grasshopper thinks about where his breakfast will come from to-morrow. Should he think seriously about maintaining fertility under such conditions? That depends upon how long he expects to live, whether his son is likely to till his land or not after him, and whether or not he has any love for his country.

The system of growing two crops in succession which many farmers in the Northwest have adopted, and then summer-fallowing the land, is a great improvement over that system which crops every year. The bare fallow cleans the land, and in proportion as it does it is beneficial. It also liberates fertility and increases the power of the soil for the time being to hold moisture, but it does not bring any fertility to the land, nor does it do anything toward increasing its supply of humus. The better and the more frequently, therefore, that land is summer-fallowed, the more quickly will it wear out, unless some renovating crop accompanies the summer-fallow. Can such a renovating crop be grown? I answer, Yes, various renovating crops can be grown. Those best suited for the purpose may not be the same for all sections.

In the judgment of the writer, therefore, the question of questions with the farmers of the Northwest is how shall they maintain an equilibrium in the soil. The term equilibrium as used here is intended to apply to fertility, to humus, to moisture, and to mechanical conditions generally. The phase of this question that should first receive attention relates to humus, and the growing of Brome grass in the rotation should go far toward the solution of this question. When this crop has been cut two years and pastured one, its roots furnish humus in their decay. They prevent lands from drifting, and greatly increase their power to hold moisture. This has been admirably brought out in the experiments of Mr. A. MacKay, the Superintendent of the Government Farm at Indian Head. The crop that shall bring fertility is not so easily found; but if needed, the common pea could in the meantime be used.

The interest shown by the railroads, and also by the legislative bodies in the Canadian Northwest, in the development of the live-stock industry is indeed gratifying. A rich harvest will assuredly result from such seed-sowing. The encouragement thus given to the introduction of good sires, in a measure at least, accounts for the relatively high grade of the cattle. The farmers are also wise in growing the bacon types of pigs, since they grow the grains that will produce bacon in fine form. His Honor the Lieutenant-Governor of the Territories is giving a fine object-lesson to the people in the success which is attending his efforts in tree culture on the grounds adjacent to the Government House at Regina. The Hon. Thos. Greenway has done a work for Manitoba in live-stock lines, the influence of which will be felt for long years to come, and the work that is being done by the experiment stations is beyond praise. But before the Government will have done its whole duty to the live-stock interests of the country, it will have established one or more agricultural colleges in the Canadian Northwest. I am glad to notice that the Government of Manitoba is already moving in this question. In establishing their college, may they see to it that it will not be so completely overcrowded by university interests that its usefulness will be crippled. This has happened in too many instances on our side of the line. (PROF.) THOS. SHAW.

St. Anthony Park, Minn.

Continuous Growth in Live Stock.

If all who keep live stock knew better the value of continuous growth in the young animals, more attention would be given to maintaining such growth. The problem is plain. Every day that a young beast makes only half growth, half the food of maintenance is lost. Every day that it makes no growth all the food of maintenance is lost. If a calf, for instance, stands still for a month after it is weaned, because the food is unsuitable, the food eaten by the calf for that month is entirely lost. If a young cattle beast makes no gain for a whole winter, as is frequently the case, no return whatever comes in from the food consumed. Boarding animals for nothing is a very poor business. The careful, thoughtful man will not do it. He will try and so feed his animals that they will continuously improve during every day that they are on his farm and have to be provided for by him. It is curious how years ago this fact was not more recognized. Since, for instance, young cattle were kept until eighteen months old, and were not much heavier at that age than they are now at less than half the age, they were kept over winter and had to be fed as a rule during that period without making much gain. This was a mistake. Somewhat similar was the mistake of keeping steers to the age of three and four years that ought to have been marketed at two years. The constant aim of the stock keeper should be to avoid to the greatest possible extent the boarding of animals for nothing.—(Minnesota Farmer.)

In reporting the score of butter at London Fair, an error was made in the 50-lb. lot, put up in tubs or boxes (creamery). The Ayton creamery scored 96½ on that lot, which gave them second place.

A Herdbook for Dairy Shorthorns.

It appears that one of the English professors has been advocating the addition to the already long list of herdbooks of another for the registry and records of dairy or deep-milking Shorthorns. Mr. Richard Stratton, of Wiltshire, a well and widely known Shorthorn breeder, and one who values highly the milking propensity in the breed, and whose herd is noted for this quality, fails to see the necessity for or the wisdom of the proposal, and tersely states his views in the following sentences in the London Live Stock Journal of recent date, from which we quote:

"I have read the letters under this heading with considerable interest, and, while attaching the highest importance to the milking properties of Shorthorns, I have no hesitation in giving my opinion against the scheme proposed by Professor Long. The objections to starting a second register for Shorthorns are, I think, much greater than the advantages to be derived from such a proposal, and I think a great fallacy underlies the idea that registration of milk yields insures continuity of milking properties. There is, of course, no doubt that 'like' tends very strongly to breed 'like,' but in Shorthorns good milking qualities depend quite as much upon the manner of rearing the females as upon their breeding, and whatever may be the milking antecedents of the parents, unless the offspring is reared to be a milker the chances are that it will not become one; it is not therefore entirely (or nearly so) a question of breeding. The objections to having two herdbooks are so obvious that I need not point them out; suffice it to say that the difficulty of obtaining really reliable milk yields must be very great, also the expense. Then, it must be remembered that milk yields depend very much on feeding, the nature of the land, etc. Then, a large yield may not necessarily be more valuable than a small one, provided the former is poor and the latter rich. The whole thing appears to me to be too complicated to be workable, and, while fully appreciating the objects of Professor Long—viz., the improvement of the milking properties of pure Shorthorns, and the demonstration of their capacity in this respect, which I contend is equal to that of non-pedigree Shorthorns—any attempt to establish another herdbook I should strongly oppose. It appears to be a common idea that a deep-milking Shorthorn is not one that will readily lay on flesh. This is entirely opposed to my experience. On the contrary, I find, generally speaking, the best milkers are the most regular breeders, last longer, and when dry lay on flesh faster than bad milkers; therefore, looked upon from any point of view, milking properties should be steadily kept in view by all Shorthorn breeders, and our agricultural societies should impress upon their judges the importance of this point."

The Breeding Sow.

As the time for the selection of breeding sows for next year's litters is now at hand, the following hints by a writer in the Farmer and Stock-breeder, of London, England, are opportune, and will commend themselves to farmers generally:

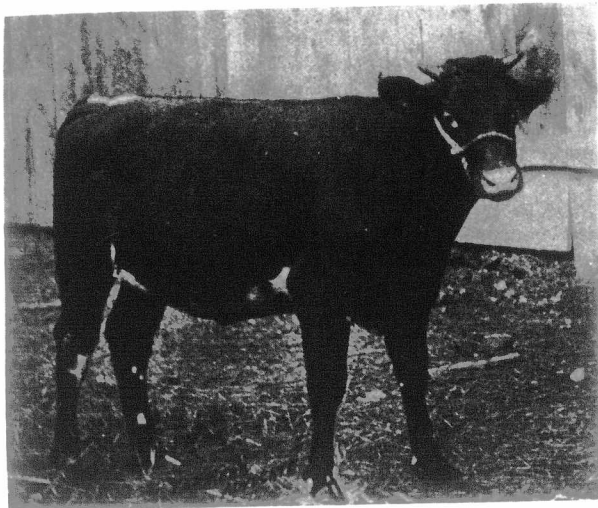
To start successfully in the breeding of pigs, care must be taken to see that the sow comes from a mother which is an easy feeder and a good nurse, and care should also be taken to see that she has not been stunted in the earlier stages of her growth for want of enough to keep her in comfort. These points are absolutely essential. What breed to work on will depend mainly on individual taste and judgment. She should not be bred from so early as to injure her own growth or the vitality of her offspring. If her first litter is fairly numerous—say, from seven to ten good pigs—and she nurses them well, that is a sow to retain as long as she is fit to breed. Such a sow, properly managed, will bear and nurse twenty pigs in a season, and pay her way with a good profit on all the skill and food she gets. If she does not keep up to her heredity, is a poor breeder, or a poor nurse, she may have another trial, and should that also prove unsatisfactory, she cannot too soon be made into pork. No matter how good she looks, she has failed in the main purpose of her existence. Heredity and selection by a man who knows at the same time how to manage his stock are the foundation principles of the work of pork-raising for profit. In a year or two, by careful management, a splendid breeding herd can be established, and all the cheaper products of the farm can by this means be readily turned into good money. Pigs are able to make much more effective use of the foods with which they are supplied than any other class of farm animals. Experiments have shown that, while the pig is capable of laying on flesh at the rate of 1 lb. for every 5 lbs. to 7 lbs. of dry food which it consumes, cattle require to eat from 10 lbs. to 12 lbs., and sometimes from 14 lbs. to 15 lbs., of dry food for every 1 lb. of increase in weight that they show.

Fall Fairs and Exhibitions.

(By G. C. Creelman, Superintendent Farmers' Institutes, Ontario.)

So many of the fairs in the Province of Ontario have dwindled down to mere horse-racing contests, that it is a pleasure to note this year that many of the best district associations are bestirring themselves in new directions.

In the Ottawa Valley district the fairs have been arranged in consecutive order. Expert judges of live stock have been appointed to go from one fair to another and judge all the live stock. Mr. J. G. Haumer, of Mt. Vernon, the noted Shropshire breeder, judges the sheep; Mr. J. E. Brethour, of Burford, the hogs; and Mr. Robert Ness, of Howick, Que., and Mr. Geo. Gray, of



MISS CAMPBELL 2ND.

Sire Imp. Blue Ribbon = 17095 =; dam Miss Campbell = 27948 =, of the Miss Syme family. Shorthorn heifer calf to be sold at the auction sale of the herd of A. & D. Brown, Iona, Ont., November 12th, 1901.

Newcastle, the horses. The appointment of such men assures careful and correct methods of judging. It is expected that this will do away with a lot of local jealousies, and as these men are prepared to give their reasons for the awards before the animals leave the ring, the educational value can hardly be estimated.

MUSKOKA FAIRS.

The Muskoka districts, which are often considered barren wastes by those who have never visited that part of the country, contain many progressive farmers. These farmers are for the most part Old Country men, who have been accustomed to handling good live stock and know a good animal when they see it. This year, at Huntsville, Utterson, Bracebridge, and Gravenhurst, they have asked for an expert judge for dairy stock and dairy products. We were fortunate in securing for them the services of Mr. J. W. Hart, Superintendent of the Kingston Dairy School, and it is not necessary to state that he has given them perfect satisfaction. In some instances the local Farmers' Institutes arranged for a meeting in the evening of the day the fair was held, and Prof. Hart gave them a talk on the dairy industry.

ORILLIA FAIR IN LINE.

We also had an application for expert judges from the directors of the Orillia Fair, as the following clipping from a local paper will show:

"Resolved in everything to be thoroughly up-to-date, the directors decided to give a trial to the new system of judging which is being inaugurated by the Ontario Department of Agriculture. They have applied to Mr. G. C. Creelman, Superintendent of Farmers' Institutes, to supply judges for the cattle, sheep and swine, who will be competent to give practical addresses upon the points which should be found in the various breeds, and he has promised to do so. The judges will also state publicly their reasons for awarding prizes. Properly carried out, this should make the usually rather dull business of judging to be one of the most interesting features of the show. It should, besides, be most instructive, and will be a step in the direction of giving greater educative value to agricultural shows. The directors are to be congratulated on their promptness in taking the matter up and so ensuring that Orillia will be one of the first places to adopt the new system. It is expected that this move will add largely to the exhibits in cattle, sheep, and swine, by adding to the interest taken in these departments."

We secured the services of Mr. D. Drummond, of Myrtle, who last year judged the Ayrshires at

New York State Fair, and was invited to do so again this year, and Mr. R. S. Stevenson, of Ancaster, who judged this year at the Toronto Exhibition and also at the Pan-American. These gentlemen went not only prepared to judge everything on its merits, but also to give their reasons for so doing.

ELMVALE FAIR.

Elmvale is a small town in East Simcoe, that has come to the conclusion that they are going to increase their attendance and improve the conditions of their fall fair, and in order to do so must adopt new methods. They, therefore, secured the services of Mr. R. S. Stevenson, of Ancaster, to judge their live stock on October 9th.

WHITBY MAKES A SPECIALTY OF POULTRY.

Situated as it is, surrounded by one of the best agricultural districts in the Province, great things are expected from the Whitby Fair, and in many features one is not disappointed. For instance, this year the judges of heavy horses were kept busy for five hours judging that class alone, so great were the number of entries in each of the sections. There is also a poultry-fattening station at Whitby, and the people of the south riding of Ontario County are taking a great interest in this business. The directors of the fair, therefore, planned and carried out a poultry demonstration at their show, of which the following report is given:

"The new idea of grafting the Institute system on the fall fairs was put into effect at Whitby, in connection with the Ontario and Durham Counties Exhibition held at Whitby. Supt. Gilbert, of the Poultry Department, Experimental Farm, Ottawa, and G. R. Cottrell, of Halton County, a member of the Farmers' Institute lecturing staff, were present for the purpose of giving addresses accompanied by practical demonstrations in connection with the poultry industry. When Messrs. Gilbert and Cottrell began their part of the programme, they found themselves with a moving-picture tent immediately on their right, the main building filled with fancywork on the left, a horse race on the right front, and a brass band within a hundred yards. Notwithstanding all these distractions, the tent in which the poultry lectures and demonstrations were given was filled to the full by people who paid the closest attention to everything that was said and done. Many ladies were present. The women of the farm evidently appreciate the fact that poultry is coming to mean for them even more than cows meant a few years ago, in the way of providing ready money for the household expenses."

HOW TO INTEREST THE BOYS AT THE FAIRS.

Mr. Barlow Cumberland, who has taken a great interest in Institute matters generally in Durham County, has this year suggested a unique method of interesting the boys in their local fair, offering prizes to boys who could properly label the greatest number of apples. The following clipping from a local paper explains the conditions:

"Hope Fair, October 1st and 2nd.—The following is a letter that has been sent to the teachers of each school in the township of Hope, and speaks for itself:

Duntain, Port Hope, Sept. 23, 1901.

"Dear Sir,—I would be much obliged if you would bring to the attention of the boys in your school the prizes for the judging of apples which will be given at our Agricultural Exhibition at Port Hope, on Wednesday, October 2nd, next. The contest is open to boys from 10 to 16 years of age, resident in the township of Hope or in Port Hope. A number of varieties of apples will be mixed together. The contestants will each come in alone, and then, in the presence of the judges, pick out the apples that they know, naming the varieties and grading the quality—Best, Good, or Poor. Marks will be given, 70 for correct naming of varieties and 30 for judging the quality. The contest will take place on October 2nd. Boys will enter their names and addresses at the Secretary's office on the grounds before 1.30 p. m., when they will be given numbered cards. There is no charge for entry. The prizes are—1st, \$3; 2nd, \$2; 3rd, \$1.

"I have given these prizes so that our boys may learn something more about apples. Boys generally know where apples are, but I want them to study the names and judge the varieties that are best for sale. I hope some of your boys will study up the subject and enter for the prizes.

Yours sincerely,
(Sgd.) Barlow Cumberland."

MILTON FAIR.

We had the pleasure of visiting the Halton County Fair, at Milton, on Friday last, and were particularly gratified with the large entry of horses. The judges were kept busy all afternoon in their several classes, and it was no unusual thing to find 15 to 25 entries in a class.

There was also an executive meeting of the local Farmers' Institute, when plans were formulated for the holding of 16 meetings during the coming fall and winter. Halton has now the largest membership in the Province, numbering 748, and they do not propose to allow this number to diminish during the coming year.

DEATH OF A VALUED LOCAL INSTITUTE WORKER.

Mr. Chas. Lawrence, Secretary West Simcoe Farmers' Institute, Secretary of the Georgian Bay Fruit Growers' Association, and President of the Great Northern Exhibition Association, was killed on Thursday last while leaving the exhibition grounds. His horse took fright at a hand organ, and he was thrown from his buggy, sustaining a fracture of the neck and skull. Death was instantaneous. Mr. Lawrence will be very much missed by the farmers of West Simcoe. He has always been active in all agricultural movements, first in the Grange, then in the Central Farmers' Institute, and ever since in his local Institute, besides being president of his local exhibition for 18 years. A good man has gone to his reward.

Care of the Fall Litter.

The fall pig, as a rule, is not as great a success in the average farmer's hands as is the spring pig. Certain essentials, such as a dry, warm pen and attention to the sow and pigs at birth, must be observed. In this connection it is important that the sow should not be fat and lazy at farrowing time, or her pigs will be laid upon. A help to prevent such an unfortunate contingency is the projecting ledge fastened to the pen walls. A piece 2 x 6 can be used for the purpose of affording a creep under which the young pigs can lie. The first few days after farrowing, the sow should be fed sparingly, or milk fever or garget will ensue, in which case she may refuse to let the pigs nurse, and they will die. Arrange so that sow and pigs can have plenty of exercise, and with plenty of skim milk, middlings or shorts, the pigs will make rapid growth. Some farmers wean at six weeks; we prefer eight weeks as the time. The important point in giving exercise to the sow and young pigs, is that by so doing that plague of the pig-breeder—thumps—will be avoided. If they get plenty of exercise, the food allowance can be all that they will take after the pigs are a week or ten days old. A box with a mixture of ashes and salt should be accessible at all times to the pigs, and a few sods as well. Keep the pigs growing right along, and don't limit their exercise until a few weeks before they are to go to the block. Kitchen refuse can be used with profit, unless highly charged with soap or lye, in which event poisoning of the pigs would be likely to ensue. A good practice to follow with the young pigs soon after birth is to break off their tusks, in order to avoid tearing of the sow's teats, in which event her udder might get sore and she would refuse to let the young pigs nurse.



COTSWOLD EWE.

First-prize two-year-old and sweepstakes at Western Fair, London, 1901.

BRED AND OWNED BY T. HARDY SHORE & SONS, GLANWORTH, ONT.

Clean Fairs Wanted.

To the Editor "Farmer's Advocate":

Sir,—The Civic Committee acknowledges receipt of the "Farmer's Advocate" of Sept. 15th and Oct. 1st, containing most valuable editorials in behalf of the clean agricultural fair. The wide-open fair is passing into history, and such valuable journals as the "Farmer's Advocate" have largely secured this desirable end.

Very respectfully,
EBEN BUMSTEAD,
Sec'y Civic Committee.

Boston, Mass., Oct. 5th, 1901.

Sheep at the Pan-American.

"It was a splendid show of sheep," is the verdict of those who had the good fortune to be present when that section of the live stock was gathered at Buffalo, from Sept. 23rd to Oct. 5th, there being catalogued about 1,200 sheep, of 16 breeds, contributed by 57 exhibitors. The quality of the entries in all breeds was first-class, and they were in nearly every instance brought out in capital condition, reflecting credit on the owners or managers and shepherds. Canadian flocks were well represented in all the breeds that are kept to any considerable extent in the country, with the exception of Cotswolds, of which, owing, it is said, to a misunderstanding between the breeders, there were none sent from this country, but the standard of that breed was well upheld by Messrs. Geo. Harding & Son, Waukesha, Wis., who showed a choice lot, including a number of imported animals that were winners at the Royal Show of England this year, and were high-class representatives in style, quality and finish.

In several of the breeds where special prizes were offered by the breed associations for American-bred animals, Canadian breeders made a particularly brilliant record, winning almost everything in sight, and this is really the most creditable feature of the show to our country and people, showing as it does the good judgment and skill of our flockmasters and the adaptability of the soil and climate of Canada for the production of the most suitable foods for sheep and the best quality of stock.

LEICESTERS made a splendid showing, every section of the class being well filled with high-class entries. The principal exhibitors were Canadian breeders, the fine flocks of A. W. Smith, Maple Lodge; J. M. Gardhouse, Highfield; A. & W. Whitelaw, Guelph, and John Kelly, Shakespeare, being out in strong force, and in the best of fit, and to these went all the prizes in the class. The tournament opened with seven magnificent rams in the ring, two years old and over, Whitelaw Bros. showing one, and the other exhibitors two each. They were all so good it was not an easy matter to decide just how they should be placed, but the judge gave preference to Smith's Simon Smart, placing Whitelaw's Sam Slick second, Gardhouse's Sultan third, and Kelly's Sir Wilfrid fourth, but the order might have been reversed without doing injustice to any one, if, indeed, it would not have been an improvement, as, without reflecting on any of the animals, we are inclined to think it would. In a capital class of yearling rams, Whitelaw Bros. got to the top with Albino 3rd, a grand sheep, which was also awarded the sweepstakes as best ram any age, but he was closely pressed by Gardhouse's entry, of similar type and splendid quality. A mistake was made in the placing of the third award, a sheep of entirely different type and no special merit being chosen, while others of strong character and of uniform type with the first were left out of the money. Kelly came to his own in the ram lamb section by being placed first with a strong, level lamb with good fleece, but he was hard pressed by Gardhouse, whose entry was of excellent type and handling quality, and promising well for the future, as well as being strong for the present. Third prize went to a level lamb of Whitelaw's string. In a great class of ewes two years and over, pride of place was given to a magnificent ewe of Smith's, combining size, style and quality in high degree. She was adjudged the sweepstakes winner as best ewe any age; the second prize in the class going to Gardhouse's entry, a ewe of beautiful type and full of good quality; and third to one of similar stamp, from the same flock. Shearling ewes were a splendid class, in which Whitelaw's entry, placed first, was pressed so hard by one of Gardhouse's that it is a question which should win; and again in ewe lambs a very close match was that between Gardhouse's entry and Kelly's, both being of fine quality and character, but the judge placed Kelly's entries first and third, and Gardhouse's second.

The flock prizes for best ram over one year and four ewes any age were awarded: first to Smith, second to Gardhouse, third to Whitelaw. In the competition for the special prizes offered by the American Leicester Breeders' Association for sheep bred by the exhibitors, those for the best ram and three ewes over two years were awarded, first to Smith, second to Gardhouse; for the best shearling ram and three shearling ewes, first to Whitelaw, second to Gardhouse; for the best four lambs, two rams and two ewes, first to Kelly, second to Whitelaw Bros. William Parkinson, Eramosa, judged the class. In a competition for a special prize for the best five rams of any breed, owned and bred by the exhibitor, Mr. A. W. Smith won second award, with a capital exhibit of five yearlings.

LINCOLNS were grandly represented by selections from the noted flocks of John T. Gibson, Ilderton, and J. H. Patrick, of the same place, whose exhibit was mainly made up of imported animals, including a number of Royal winners

recently received and washed to get rid of the Old Country coloring, which left their fleeces lacking in the luster for which the breed is famous, but they were a big, strong, useful lot, and hard to beat in any country. Mr. Gibson's outfit, bred by himself, from his own importations, fitted to perfection without being overdone, and true to type, came out very fresh looking, and their handling qualities left nothing to be desired. The contest was close in nearly every section, Gibson winning first and third for ram two years or over; first, second and third for ewes two years and over, first and second for shearling ewes, the sweepstakes for best ewe any age, and the first prize for best flock of one ram and four ewes. Patrick had the first, second and third prize yearling rams, and first and second ram lambs and ewe lambs, and the sweepstakes ram, in his first-prize yearling. The first special prize, by the Lincoln Breeders' Association, for best flock bred by exhibitor, went to Gibson, second to Patrick, sweepstakes for ram to Patrick, and for ewe to Gibson. J. M. Gardhouse, T. Hardy Shore and Wm. Parkinson were the judges.

SHROPSHIRE.—Seldom if ever in America has a better showing of Shropshires been made. The competition lay principally between the flocks of John Campbell, Woodville, and D. G. & J. G. Hamner, Burford, representing Canadian breeders, and Dr. G. Howard Davison, Millbrook, N. Y., representing United States breeders, and who, having a show string made up mainly of imported sheep, brought out this year, and in high-class condition, made it decidedly interesting for all comers, getting rather the best of it in the regular sections of the class, capturing first prizes for shearling ram, two-year-old ewe and yearling ewe, sweepstakes for his imported yearling ram (Altamont's Khedive), sweepstakes for his two-year-old ewe (Buttar Fall), and the first open flock prize. John Campbell made a remarkable record with sheep of his own breeding and fitting, in the competition for the prizes offered by the Shropshire Association, winning first for the best five shearling rams in the American-bred class, first for the same open to all Shropshires, in which he competed with a pen of rams mostly imported and including the sweepstakes ram and the first and second prize yearling rams in the Exposition class. Mr. Campbell's same pen of rams later, in a special competition for the best five rams, bred and owned by exhibitor, open to all breeds, carried off the coveted trophy, all of his rams being sons or grandsons of his noted imported Newton Lord. Again, in the class for American-bred Shropshires, he won the first prize in every section, except for shearling ewe, and also won the sweepstakes for best ram, and first for senior flock of one ram and four ewes. Hamner & Son put up a very strong show, winning first in the section for two-year-old rams with their excellent (imported) Mansell-bred ram that was first at Toronto, first with the extra good Harding-bred ram lamb imported by Robert Miller and shown by him at Toronto, where he was also first; first and second for ewe lamb, first for American-bred shearling ewe, and second for open flock and American-bred ram lamb, and first for young flock, one ram lamb and three ewe lambs. In the competition for five shearling rams, bred by exhibitor, R. Gibson, Delaware, won second award, and G. B. Phin, Hespeler, won second special for ram lamb bred by exhibitor, and also for five lambs, and third for young flock, one ram and three ewe lambs. The judges in this and the Southdown class were W. H. Beattie, Wilton Grove, Ont., and John L. Thompson, Gas City, Indiana, who did excellent work all through, keeping close to a type and basing their decisions uniformly on quality and character.

SOUTHDOWNS.—The symmetrical Southdowns were strongly in evidence, and made a splendid showing. The principal competitors were Geo. McKerrrow & Sons, Sussex, Wis.; Hon. G. A. Drummond, Beaconsfield, Que., and John Jackson & Sons, Abingdon, Ont., each with capital outfits of typical and well-fitted sheep. The Wisconsin flock was mainly composed of imported sheep, brought out in fine fit by the accomplished shepherd, Dan Taylor, and were a strong contingent to compete with, capturing as they did a good share of the plums of the prize list, including first for shearling ram, two-year-old ewe and shearling ewe, sweepstakes for best ewe, and the first prize for open flock, one ram and four ewes. The Quebec flock, under the skilful management of Mr. Wm. H. Gibson, made a capital showing, the sheep being notable for true type and full of quality. They were successful in winning first in the section for rams two years and over, and the sweepstakes for best ram any age, with the stylish and symmetrical Sandringham, bred by His Majesty the King, a model of the breed and a prince among his peers in an exceedingly strong section, in which the same flock also furnished the second winner in imported St. Andrew, a close competitor to the first, and one that not a few good judges would place ahead of him. He is about as perfect in type and contour as can be produced. The first-prize ram lamb

was also found in this flock, a beautiful and very complete young ram, bred by the exhibitor. The first-prize ewe lamb was also of this flock, and the second prize for flock went to the same. A notable triumph for this flock was that in the competition for a special prize for the best exhibit of sheep of any breed, one ram over two years, one shearling ram, one ram lamb, one ewe over two years, one shearling ewe and one ewe lamb, judged on the basis of the best fitting and bloom. There was a sensational display in this competition, no fewer than nine flocks, of various breeds, competing, and all in splendid condition; but when the judges decided in favor of Mr. Drummond's Southdowns there was not a word of dissent, and congratulations were showered on John McLay, the shepherd, in recognition of his skill and success in preparing his exhibit. Jackson & Son always make a strong show and bring their sheep out in the pink of condition, but they have seldom, if ever, met as formidable competition as here; nevertheless, they got a fair share of the ribbons, and were close up to the winners all the way through the class, capturing second prize on their imported shearling ram (Babraham Yorker), second and third on two-shear-ewes, second on yearling ewe, and a large share of the Association specials for sheep bred by the exhibitor.

OXFORD DOWNS.—This breed was not so well represented as to numbers as one could wish, only three breeders competing, namely, Messrs. Geo. McKerrrow & Son, Sussex, Wis.; A. Bordwell & Son, Fargo, N. Y., and J. H. Jull & Son, Mt. Vernon, Ont. McKerrrow & Son made an excellent show of imported sheep of high-class character, winning all the first prizes in the class, including the first flock prize and the sweepstakes for best ram and best ewe any age. Their aged ram and shearling rams, bred by J. T. Hobbs, were grand specimens of the breed, full of quality and character, and standing well on the best of timber.

HAMPSHIRE were well shown by F. Milton, Marshall, Mich., and John Kelly, Shakespeare, Ont., the former showing a strong lot of imported sheep, which got away with the bulk of the best prizes, including the first flock prize and sweepstakes for ram. Kelly, who showed but a few, and they right good ones, captured first for two-year-old ewe, second and third for ewe lambs, and second for flock, besides a good share of specials for American-bred animals.

DORSETS made a magnificent showing, probably the best ever seen in America, the entries in all sections being typical of the breed and brought out in splendid condition, the exhibitors being John A. McGillivray, Uxbridge; M. N. Empey, Napanee, and R. H. Harding, Thorndale, all of Ontario, and J. R. Stuyvesant, of Tranquility Farms, Allamuchy, N. J., whose sheep, mostly imported, and fed and fitted to perfection by the capable and cultured young shepherd, Arthur Danks, were successful in the open Exposition class in winning the first prizes in every section but one, the sweepstakes for best ram any age and the first flock prize. Each of the Canadians showed strong and creditable entries throughout the class, and contested closely for the coveted honors.

Mr. McGillivray had the first-prize aged ewe, who was also the sweepstakes female, and to an onlooker it appeared that he might well have had first for his aged ram, which would have given him a fighting chance for sweepstakes, without injustice to any one, as he is a grand sheep, combining size and quality in high degree, and standing well on the best of feet and legs. The Uxbridge flock won, besides the second for aged ram, the second prizes for yearling ewe and flock, and a very large proportion of the first prizes in the competition for the Breeders' Association offerings for sheep bred by the exhibitor. It was, indeed, in this class that the Canadian exhibitors excelled, winning nearly all the prizes offered.

Harding had the second-prize aged ewe in the open class, in his excellent imported Attrill's I., and was placed third for flock, besides securing high commendation ribbons in several sections of that class, and a good share of the cash prizes in the breeders' classes. Empey showed a capital lot of young things, crowding the winners closely in many sections, and securing third for ram lamb in the open class, besides a goodly number of substantial first and second prizes in the competition for the Association specials for American-bred sheep, his winnings in all totalling over \$100.

MERINOS in their different divisions, Rambouillets, Delaine and Vermont made a very strong exhibit in each, showing much improvement and being typical of the various classes, but there being no Canadian exhibitors, and little interest taken in these by the majority of our readers, we refrain from giving an extended report of them. An exhibit by L. D. Rumsey, Lewiston, N. Y., of Highland Blackfaced sheep attracted a good deal of attention and were much admired; and a very nice exhibit of Cheviots was made by Wm. Curry & Son, Hartwick, N. Y., and E. E. Dawley, Fayetteville, N. Y.

Stock Judging Competitions.

Speaking of stock-judging competitions, and the offering of a substantial special championship prize at the International Live Stock Exposition, Chicago, the donor has this to say about such contests generally: "It has been proved that even those not naturally gifted with a sense of animal excellence can, by diligent study, acquire an understanding of form and quality, while those who possess an innate sense of comparison of animal outlines will be rapidly equipped by such instruction as the colleges (agricultural) are now giving in judging for close discrimination in the selection of the best types of the different breeds. Certainly all thoughtful breeders of pedigreed live stock are vitally interested in raising up an army of young men who are not only able to purchase stock for their own farms intelligently, but who will be trained of eye and hand to go about the important work of awarding prizes at live-stock exhibitions. The dearth of men trained to do this duty is striking. Mere age does not qualify. Long life on the farm does not fit for this duty. The handling of farm stock is only an aid to an education in this line. A fundamental understanding of the excellencies after which breeders earnestly seek is necessary, and an up-to-date acquaintance with the types that command popular favor is demanded. These may be acquired by education, by study, by practice." We commend these words to those who doubt the usefulness of an agricultural college, of a stock-judging institute or a stock-judging contest. The great hindrance to live-stock improvement is not poor buildings, lack of money on the farmer's part, high transportation rates, difficulty of getting first-class stock; but apathy! The farmer needs, in the matter of live stock, a general stimulation of enthusiasm, which can best come through the avenue mentioned above.

Quarantine Reform.

The following cable despatch from Berlin, Germany, to the American papers, recalls attention to suggested shortening of the present vexatious 90-day Canadian cattle quarantine, the outrageous condition of which at various times in the past has been more than exposed in the "Farmer's Advocate." It has done a vast deal of harm to the animals in passing through it, owing to its filthy condition, and served as a constant hindrance to the importation of greatly-needed pure-bred stock. The despatch is as follows:

"Dr. Koch, the eminent specialist who recently upset all consumption theories, is about to fight for a new reform. Under the leadership of Frank W. Foxworthy, an American army surgeon, Dr. Koch will try to bring about a complete change in the quarantine systems of the world. Other physicians who will lend their patronage to the scheme are Drs. Virchow, Pasteur, Treves, Woodhead and other leaders of the medical world in Europe and America. Mr. Foxworthy will sail for the United States in October, after a consultation on the subject of the congress with the eminent men already named. The congress will attempt to formulate a uniform code of quarantine laws which shall be recognizable as the standard the world over. Dr. Foxworthy will seek to secure the approval of the project by the United States Government, and to induce it to invite the participation of foreign nations. He thus speaks: The quarantine systems of the world are chaotic and contradictory. Their inconsistencies are so glaring that Dr. Koch asserts that they might as well be abolished altogether. The rigor shown in one place is discounted by the laxity shown in another, and not infrequently the one exists where the other belongs. Commerce and the convenience of travelers, as well as the demands of the public health, call aloud for quarantine reform. The ruthless destruction of valuable cattle and the time-killing indignities suffered by tourists in many of the chief ports of the world are too dear a price to pay for the continuance of unreasonable and unsystematic quarantine regulations."

Care for the Milking Cows.

Now that frosty nights have come, there will be economy in stabling the milking cows at night to avoid the shrinkage of milk that surely comes with exposure to the chilly night air at this season. Now that the flies have received their quietus, show stock and calves that have been kept in the stable during the hot summer days may be turned out by day for exercise and to get some green grass to mix with the dry rations received in the stable at night. This will tend to cool their blood and keep their legs right.

HORSES.

Weaning Colts.

The time has now arrived when the majority of foals, having arrived at the age of four or five months, will be weaned. The usual custom is to separate the dam and foal completely and permanently at once. This I consider is irrational, and injurious to both. We know that sudden changes of diet and usage are not advisable in animals of any age; much less, then, are they in young animals. It is better to make such changes gradually. When it is decided to wean a foal, it should be placed in a nice box stall, or if the weather be fine, in a small paddock. Whichever place be selected, it should be seen to that the walls, doors or fences and gates are such that the little animal can not injure himself in his endeavors to get out, as he certainly will endeavor to in order to reach the dam. It is good practice, when practicable, to remove the dam to some safe place, out of sight and hearing of the foal. Allow the dam and foal to get together (leading the dam to the foal, in preference to taking the foal to the dam) for a few minutes three times daily for say a week; then twice daily for a week; then once daily for the third week. After that, especially if the dam be secreting considerable milk, once every second day for a time. This practice removes the probable in-

jury into the barnyard or paddock every fine day. I have known farmers to turn their colts out and leave them out all day and every day during the winter, without shelter, whether the weather was mild or otherwise, claiming that such usage made them tough and hardy and made better horses of them. Such usage certainly does make them tough, as far as looks are concerned, but just as certainly destroys the spirit and constitution of the poor creatures.

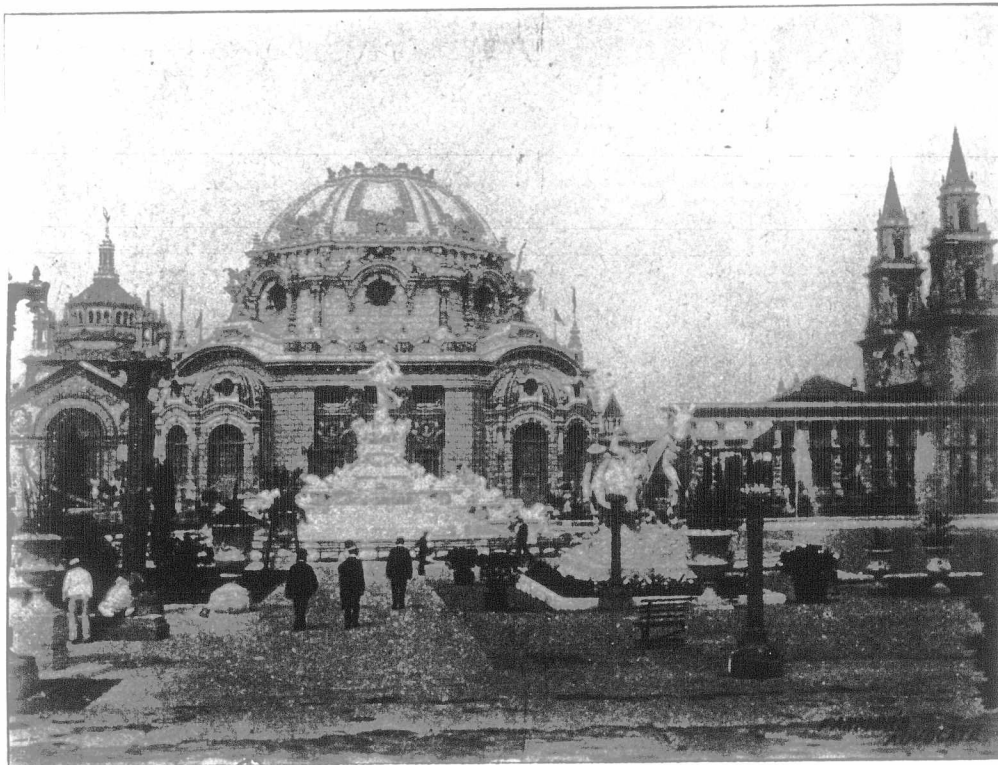
I consider well-saved clover hay the best for these young things, and it should be given in just such quantities as will be eaten without waste. As to grain, I think chopped oats preferable to whole; at least, give chop night and morning, and for a variety, whole grain at noon. It is good practice to place the morning meal in a vessel the night before, and pour sufficient boiling water upon it to cover it; then place a cover on the vessel, to retain the steam and heat. In the morning this will be a soft mash, of which the colt becomes very fond, and it is easily assimilated. The evening meal can be prepared in a like manner, in the morning, and, as before stated, whole oats, with say a carrot, or two if small, to be given at midday. As to the quantity of chop to be fed, this will, of course, depend upon the breed and size of the colt, but I consider there is little or no danger of overfeeding if regular exercise be allowed. But, of course, with foals, as with all animals, more food should not be given at a meal than will be eaten. It is not good practice to keep food constantly before any animal. In such cases he never becomes really hungry, and hence never thoroughly enjoys his meal. Variety of food, such as a little linseed meal occasionally, and a

feed of bran say twice weekly, instead of the chop, is enjoyed, and it is good practice to give them; but I do not consider it wise to feed young animals corn, wheat, peas or barley. In fact, oats should be the only grain given regularly. It is good practice to handle the colt, teach him to lead, to stand tied; put a little bridle on him to get him accustomed to the bit, etc. All this takes little time, and its benefit will readily be noticed when the time comes that the colt is required to drive or work. Look well to the little fellow's feet; the feet grow very rapidly, and are apt to grow out of shape, especially if the stall be not regularly cleaned out, as is often the case. Still, it should not be. With a blacksmith's foot knife and rasp, pare and rasp the feet down to the natural shape at least once every month. Keep the heels well rasped down and do not allow the toes to grow too long. The cause of weak and defective feet in many horses can be traced to neglect or carelessness on the part of the attendant during colthood. I have said nothing about water. It is better if the animals can have access to good clear water at will; but if this be not expedient, they should be watered at least three times daily.

"WHIP."

Treatment of Brood Mares.

Too much kindness is responsible for almost as much trouble among brood mares as is actual neglect. As all horse owners of experience are aware, there is a much lower percentage of losses among mares which are kept at work right up to the date of foaling than there is among mares which are specially kept for breeding purposes and never put to work from one end of the season to the other. There is work and work, of course, and, as everyone knows, there are certain classes of work to which it would be injudicious to put a mare that is heavy in foal; but experience shows that even when in that condition mares are capable of withstanding quite a deal of knocking about. An excellent illustration of what they can endure in that condition is given by a writer in one of our contemporaries. Some years ago this gentleman bought a mare which he thought to be a maiden, and hunted her severely right through the season, only to find that in the spring time she produced a vigorous and healthy foal. Acting upon the lesson taught by this experience, the same gentleman subsequently hunted several in-foal mares, and though some of them had violent falls in the hunting field, he had never known the least injury to result therefrom, and he never had a loss at foaling time. While this may be safe treatment, and indeed it has proved so, the severe exercise should not be brought on suddenly when the mare is forward in foal after a period of comparative idle-



TEMPLE OF MUSIC, PAN-AMERICAN EXPOSITION.
The building in which President McKinley was assassinated.

jurious effects of a too sudden change in diet for the colt, and also to a very great extent obviates the danger of mammitis in the dam, besides removing the necessity of milking by hand in order to avoid danger. The secretion of milk is not suddenly suspended in the dam when she is removed from her foal, and we all know that if some means be not taken to relieve the mammary gland of its normal secretion, inflammation will be the result; and as such is the case, is it not better that the foal should receive the benefit of it than that it should be wasted? By treating as suggested, not only does the colt receive the benefit, but the functions of the gland become gradually suspended in what might be called a normal manner, and both dam and foal gradually become accustomed to do without each other's company, and the latter to subsist without depending upon the nourishment it has hitherto received. It, of course, is understood that the colt has been taught to eat oats or chop before weaning operations are commenced. When weaning is commenced, the little fellow should be fed liberally. This is a very important period in the life of the young animal, and if allowed to fail in condition now it is a very hard matter to make him up again, and in some cases, where a colt is neglected or poorly fed during the first winter, it appears to stunt him for life, and he will never make as valuable an animal as he would have been had he been well cared for the first year. During and after weaning, a colt should have all the good, clean, easily-digested food he will eat, it being always understood that he gets a fair amount of exercise. It is better he should have a nice roomy, well-ventilated and well-bedded box stall, and should be turned out

ness. Any sudden changes of diet or conditions are dangerous, and should be avoided, but the regular performance of daily toil or regular work, so long as the mare's physical strength does not suffer, conduces to the welfare of the natural functions. The writer knew a race mare well that changed hands, and was pregnant without the purchaser's knowledge. She was raced severely during several months, and as she commenced to show "heavy," which was naturally accompanied with an increased appetite, the mare was muzzled daily to prevent her eating her bedding. Later, unmistakable evidence of pregnancy led her owner to take her from the track, but she was jugged up till foaling time, and produced a strong foal as active as need be, and it grew up to be a good horse. The condition of maternity in any domestic animals demands for a strong issue that the mother be treated in a natural manner, rather than pampered, so that it is wise to keep the in-foal mares at work during the fall and winter months, and at the same time keeping up their condition with liberal, nutritious and moderately succulent food until near the foaling time.

Feeding Farm Horses.

Following is a summary of the results of a series of experiments, covering two years' time, conducted under direction of Chas. W. Burkett, Agriculturist at the New Hampshire State Agricultural College:

1. More working units of horse power are needed for the improvement of our soil.
2. Pure-bred sires of coach and draft breeds are necessary for the improvement of the farm-horse stock of the State.
3. Various kinds of foodstuffs can be used to advantage and with economy in feeding horses.
4. There is no so-called "one ration for horses."
5. Any foodstuff or combination of foodstuffs furnishing the desirable nutriment at least cost should be considered in preparing rations for horses.
6. A mixture of bran and corn, half and half, is a good substitute for corn and oats for feeding work horses.
7. Corn stover is a good substitute for timothy hay for winter feeding of horses, because of its feeding value, the yield per acre, and commercial value.
8. A change from a grain mixture, consisting partially of linseed-oil meal, slowly or abruptly, does not cause a decrease in weight in horses if a proper substitute ration is fed.
9. Feed influences the quantity of water drunk by work horses.
10. Labor influences also the quantity of water drunk by work horses.
11. The individuality of the horse has greatest effect on quantity of water drunk.
12. The quantity of water drunk by the five college-farm horses varied from 25,895 pounds per year to 32,997 pounds.
13. The average total cost per year for actual food supply per horse was \$74.32.
14. The average cost for feed per hour's work done during two years was 3.4 cents.

FARM.

A Farmers' Institute Library.

Owing to thrifty management, successful excursions to the O. A. C. and other points, and the Government aid received, many Ontario Farmers' Institutes have accumulated surpluses after meeting all their ordinary expenses. Out of these funds some of them are now beginning to encourage useful features at the local fall exhibitions, and most of them have rendered valuable service to their respective districts by encouraging the circulation of good agricultural periodicals like the "Farmer's Advocate." The North Bruce Farmers' Institute has gone a step further in promoting useful reading by the purchase of an excellent agricultural library, in the procuring of which the "Advocate" was enabled to render them some assistance. This library will, we presume, be in charge of the Secretary or some one centrally located and specially designated for the purpose. While the number of books chosen from lists which we were able to furnish, together with those suggested by Prof. Reynolds' excellent leaflet on the subject, was not large, it is fairly comprehensive, and can readily be added to from time to time. As the library should be made as generally beneficial and interesting to the community as possible, we would suggest the propriety of adding a few volumes of more special value to the wives and daughters of the locality, such as works on various phases of domestic economy or home life. It is a most hopeful sign that the intelligent farmers of North Bruce should lead in a movement of this character, and it speaks hopefully for the agricultural future of that part of the country. It is a movement of a self-helpful character, based on the diffusion of useful knowledge—the safest of foundations. We hope to see the idea very generally adopted. Many so-called Mechanics' Institute

libraries have been established in villages and small towns, to which farmers and their families have access, but we regret to say that a good many of them are selected without much regard to literary merit or general excellence, and are filled with fiction of a very trashy character, the promiscuous and exclusive reading of which tends to impair the mental faculties and gives no good return for the time spent. It becomes simply a form of mental dissipation, which affords the reader no aid or benefit whatever in the business of life. If people would only make the trial, they would soon find that many volumes of a really useful character are quite as fascinating in their nature as works of fiction. It is very largely a matter of cultivation, and our North Bruce friends are on the right track. Their initial list of books is as follows:

Agriculture (three volumes).....	Storer.
Fertility of Land.....	Roberts.
Soil.....	King.
First Principles of Agriculture.....	Vorhies.
Agriculture.....	James.
Chemistry of the Farm.....	Warrington.
How the Farm Pays.....	Henderson.
Soiling, Ensilage, etc.....	Peer.
Horse Breeding.....	Saunders.
Light Horses.....	Vinton Series.
Heavy Horses.....	" "
Sheep.....	" "
Cattle.....	" "
Pigs.....	" "
Feeds and Feeding.....	Henry.
Cattle Breeding.....	Warfield.
Shepherd's Manual.....	Stewart.
Harris on the Pig.....	Harris.
Study of the Breeds.....	Shaw.
Veterinary Elements.....	Hopkins.
Farmer's Veterinary Adviser.....	Law.
American Dairying.....	Gurler.
Milk and Its Products.....	Wing.
Modern Dairy Practice.....	Grottenfelt.
Practical Poultry-keeping.....	Wright.
Poultry Manual.....	Tilson.
A B C of Beekeeping.....	Root.
Manual of Apiculture.....	Cook.
Vegetable Gardening.....	Green.
Flowers and How to Grow Them.....	Rexford.
Principles of Fruit Growing.....	Bailey.
Bush Fruits.....	Card.
Spraying for Profit.....	Weed.
Hedges, Wind-breaks, etc.....	Powell.
Plum Culture.....	Wright.
How to Make the Garden Pay.....	Greener.
Pruning Book.....	Bailey.
Bulbs, etc.....	Allan.
Landscape Gardening.....	Maynard.
Story of the Plants.....	Allan.
Insects.....	Saunders.
Diseases of Horses.....	McIntosh.
Land Draining.....	Miles.
Book on Silage.....	Wool.
Barn Building.....	Saunders.
Weeds.....	Shaw.
Fences, Gates, etc.....	Waugh.
Winter Care of Horses.....	Terry.
History of Shorthorn Cattle.....	Saunders.
Dairy Calf.....	Hardin.
Biggle's Cow Book.....	Biggle.
Poultry-keeping as an Industry, etc.....	Brown.
Success with Poultry.....	Rankin.
Rankin's Duck Culture.....	Rankin.
Injurious Insects.....	Smith.
Birds that Hunt and are Hunted.....	" "
Moths and Butterflies.....	Dickerson.

[NOTE.—Having selected their list of books, the Institute Executive ordered them through this office.—Ed.]

Battling with Bindweed.

To the Editor "Farmer's Advocate":

Sir,—Permit me to give my experience with bindweed. On one patch in a pasture field I salted the cattle, using about a gallon to the square rod the first time, and repeating it with a smaller quantity every time the weed made its appearance, about five times in all. This was in 1900. Last June the bindweed came up again, but only about half as thick, so I repeated the salt and used the spade on each plant when it showed up. After the first of August there were still some roots left, but at this date, Sept. 30, I do not see any, although I shall keep an eye on it for some time to come.

The second patch was in mangels last year, and I hoed it six or eight times and pulled the mangels on the patch early, so as to see if the weeds came up. The field was plowed about the 25th of October, when I did not see any of the roots. In the spring it was sown to barley, and in June up comes my old enemy again. I am thinking of making a manure pile on that spot and trying to rot it out. Another patch I treated with a coat of straw and fired it, then plowed in fall and sowed to oats in spring. I believe it came up thicker than ever. Next year I am going to try turnips on it.

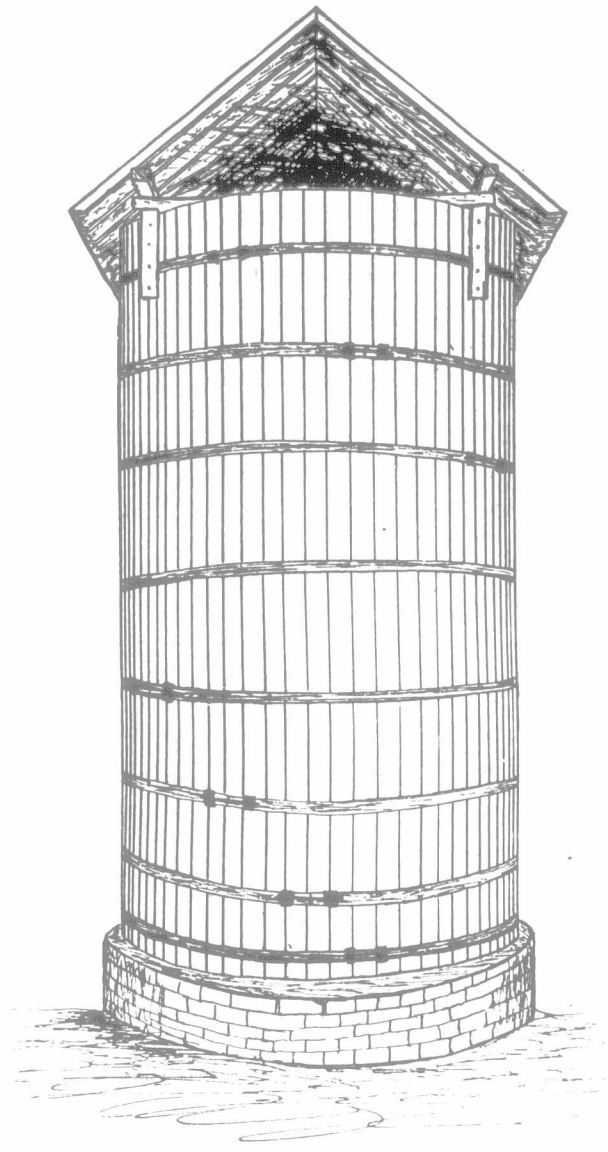
Now for the other side. A couple of small patches were cut in June with a thistle spud, and were weakened by dry weather and a heavy crop of oats, followed by a heavy crop of wheat. I could not find them in the wheat stubble. Another small patch was in peas in '99, and was cut with the spud in June. After harvest the pea stubble was gang-plowed, given a heavy coat of manure, then plowed and sown to wheat, which was an extra heavy crop. The wheat stubble was gang-plowed as soon after harvest as possible, and left till about the 1st of October, when it was plowed. This piece was in roots this year, and only a couple of plants showed up, and were promptly hit with a hoe. In conclusion, I would say that any crop with a heavy leaf growth is to be preferred to one with fewer

leaves, as it tends to smother the plants out; also that half-way measures will only aggravate the matter. I am also sorry to say that this weed has got a strong foothold in this section amongst the ignorant as well as among the "know-it-all" class. G. A. SMITH. Waterloo Co., Ont.

Roofing the Silo.

While a roof is not an actual necessity for even an outdoor silo, it gives a more finished appearance and adds to the comfort of the feeder. A single-sided roof made of boards resting on plank set on edge and graded to throw off the rain that falls upon it may be made to answer the purpose.

For silos that are located quite near to the stable, a roof may be made as shown in Bulletin No. 167 of the Cornell University Experiment Station; that is to say, it may be made as follows: Four scantlings suitably placed on the outside of the silo may be bolted to the staves of the same. They should extend downward some distance from the top of the silo and upward some distance above it. The pair nearest to the stable should be higher than the outer pair. Other scantlings to serve as plates or supports to the roof are then spiked across the top of each pair of uprights. A third support in the same line of ascent is then fastened to the side of the stable. Over these supports a roof of boards is constructed, the cracks of which are battened.



EXTERIOR VIEW OF STAVE SILO WITH ROOF OF SIMPLE CONSTRUCTION.

Disposing of Inferior Pea Straw.

To the Editor "Farmer's Advocate":

I notice in your issue of October 1st, an enquiry by "Subscriber," Simcoe Co., re plowing-in dry pea straw. Now, I have had some experience in this line, and it might be of value to "Subscriber" or someone else. We put a coat of dry straw on pea stubble which we were manuring for fall wheat (being short of manure). But instead of plowing in the straw, we burned it and plowed in the ashes, and from the time the wheat came up until it was harvested, it was plain to be seen where the ashes were plowed in, the wheat being stronger than where it had a good coat of barnyard manure. Of course, the burned straw does not have the lasting effect upon the soil which a good coat of manure does, but it pays well for the trouble of putting on, besides getting the straw out of the way if one has no other use for it. W. N. C. Huron Co., Ont.

Halter Pulling.

Buckle or tie a long halter-strap around the horse's fore leg just above the knee, pass strap through one ring of the bridle and tie the other end to hitching-post. I have never seen a horse that would pull more than once when thus tied. After a time they may with safety be hitched in the ordinary way.

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Agricultural Education and the Colleges.

Considerable attention is just now being given to agricultural educational matters. Apart from the question being one of the greatest importance, the Agricultural College Commission appointed by the Manitoba Government is now studying the matter in all its phases, and consequently this is the time for the farmers to push forward their claims for higher agricultural education. The following article from the able pen of the Rev. Henry Wallace, of Iowa, will be read with interest:

"If agriculture in the Western States is to be permanently successful, if the prairies are to furnish food for the hungry nations to the extent manifestly intended by their Creator, two things are essential. First, that the sons and daughters of their present owners and occupiers have an education along agricultural lines that will enable them to farm with the highest possible measure of intelligence and the greatest measure of profit; and second, that the experiment stations, usually in connection with agricultural colleges, have the means and the will to discover the unknown and verify the correctness of present apparently proven knowledge by far more extensive experimentation than has yet been done. The experiment stations aim to discover the unknown and verify that which is supposed to be known. The colleges teach the known.

"The Government has dealt liberally with the farmer. By the Morrill law enacted nearly thirty years ago, vast tracts of land were given as an endowment to colleges, the proceeds to be devoted to instruction 'in agriculture, and the mechanic arts and the sciences relating thereto.' Subsequent legislation has added to this endowment at the rate of from \$15,000 to \$25,000 per year for each college, besides a donation to the experiment stations of each State of \$15,000 a year. Unfortunately, the land endowment was frittered away by most of the Eastern States and some of the Western, and what remained largely perverted from the purpose intended by Mr. Morrill, whose foresight gave the farmers this magnificent grant. The administration of it fell largely into the hands of men with no knowledge of agriculture and no sympathy with it, who spelled 'the sciences relating thereto' in large capitals, the 'mechanic arts' in small letters, and 'agriculture' in the smallest type in the office. In other words, they aimed to make the agricultural colleges duplicates of the universities and normal schools, and to graduate doctors, lawyers and preachers instead of farmers.

"In those early days the farmers themselves did not feel the need of an agricultural education; often, in fact, scoffed at it and trampled under their feet the pearls which Mr. Morrill had sown so liberally about them. Naturally, the earlier graduates of these colleges, who had been fitted through them for other professions, became members of the board of trustees or regents, and, with quite a few notable exceptions, aimed in their shaping of the course of the colleges to make additional sheepskins or diplomas more valuable in their own estimation by making the colleges less agricultural and more literary or scientific. In some cases presidents were elected whose education, tastes and habits were as far removed from agriculture as possible, and not being broad enough intellectually to comprehend the necessity of agricultural education in great agricultural States, are still striving to maintain only enough agricultural education to retain the control of agricultural funds to teach something else.

"What is needed in the West is not more doctors, lawyers, preachers, school teachers or professors, but more educated farmers' sons, who, familiar by long practice with plowing, for example, will have an opportunity to learn why they plow and under what circumstances they should plow deep or shallow, early or late, and how they can best control the moisture which the Lord gives them; an opportunity to study the laws of the soil, the laws of growth in the plant and animal, the feeding values of different grains and grasses, and balanced rations, and thus become acquainted with the seen and unseen tools and raw materials with which they are to work in harmony with nature. Farming in the future, as land costs more dollars from year to year, must be done with more 'brains, sir,' from year to year, and any attempt to make the agricultural college, the farmer's heritage, or what little remains of it, a duplicate of the university and normal school is in one sense foolishness and in another sense robbery.

"How is the perversion of these college funds to be stopped? Simply by seeing that the trustees or regents, or whatever they may be called, elected by the legislatures to manage them, are in hearty sympathy with agriculture and elected because they have the good of agriculture at heart and not because they have been efficient henchmen for some successful seeker after office, or happen to be a little too big for a squire and not big enough for a member of the legislature. Kansas is not alone in the tendency to belittle agriculture while using agricultural funds to educate farmers' sons away from the farm, and there will be no peace until 'agriculture and the mechanical arts' are spelled in large capitals and 'the sciences relating thereto' in ordinary type."

Growth of the Farmers' Institute.

We have received from the Ontario Department of Agriculture the Report of the Superintendent of Farmers' Institutes for 1900, which, in its record of the year's progress, presents some features of unusual interest. The growing utility and popularity of Farmers' Institutes is indicated by a decided increase in the membership. A new departure in the publication of the report has been taken, in accordance with which it will hereafter appear early in the year, the reports of the local Institutes in detail being given in a separate annual bulletin. The membership has increased from 18,058 in June, 1900, to 20,387 in June of the current year. The number of meetings held increased from 715 to 725, the total attendance numbering 131,628. The largest Institute is that of Halton, with 748 members; the second being North Hastings, with 578. In the matter of attendance, Halton also heads the list, with a total of 5,490; South Bruce, with

able opportunities for presenting to large numbers of people the latest scientific processes and ideas. This work has been aided by the appointment of Superintendent Creelman as assistant secretary and editor of the Association of Canadian Fairs and Exhibitions, in which he can render excellent service to the movement. A strong effort was made to ensure a large attendance at the Provincial Winter Fair, the educational features of which were much appreciated by the 1,518 members of Farmers' Institutes who attended. A special programme was provided for the benefit of Institute workers, including addresses by Hon. John Dryden; Prof. I. P. Roberts, of Cornell; F. W. Hodson, Dominion Live Stock Commissioner; Thomas Crawford, M. P. P.; and President Mills and a number of the professors of the Agricultural College.

A new feature successfully introduced by several Institutes is an annual seed fair in March, when prizes for the best exhibits of seed grain are awarded, and an opportunity is given to buy or exchange seed. The system is likely to be adopted in other localities. The work of the Institute has been introduced into New Ontario, where an Institute has been established and a number of special meetings held in several localities.

The volume includes a number of addresses and papers by agricultural specialists and practical farmers, and a full report of some of the important discussions held at Institute meetings, embracing a great variety of topics. President Mills has a paper on a trip through Britain, with special reference to agricultural conditions. The management of soils is treated of by A. W. Peart, Burlington; F. M. Lewis, Burford; and F. A. Sheppard, Queenston. Simpson Rennie, Toronto, deals with noxious weeds. J. E. Orr, Fruitland, has a paper on the extermination of the codling moth. The cold-storage question finds an able exponent in G. C. Caston, Craighurst. "Canadian horses in the African War" is the topic of a paper by Lieut. John McCrae. W. S. Fraser, of Bradford, treats instructively of beef rings. Poultry is the topic of W. R. Graham, Guelph; Prof. A. G. Gilbert, Ottawa, and G. R. Cottrell, Milton. These are only a few of the valuable contents of the report, but they will suffice to give some idea of its comprehensive character and utility.

DAIRY.

"Worth Its Weight in Gold."

New subscribers will receive the "Farmer's Advocate" from now till the end of 1902 for \$1. Old readers concede that to be the best dollar's worth any farmer can possibly secure.

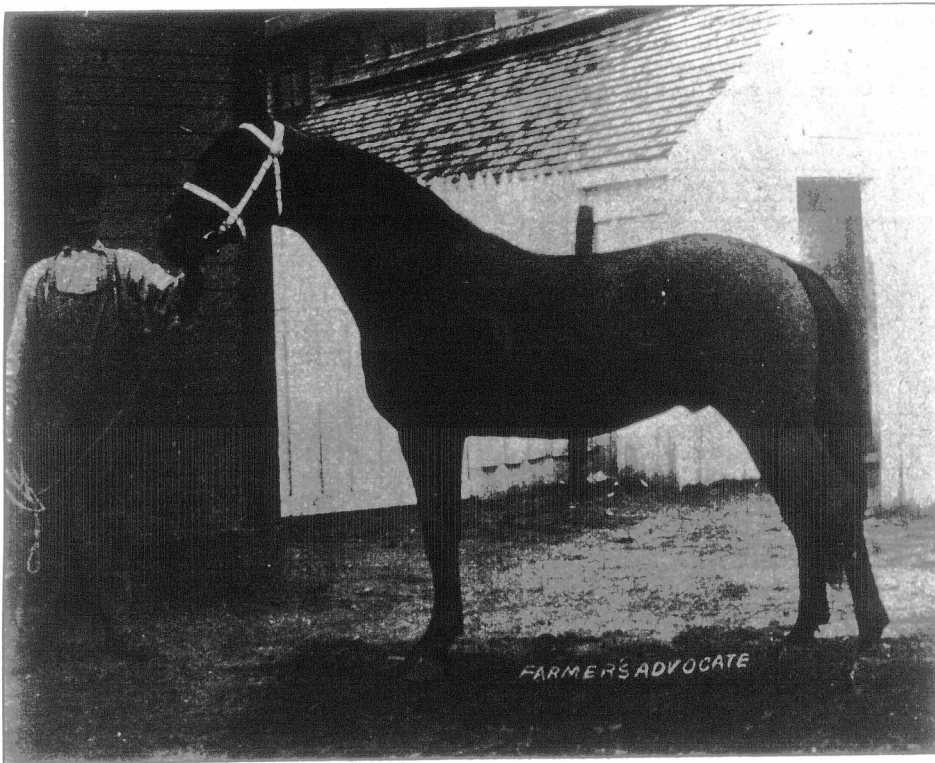
If any neighbor or acquaintance is not getting the paper, you will confer a favor by advising him of the fact that for \$1 the paper may be obtained for 14 months.

The above liberal offer will enable you very easily to have your own subscription extended for twelve months simply by sending us the names of two new subscribers, accompanied by \$2. This is one of the most popular propositions we have ever made.

Is the testimony of other readers needed as to the paper's merit? Mr. Hugh Hill, of Huron Co., Ont., writes: "I think the 'Farmer's Advocate' is the best agricultural paper published. It is worth its weight in gold." Mr. Wm. L. Falkingham, Grey Co., writes: "The 'Farmer's Advocate' is a welcome visitor to our home. We could not do without it. It is improving, too. Its plans are plain and complete, and its engravings fine." Miss Lydia Redman, of Ontario Co., writes: "The Home Magazine department is of exceptional merit throughout.

What does the proposition mean? Just this: That by conferring a boon on two other persons, you secure the paper to yourself for another year without any charge. Do not miss the opportunity, and, what is equally important, take advantage of it early.

See that all ditches and water courses are open before winter sets in. In cases where the fall is insufficient, great improvement may be made in a few hours with plow and scraper.



AUCTIONEER.

First-prize three-year-old Carriage stallion, and second sweepstakes for best Carriage stallion any age, at the Western Fair, London, 1901. (See Gossip, page 690.)
BRED BY AND THE PROPERTY OF W. C. BROWN, MEADOWVALE, ONT.

4,200, holding the second place. Women's Institutes have increased in number to 32, with a total membership of over 1,500.

A number of changes of a beneficial character have been made in the arrangements. The Department has taken over the lecture work formerly carried on by the horticultural societies, and introduced the desirable feature of afternoon addresses to school children, which are much appreciated. Many of the Institutes now hold their annual meetings at the nearest fruit experiment station, where they have all the practical advantage of demonstrations in pruning, grafting and spraying.

The growing demand for Canadian poultry in Britain has rendered it important that the tastes of the consumer in the matter of dressing and preparation, as well as in the quality of the fowls, should be consulted. The subject has been made a specialty in Institute work, and the speakers at poultry meetings have given demonstrations as to the most appropriate methods of killing and preparing birds for the market. Another subject to which particular attention has been given is cold storage. The Institute delegates have received instruction in the different processes of refrigeration in connection with the plant at the Agricultural College, and have also inspected the car fitted up for the carriage of fruit for shipment abroad, rendering them able to disseminate accurate information on the subject.

The Department has made a special endeavor to get thoroughly in touch with the fairs and exhibitions held throughout the Province, realizing that these occasions offer particularly favor-

Cold Storages.

To the Editor "Farmer's Advocate":

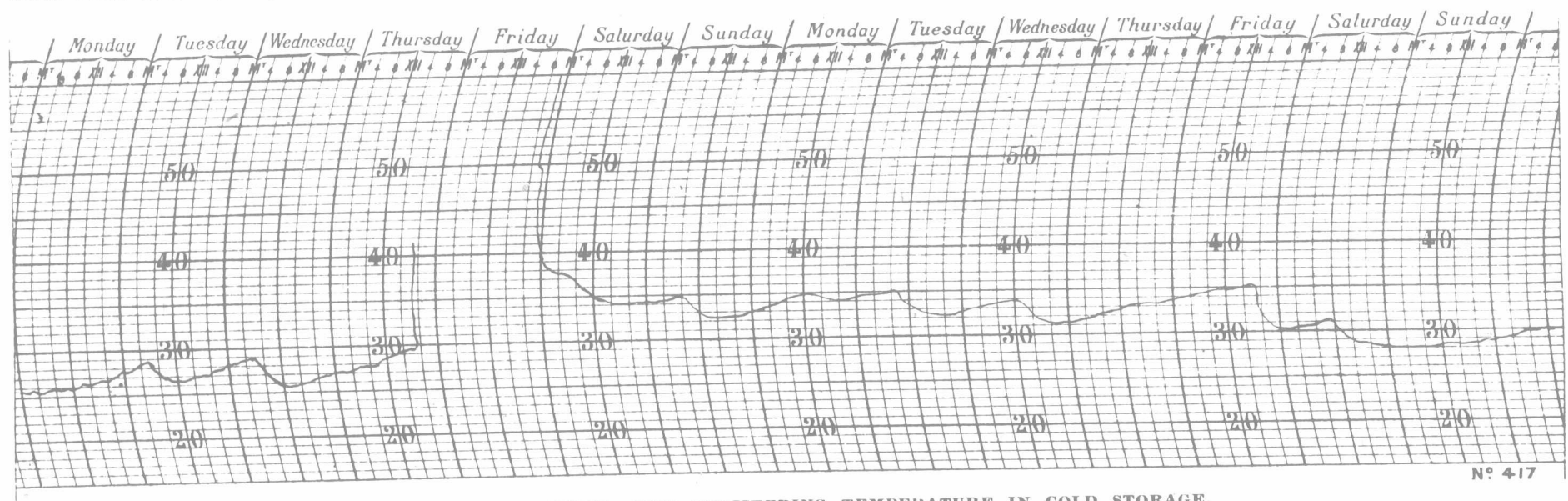
In the manufacture of butter, the quality of the raw material and the ability of the butter-maker to turn out an A1 article are not the only features to be considered for putting on the market such a sample of butter as will meet with the hearty approval of the purchaser and always make a ready and profitable sale. But in combination with these go the storing of butter at the different creamery points, which for the present cannot be dispensed with. Owing to the absence of a ready demand, with good prices, for our produce at all seasons of the year, combined with the fact that there are no central storages in the West where weekly or semi-weekly shipments might be made and the butter held at that point for sale, each creamery should have a good cold storage, with capacity enough to hold at least 30,000 lbs., or a minimum carload.

The erecting of a good refrigerator is inexpensive, if we take into consideration—which we must do—the advanced prices ultimately obtained on butter stored in a room where the temperature would average about 32 degrees Fahr., or freezing, over that which is stored in a room with the temperature varying anywhere from 40 degrees to 60 degrees Fahr.

The accompanying thermograph record shows the exact temperature of the cold storage at Grenfell creamery for a period of two weeks during July.

THE THERMOGRAPH.

This record, when in position on the thermograph, is fastened solidly round a drum-shaped body, which is wound up and takes two weeks to run down, going in this time one revolution. The diameter of this drum is 3 1/2 inches, and the record fits it neatly with the ends meeting. Against the record, gently rests a scooped pen which holds about a drop of ink, the pen being



THERMOGRAPH CHART—FOR REGISTERING TEMPERATURE IN COLD STORAGE.

suspended on a slender arm attached to the base of the instrument, its mechanism being of such a nature that the slightest rise or fall of temperature effects it and raises or lowers the pen resting against the paper on the drum.

The ink line, starting at the top, shows when the instrument was placed in the storage, the temperature falling almost directly to below 40 degrees Fahr., and from that, gradually down to 35 degrees, keeping between 32 degrees and 35 degrees for over six days, when it fell to 30 degrees, afterwards going as low as 24.5 degrees. The horizontal lines indicate the temperature, and the figures 20, 30, 40 and 50, tell the temperature. Each line between those figures represents one degree. The vertical lines show the days for a period of two weeks, each day being divided into six watches of four hours each, viz., midnight, 4 and 8 a. m., noon, 4 and 8 p. m., and midnight again. At the end of every two weeks the instrument has to be re-wound and a new record put in place round the drum.

REFRIGERATOR.

In conclusion, I might mention briefly the principles of the construction of a refrigerator. The chief end to aim at is the prevention of all circulation and penetration of the air in and through the walls, and to obtain this it is absolutely essential that one or more perfect dead-air spaces should be constructed in the wall; i. e., a space, say the width of the studding, so sealed that there is no inlet for outside air or outlet for the air inclosed. Consequently, the inclosed air is perfectly still or dead, no circulation going on, so when the heat from the atmosphere penetrates the walls as far as the dead-air space, it is checked, for without the circulation it cannot reach the inside wall or heat the cool air inclosed in the space.

WALL CONSTRUCTION.

The construction of the walls may be as follows and will give good satisfaction: For the inside of the refrigerator, nailed on the studding,

may be rough inch lumber with paper and rejoin. For the outside, rough half-inch lumber, covered with paper; then another thickness of half-inch lumber, and another coat of paper; then put on two-inch strips, and on them another layer of half-inch lumber, with a coat of paper on top, and then inch lumber, with paper on top of that, finishing with shiplap. The paper must be well lapped and not torn. This will leave two dead-air spaces: One 4 inches and the other 2 inches wide. These, of course, must be properly sealed at the top, else all the other work is in vain. The ceiling and floor should also have a dead-air space.

The most convenient method for cooling such a room is by putting in vertical cylinders about a foot in diameter, having them extend from the floor through the ceiling, leaving them open at the top, to be filled easily. In a room 12x24x8, it will hold about 30,000 lbs. of butter, it will require 8 of these cylinders to keep the temperature, in hot weather, down to freezing point, and will necessitate filling them at least once a day—and probably twice—with finely broken ice and coarse salt, using about 12 or 15 per cent. of the latter. A tightly-fitted cover for the top of the cylinders will help in excluding air, and thus save ice. The finer the ice, the firmer it is packed; and the more salt used, the greater the effect in lowering the temperature. To run a refrigerator of this size for six months, it will be necessary to store about ninety or one hundred tons of ice.

W. A. WILSON, Dairy Supt., Assiniboia.

Paying by the Babcock Test.

To the Editor "Farmer's Advocate":

Sir,—I have received a great deal of information from your valuable paper, and would not do without it on the farm; but the more information I receive, the more I want; so when I read in the August 1st number about the three

stant, so also will the test for casein, albumen and mineral in a cow's milk.

What I want to know is, in a cheese factory would the lactometer test for the total solids be a more just basis for payment to patrons than paying by the Babcock test? Is the testing of milk samples by the lactometer laborious or expensive?

I am not trying to eulogize any breed of cattle, but only name them because of their Pan-American record. Neither am I trying to injure the Babcock test. I am asking for my own improvement, and believe this is a point on which farmers ought to be posted. I would be glad if some who have made a special study of the question would give their minds through your columns, believing that it would be appreciated by many dairymen anxious to learn.

W. T. F. Grenville Co.

Toronto Industrial Prize Butter.

1. Was cream from separator, or if raised by gravity, what was the method?
2. How was cream ripened, what "starter" used, and how old was cream when churned?
3. What coloring matter was used, and if any, how much?
4. What was the churning temperature and how long in churning?
5. How was butter washed, worked, and packed, and what style of package?
6. What salt was used, and how much?
7. Temperature of your butter storage room?
8. How long before exhibition was butter made?
9. Mention any other points deemed important.

PRIZE BUTTER MADE DAILY.

Separator cream was used which would test 40 per cent. butter-fat. This at a temperature

prizes given at the Pan-American in the test of the ten breeds, it set me thinking. One prize is to be given for the estimated butter by the Babcock test, one for the actual butter churned, and a third for the total solids in the milk valued at 9 cts. per pound.

Now, I turned up C. C. James' book on agriculture, and I find that milk contains water, fat, casein, albumen, sugar and ash or mineral matter. Then, I know that when we make butter we take all the fat out of the milk, leaving nearly all the water and practically all the other solids. Then, I find that cheese contains 35 per cent. water, 33 per cent. butter-fat, 28 per cent. casein and albumen, and 4 per cent. mineral matter. That is, in making cheese we take out of the milk all the butter-fat, all the casein and albumen, and nearly all the mineral, leaving only water and sugar, besides some little of the solids which floats away with the whey. To some extent the Babcock test is used in cheese factories as well as butter factories, and the patrons are paid by the test for butter-fat.

At the Pan-American the report is that the Guernseys were leading for butter-fat, but the Holsteins had a long lead in the value of milk solids; or, the Gurnseys will make the most butter, but the Holsteins are away ahead for cheese. From this I judge that although the high-testing milk of the Jerseys would make more butter than the milk of the Holsteins, yet the milk of the Holsteins, when leading in fat, casein, albumen and mineral, when taken collectively, would make much more cheese than the milk testing high with the Babcock test.

I also conclude that those patrons who have high-testing Jerseys, and are receiving a big percentage of the money, should receive even less money than the patrons having Holstein or Ayrshire cows, because it takes more Jersey milk to make a pound of cheese than of the milk of the Holstein. I take for granted that as the test for butter-fat of any cow's milk remains fairly con-

of 75 degrees Fahrenheit, with 10 per cent. of unpasteurized skim-milk starter, was ripened in about four hours after separating was completed, when it was cooled quickly to 50 degrees. The cream was churned when about 27 hours old, and when put in the churn its temperature was 46 degrees. The day was very warm, and I found when churning was finished that the temperature had risen to 50 degrees. The time of churning was 1 hour and 10 minutes. No coloring matter was used. I washed the butter once only, with water which was run over ice and which went on the butter at 41 degrees. This firmed it nicely. Three-quarters of an ounce of Windsor salt was used to the pound of butter, and worked on a Mason worker till when cut with a sharp ladle it presented a close, even face, without pin-holes and with a fine moisture breaking out over it. Three kinds of packages were used, 56-lb. and 10-lb. boxes, and 1-lb. prints. The boxes were packed with a square packer, and a wood scrape used to finish the top. The butter was all finished one week before it was to be judged in Toronto, and was all made out of one churning. I kept it in our factory storage at a temperature of 48 degrees for five days, and then shipped it to the exhibition two days before it had to be there. My reason for this was that in case it should get heated any on the road, it would have time to get firmed again in the refrigerator at the exhibition grounds. In making this butter, no special effort was put forth. No milk was selected for it. I used what happened to come the day I wanted to put it up. There is hardly any noticeable difference from day to day, as we only make the one grade of butter, and that is the best we can produce. This has always been my practice, and although it may not be a good one for exhibition purposes, I think it the fairest way, as you are thereby showing your standard quality, and not a special one-day brand to secure fame.

Perth Co., Ont.

J. C. Bell.

Pan-American Butter.

Following are descriptions kindly furnished by the makers of the highest-scoring butter from various States in the Pan-American butter competition last month. The paragraphs in the following letters constitute replies to the eight enquiries on the subject of making prizewinning butter which appear elsewhere in this department.

NEW HAMPSHIRE PRIZE BUTTER WITHOUT A STARTER.

1. We have two skimming stations besides two separators in central plant. Have 140 patrons

when ready to put in churn. Such are my methods, and I am using them every day.
Olmsted Co., Minn. C. T. Radke.

MILK AND CANS MUST BE CLEAN.

Our butter that went to Buffalo was taken from our regular make. We always reject any milk that is not sweet, and cans and milk clean. We use no starter; separate our milk at 80 degrees F.; cream 40 per cent. fat.; began cooling at 12 o'clock; cooled steadily to 50 degrees F.; held at that temperature about 15 hours, then churned 50 minutes. Washed in two waters, 50 and 52 degrees F.; worked on Vermont Farm Machine worker; worked twice. We used Moulton's Cadillac salt, 1/2 oz. to 1 lb. butter. Wells & Richardson's color. Thirty-pound tub, well soaked with hot brine, the last hour in fresh water; lined with parchment paper. Tub packed in full; edges of lining turned in; paper on top. We made our butter for New York State Fair about the same; scored 98.

H. W. Sedgell.
New Hampshire.

3. Wells & Richardson's butter color was used, half ounce to 100 lbs. of butter.
4. The churning temperature was 54 Fahr., and churned 45 minutes.
5. Butter was washed once, worked in a Disbrow churn, and packed in 60-lb. tub.
6. Worcester salt used, one ounce to the pound.
7. Butter room, 38 degrees Fahr.
8. One week.
Had 13,000 lbs. of milk and made 600 lbs. of butter, of which one tub was sent to Buffalo.
Will Co., Ill. G. Herman.

CHURNED AT LOW TEMPERATURE.

Cream was all from separator; part from hand separators and part at the creamery. Cream ripened at sixty for about twelve hours; cooled to fifty; no starter used; cream from twenty-four to forty-eight hours old. No color used; none needed. Churning temperature, fifty degrees; time churning, 40 minutes, in box churn. Washed once; temperature water 48 degrees. Mason worker (improved). Time, six minutes, four revolutions per minute. Packed in spruce tub, paper lining, soaked for twenty-four hours. Worcester salt, used 1/2 oz. Temperature butter room, 48 degrees. Made ten days before exhibit. Weather warm and milk came sour, so it was hard to get a good flavor. Creamery small one, so have to take milk we otherwise would not.
Grafton Co., N. H. Leon Lupien.

METHODS OF A N. Y. CREAMERY CO.

Our butter was taken out of a regular churning from each creamery. We use the De Laval separator, and did not use any starter.
The cream was 48 hours old when churned. We used 1 1/2 ounces of Wells-Richardson butter color for the churning, which was 390 lbs. of butter. The churning temperature was 55 degrees; time one hour.
Butter was washed twice, water at 46 degrees; worked in a Fargo worker, five minutes. Packed in 60-pound spruce tubs, lined with parchment; pounded down evenly and firmly with a round pounder. We used Diamond Crystal salt, half ounce to the pound.
Butter was made on the 6th of month, and shipped same night, by express. Exhibited the 10th. Temperature of butter storage room, 45 degrees.
We use the same process at all of our creameries. Some of our milk is not as good as it should be, and we often take milk that should be sent back, to save trouble.
Cherubusco, N. Y. T. B. Humphrey & Co.

WEATHER CONDITIONS AND MILK UNSATISFACTORY.

From cream separated by U. S. separators (we use both systems—Cooley and Wells & Richardson's color was used; was churned eighteen hours after separating. Wells & Richardson's color was used, about 1/2 oz. to 100 lbs. of cream. Churning temperature 58 F.; churned 3/4 hour. Butter washed in churn, water about 48 F. Worked and salted on Vermont Farm Machine power-worker; salted with Worcester salt, 1/2 oz. to pound. The butter was made four days before shipped, and kept in storage room, temperature 50 F. The weather condition bad; the milk arrived at creamery in unsatisfactory condition.
W. B. Ellis, Business Manager.

Sullivan Co., N. H.

CLEANLINESS AND VENTILATION IMPORTANT.

1. Cream from United States separator.
2. No starter used: cream when churned 36 hours old.
3. Use no coloring. Keep Guernsey cows, and they produce yellow cream.
4. Temperature when in churn, 57 degrees; takes 50 minutes to churn.
5. Butter washed twice: first water 50 degrees, second water 43 degrees.
6. Two-thirds ounce salt to one pound butter used.
7. Cold storage, 43 degrees.
8. Butter made July 3rd, 1901.
9. Churn heavy cream, 48 to 50 per cent. butter-fat.
Keep 72 cows; have 3 silos; and take manure from stable every day. Have large ventilator to keep pure air in stable for cows, and the air is taken from floor, so stable is warm all winter. Vat sweet.
Grafton Co., N. H. Ira Parker.

SAMPLE FROM LARGE CHURNING.

1. Butter was from cream from separator.
2. Cream was cooled down to 62 Fahr. after separating, and pasteurized starter with Hanson's Lactic Ferment added, and cream was 18 hours old when churned.



CANADIAN EXHIBITORS OF SHEEP AT THE PAN-AMERICAN EXPOSITION.

delivering milk at these places, besides cream that is gathered from patrons along the route by our station operators, some of which is from hand separators, balance raised by gravity.

2. Used no starter, separating and holding cream at 68 degrees F. until 36 cc. acid developed (Mann's test), when cream was cooled immediately to 54 degrees F.—stirring nearly all the time; having mechanical refrigeration, it took only 1 hour—and held 6 hours before churned.

3. Used 1/2 oz. Wells, Richardson & Co.'s butter color to 100 lbs. butter, figuring yield at 5 per cent., which we have maintained all summer.

4. Churned 46 minutes, at 54 degrees F., in granules twice as large as wheat, in a Disbrow No. 4, putting it (the churn) on the slow motion as soon as butter commenced to "break."

5. Butter was washed twice, with water 2 degrees colder than buttermilk when drawn from churn.

6. Salted 3/4 oz. to the pound, with Worcester salt; and worked twice, three minutes each time.

7. Temperature of our butter storage room, 28 degrees, being cooled mechanically.

8. Our butter went direct from churn to Exposition, both in July and September; also to New York State Fair at Syracuse.

Note.—Would like to state, for the benefit of F. J. Sleightholm, of Middlesex Co., in regard to remarks on score card, that in the case of cut on color of his butter, it is never scored off on shade, as that is a matter of individual taste. His butter must have either contained mottles or was streaked.
W. B. Craw.

Wyoming Co., N. Y.

HIGH TEMPERATURE AFFECTS AROMA.

1. Cream was from De Laval separator.

2. Cream was ripened in a Boyd vat, after separating, for seven hours. Starter was skimmed milk heated to 180 F. the day before, then cooled gradually to 75 F. at night; put in butter room, where temperature is 52 all the time. Put in cream vat next morning and separated a 50-per-cent-fat cream into it. Cream was 42 hours old when churned.

3. Used Wells & Richardson's color, 1 oz. to 100 lbs. of butter.

4. Churning temperature was 52, and cream broke in 45 minutes.

5. Washed once, with water at 52 F.; then sprinkled salt over it, sent the churn around three times; then put rollers in gear, worked once, then drained for 30 minutes; worked again, and drained same as before, then worked again, and then packed in a 20-lb. tub, lined with parchment paper.

6. Salt, Worcester, 7 lbs. to 100 lbs. of butter.

7. Butter room temperature 52 degrees.

8. This butter was made on Friday, and was 17 days old when scored at Buffalo. In using a high temperature while ripening, I think butter loses its fine aroma, say at 80 to 85. I would suggest that 70 to 75 was sufficient, and be sure not to get it overripened. It should have a 36-per-cent. acid (Mann) test or 56 Farrington test



JUDGING SHROPSHIRE AT TORONTO INDUSTRIAL EXHIBITION.

BUTTER AS MADE BY A WISCONSIN CREAMERY CO.

1. Milk all received, none rejected; was separated with Alpha separators, at temperature of 78.

2. Cream was ripened at temperature of 72 for ten hours, with 20 per cent. Hanson's Lactic Ferment starter; acid showed 30 (Mann's test); was cooled to 45 degrees and held till next morning; was then 46 degrees, and showed 41 (Mann's).

3. Alderney, half ounce to fifty pounds butter.

4. Cream was warmed up to 48 degrees, and churned in forty minutes.

The Orpington Fowl.

Among the breeds of poultry that are pushing to the front may be counted the Orpingtons, originated some years ago by Mr. Cook, of England. In the recent importation of stock from Britain for the Central Experimental Farm, as reported in our last issue by Mr. Grisdale, the Agriculturist, were included a number of these birds. The Orpingtons are black, buff and white, with both the single and double combs, and with white shanks and skins. In this they follow the American breeds, and do one better—there is now the Diamond Jubilee Orpington, that is broken in color, much like the Indian Runner duck. Mr. Lewis Wright, of England, in his recent writings, gives it as his opinion that the American breeds are better for their purpose than are the Orpingtons. He also states that the American breeds are better for eggs and market poultry than are the same fowl as bred in England. In England, the breeders incline toward the Cochin type in all these fowls; they go for more cushion, fluff and feather than in America, a condition that detracts from all utility qualities; but to the notion of the English fancier it adds to their beauty.

Autumn Management of Poultry.

Autumn management of poultry has much to do with the profits obtained during winter, the poultryman's harvest if right methods are adopted. First cull the flock and sell off all the males except a few selected breeders which you wish to use the following year. Cull the hens closely. It matters not the size of the flock—25 hens that are good will pay much better than 50 good and bad. Ordinarily, one-year-old hens will be profitable to keep over, and those, with all the early pullets, will prove most profitable during winter. All late hatches I put off for fries. Give the fowls extra attention during moulting time, and grain-feed everything that I intend to go in winter quarters. I always want all my hens brought as near the laying point before cold weather as possible, and this can only be done by good feeding in the fall. If I can get all my hens laying by the first of December—and by good management I can have many laying earlier—I can keep them laying all winter. Fowls must go into winter in good condition and be comfortably housed to be of good service until spring.

With some poultrymen it is the invariable rule to keep the pullets only one year. Feeding will do a great deal in the proper production of eggs, but not always. Old hens may put on fat, but they will not then lay many eggs. Their work is over and nothing remains to be done with them but to market them. The sooner that is done the better. Of course, the lives of some old favorites can be spared as long as they give good results; and with judicious mating, by which I mean the advantage of a comparatively youthful cockerel, may be the means of even exhibition poultry making their appearance from the eggs of the good old hen. A mess of potatoes, carrots or cabbage chopped fine should be given frequently to fowls, both young and old, for scarcely anything else conduces as much to their general healthfulness. All through the year vegetables are relished by my fowls. Chop the vegetables fine and mix them with scalded or moistened bran, or feed them raw with chop or bran; they like the change. Such foods materially assist in maintaining the general healthfulness of fowls by the prevention of all sorts of disorders. They also supply the needed green or vegetable food with which the birds must be supplied when confined, for which reason turnips should be grown for winter use.

Fowls need grit. If you are in doubt of this, hold a small chick up close to your ear and hear the gizzard grind. It is easy to tell the hen that is profitable. She has a red, highly-colored comb, is full of activity and life. Those in first-class market shape should be sold at once; they are a detriment to the others, as they take up valuable room. Feed good grain, even if it does cost a little more. Get rid of extra cockerels as soon as large enough. After a certain limit, they do not lay on flesh fast enough to pay for their food.

A food for young chickens that is rapidly growing into popularity is granulated oats. Some fine soft food should be given also, such as chicken bread and corn cake. A mixture which my fowls like for their evening meal in early autumn is buckwheat, barley and corn in equal parts.

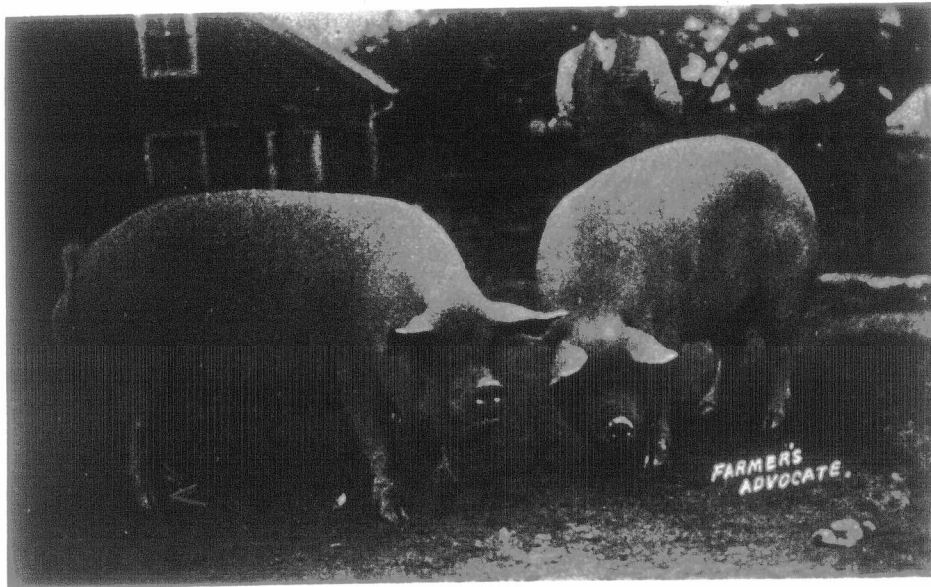
We would have a very poor opinion of the manufacturer who did not know the cost of the goods he was manufacturing. Yet this is what many people are doing who keep hens. Keep an

account with them. (See Mr. Graham's letter, Sept. 16th "Farmer's Advocate.") Be hopeful when everything seems wrong-side up. No year is wholly smooth and prosperous. If vermin devastate your yards, take extra precautions in the future. If sickness come, an axe is usually of more profit than medicine. While there are now and then unavoidable mishaps, the majority of losses might have been averted by proper care in the first place. FARMER'S WIFE.

Uses of Coal Oil.

Kerosene is invaluable around a poultry ranch, writes a correspondent in an exchange. It is a simple remedy for many troubles. Put it on the roosts frequently; it will help keep the lice in check. Dilute it with sweet oil (about one-third of sweet oil and two-thirds kerosene) and inject in nostrils, roof of mouth, and corners of eyes, if your fowls have colds. Scaly legs are cured with it properly applied, and an internal dose will help in many cases. An easy way to apply kerosene to the legs and feet of fowls to destroy the insects which cause the scaly excrescences which sometimes appear is to fill an empty can two-thirds full of water, pour two or three tablespoonfuls of kerosene on the water and dip the feet and legs of the affected fowls therein. Two treatments always prove effective.

The editor of The Feather adds: If you will dip the legs and feet once or twice into pure kerosene it will be better than above. The mixture of water and oil on the shanks and feet will not act so well as the pure oil. After two or three dippings in the oil once each day, scrub the shanks and feet well with a stiff brush, soap and warm water. A pound of naphthaline balls to a gallon of kerosene will be better to kill lice on roosts, etc., than the oil alone.



SUMMER HILL KATIE AND SUMMER HILL CICELY.
Yearling Yorkshire sows. The latter winner of first prize, the former of fourth prize, at Pan-American Exposition.
PROPERTY OF D. C. FLATT & SON, MILLGROVE, ONT.

Poultry for the Pan-American.

The careful attention of poultrymen is called to the following, which will greatly add to the success of the display of birds at Buffalo.

Single Birds in Open Classes.—Every bird should be sent in a separate coop, but when more than one specimen is sent in a coop, the coop must be properly divided, and the label corresponding with each entry securely fastened over the specimen, as each entry must be accounted for before entering the Exposition.

Poultry Pens.—The five specimens that compose each pen should be in one coop, and tag securely fastened on it. Arrange with your express agent to have all specimens arrive at the Exposition October 22nd, before six p. m., as judging commences at nine in the morning of October 23rd.

When shipping your birds to this exhibition, it is necessary to arrange with express agent at your point for the free return of your birds. When this is done there is no difficulty about "free return." Do not send one specimen that is not entered, as it will not be allowed in the show-room, but returned immediately at your expense. Write your name, address, and by what express to be returned, distinctly on the label.

Note.—No bird entered in any of the "Single Bird Classes" can be used to make up a "breeding pen," nor taken from a "breeding pen" to compete in the "Single Classes."

F. A. CONVERSE,
Supt. of Live Stock.

GEORGE H. BURGOTT,
Supt. of Poultry.

Eggs in Winter.

Only a little profit can come from eggs produced by fowls unless they can be made to lay during the winter months, when fresh-laid eggs are most valuable. The fact that so many do succeed in securing a fair per cent. of egg-yield through the winter months, proves the possibility of a greater yield when it is learned more fully what is requisite. It is frequently seen in print, an easy-to-follow statement, "Keep the hens at work; make them dig in straw for all their grain"; yet how few do we find who follow these simple instructions? Many scatter the straw, but will feed their fowls on the bare ground or in troughs. The object to be desired is to make the hens hunt and dig continually for food that they may have plenty of exercise; exercise is what they need and must have or they will not lay.

Those who pay proper attention to these simple methods succeed, while those who disregard them do not. They bring assured success to those who follow them, but an assured loss if disregarded. Only those who follow the proper methods have any chance to succeed.—(From The Feather.)

GARDEN AND ORCHARD.

October in the Flower Garden.

October, no doubt, is a busy month on the farm, with all the preparations for winter, but if we wish to have our homes beautiful—as no doubt every farmer does—we must spend a few half-days in the garden among the hedges, the shrubs and the flowers: trimming, cutting, potting and planting. A good deal can be done to advantage now, thus saving much time and labor from next spring.

Many old perennials could be improved now. Dig well down around them, without disturbing the lower fine rootlets; then cut away all the old decayed parts and also most of the weaker shoots or bulbs, leaving only the new, healthy parts. This is a great saving to the plant, as it has time to put out fresh roots before cold weather, thereby saving the plant the extra labor of refreshing itself next spring, and we will be amply repaid for our labor by the increased harvest of blossoms.

Then, there are in nearly every garden some tall weeds going to seed. Pull these up and burn them, or you will be wondering next summer where all the weeds come from. Neither must we forget the annuals, whose beauty has been so lately spoiled by the hard frosts. These old plants should be all gathered for burning, leaving the beds clean. After cleaning, be sure to spade up your beds, adding a liberal dressing of well-rotted manure. Do not leave the spading until spring, for, as every farmer knows that fall plowing pays for his grain crops, so he should remember that it pays in the garden. Then see that your beds are well drained, for standing water is injurious.

Seeds of the hardy annuals should be sown in October, that they may be up early in the spring. My plan is to clean and prepare my beds after the first severe frost and plant bulbs, in rows one foot apart, of tulips, crocuses, hyacinths, narcissus, and snowdrops, etc., and from three to six inches apart in the rows, according to size of bulb, and planting from two to three inches deep. In between the rows of bulbs I plant my hardy annual seeds—pansies, asters, phlox, etc., in hills six inches apart, putting two or three seeds in a hill, which, when grown, are thinned to one plant.

In the spring I plant seeds of the tenderer plants, after the same plan, between the rows of bulbs.

The beds are protected with a light covering during winter and on into spring, until all danger from hard frost is past, to preserve the vitality of the bulb and to secure earlier bloom. A few days after the covering is removed, the warm sun infuses his subtle heat into the earth and the beds present a mass of sprouting bulbs, which soon put forth spikes of flowers, which fill the garden with a delicious fragrance and a refined beauty which can be obtained from no other class of flowers.

When the bulbs have finished flowering and the leaves turning yellow, I pull them up and dry for next fall's planting, leaving the space for the annuals to spread over. I prefer planting annuals in hills, because it is so much easier to weed and thin out the weak ones.

You may say, "I have no bulbs to plant." If not, I am sorry for your family and for your home influence. A dollar will purchase enough bulbs to fill a nice-sized plot, and these will give

you untold delights for years to come. A small sum invested in this luxury will make your home beautiful and attractive, and be a continual source of pleasure to all who dwell therein, and would aid in solving the great question, "How to keep the boys and girls on the farm."

Horace Greely says: "Hardly any labor done on a farm is so profitable as that which makes the wife and children proud of their home."
Grenville Co. W. T. F.

More About the Tulip.

About the middle of the fifteenth century the tulip craze first started in Holland, and since that time there has been no decline in the popularity of this, the most brilliant of spring flowers. In those days there were but very few colors and varieties, as compared with those of the present time, and most people of our day are surprised to know that none but the most wealthy were able to obtain a single bulb, much less plant them by the hundreds or thousands in their gardens or lawn beds, as now is often the case. A few instances of the exorbitant prices demanded for bulbs in those days may prove of interest to readers. One single bulb of the variety "Simper Augustus" was sold for thirteen thousand florins, or, in our coin, about \$5,200. For a bulb of another variety a man paid his friend four thousand florins, a new carriage and a pair of handsome, harnessed horses. In another instance, four brothers went into partnership to buy a single tulip bulb, no one of the four having sufficient means with which to purchase it himself. By some these instances may be received with doubt, but documents are on record to verify the truthfulness of the same, and many interesting stories could be told of the great excitement that prevailed in Holland at that time, and of how fortunes were made and lost in bulb speculation when the tulip mania was at its height.

Since that time there has come about a great change, and now, instead of but few colors, we have them "in selfs" in all imaginable shades—purple, crimson, scarlet, pink, yellow, cream, and of the purest white. Of the striped, or variegated flowers, there are purple, violet, crimson, rose, puse, cerise and yellow stripes on snow-white grounds; and crimson, scarlet, maroon and red flakes and feathers on rich gold grounds. Instead of paying a fortune for a single bulb, we may now secure them for such a mere trifle that it is possible for almost every home to be supplied with hundreds of them. All this is the result of the labors of the hybridist and the practical gardener. The former has spent his time and exercised his skill in improvement of form and color, and the latter has studied out the cheapest manner of production and cultivation.

Of the many distinct classes in cultivation, we give a short description of but a few, each having distinct characteristics and merits. 1. **Bybloemens**—Of this class there are a number of beautiful variegated flowers of many different colors, but all of them are striped, flaked, feathered or spotted with white. These are extremely beautiful. 2. **Bizarres**—This beautiful class is identical in every respect with the Bybloemens, except that its rich colors are dark and velvety and its variegations yellow, where the Bybloemens are white. This is a magnificent class. 3. **Sweet-scented**—The flowers of this class are more or less fragrant, as well as very beautiful. 4. **Parrot**—These have exquisitely fimbriated petals, made up of crimson, green, violet and yellow colors, some combinations of which remind one of the beautiful plumage of some species of parrot—hence the name. These are extremely large, distinct and beautiful. 5. **Darwins**—This is the most recent class among tulips. The blooms are borne on long, slender stems, are large and richly colored, the shades ranging from black to crimson (mostly dark), and are grand. 6. **Gesneriana**—This is a very brilliant scarlet with blue center, very large, and in many respects the most gorgeous of all tulips. 7. **Single Early**—Of this class there are hundreds of varieties, and to it belong most of the single varieties in cultivation. 8. **Double Early**—This class furnishes most of the double varieties in cultivation at the present time. Some of them are almost as large as peonies. 9. **Variegated Foliage**—This class has many varieties, both double and single, and all have beautifully-variegated leaves, and the flowers are exquisite. This is a most charming, as well as a rare class. 10. **Duc Van Thol**—Of this class there are about a dozen beautiful varieties. They are dwarf of habit, but are very early bloomers, in this respect leading all other classes. They are mostly used for forcing for winter blooming.

While it is nice to have some of each class, and all who plant extensively should have at least one bed of each, there is no doubt but the single-flowering tulips give best satisfaction, and among the "Early Singles" are to be found some of the most beautiful varieties in cultivation at the present time, and to the general public this class would give greatest satisfaction.
Welland Co., Ont. JOHN B. PETTIT.

QUESTIONS AND ANSWERS.

1st.—Questions asked by bona-fide subscribers to the Farmer's Advocate are answered in this department free.

2nd.—Our purpose is to give help in real difficulties; therefore, we reserve the right to discard enquiries not of general interest or which appear to be asked out of mere curiosity.

3rd.—Questions should be clearly stated and plainly written, on one side of the paper only, and must be accompanied by the full name and address of the writer, as a guarantee of good faith, though the name is not necessarily for publication.

4th.—In veterinary questions, the symptoms especially must be fully and clearly stated, otherwise satisfactory replies cannot be given.

Veterinary.

ANSWERS APPRECIATED.

To the Editor "Farmer's Advocate":

Dear Sir,—I have to thank you for the very great pains you have been at to answer any questions about silo-construction. Any paper that shows such care and enterprise in catering to the wants of the public, not only deserves success, but is sure of it.

J. O. MILLER, Ridley College.

St. Catharines, Ont., Oct. 5, 1901.

SWELLED LEG—UMBILICAL HERNIA.

1. I have a horse, six years old, that swells up in one hind leg, every night. It started from a bruise from a chain in the first place; disappears altogether when he is working, but swells very large when standing in the stable. Was fed very heavy last winter. What would you recommend?

2. Also a horse colt, about four months old, that has a lump in bag about as big as an egg. Sometimes it is bigger, and sometimes no sign of it at all. Several persons say it is a rupture; others, that it is simply water. First noticed it when colt was about a week old. What is your opinion, and will it get better?
W. S. F.
Perth Co., Ont.

Ans.—The swelling of the leg is due to inflammatory action in the seat of the bruise, interfering with the circulation. When exercised, the circulation is stimulated and the swelling disappears. The application of a bandage to the parts during the time the horse is in the stable will prevent swelling, and if kept up for considerable time will probably dissipate the tendency to swell. If you do not require him for work, it would be good practice to give him a rest and blister the part.

2. Your foal has scrotal hernia, and if left alone, nature will effect a cure. It is probable he will be all right before he is a year old. If not, allow him to reach two years before castrating.
J. H. REED, V. S.

TUMOR ON CALF'S NECK.

A spring calf, when born, had a smooth brown spot about 1½ inches in diameter on her neck, about three inches behind the ear. It has gradually raised until now a growth about the size of an apple, slightly flattened, hangs by a neck the size of the spot. There seems to be scarcely anything in the neck or connecting part, but the growth itself is quite firm. I have delayed doing anything during the hot weather, but would be pleased now if you could tell me how it may be most easily and permanently removed?
Prescott Co., Ont. GORDON L. LAMB.

Ans.—The growth must be removed by a surgical operation. The skin should be carefully dissected from the growth, then the tumor dissected from the underlying tissues; the superfluous skin cut away, then the wound carefully sutured with carbolyzed silk and treated as an ordinary wound by keeping clean and applying three times daily a solution of 1 part carbolic acid to 40 parts water. The stitches should be removed in ten or twelve days.
J. H. REED, V. S.

CAN HEAVES BE CURED?

Can a horse be cured of the heaves? State remedy.
Brome Co., Que. SUBSCRIBER.

Ans.—No. In heaves there is a rupture of the walls of some of the air cells, converting two or more into one, and no treatment will reform these sacs. The symptoms can be mitigated by careful feeding. Feed clean, well-saved hay; in fact, good clean straw is better than hay. Which ever be fed should be given in limited quantities only, so as to not overload the stomach, which, through nervous influence, has an action on the lungs. The grain fed should be of first-class quality and in reasonable quantities. All food given should be dampened with lime water. Feed often and in small quantities.
J. H. REED, V. S.

SOW PRODUCING DEAD PIGS.

I have a sow, four years old, had a litter last March (five living), and three days afterwards she had three or four dead. The first of September she had six living, and a few days later two or three very small ones dead and quite rotten. What is the reason?
A. H. B.

Nipissing, Ont.

Ans.—We have known such to occur in spring in the case of sows in high condition and having had insufficient exercise during pregnancy, but it is rare in the case of sows farrowing in autumn, having had the run of the fields for exercise. If kept for

breeding again, care should be taken to vary the food, giving a mixture of ground grain in which oats form a part; also to feed some roots, as mangels or sugar beets, and give exercise in barnyard and, if possible, on bare ground.

Miscellaneous.

DORSET HORNED SHEEP.

Would you kindly give me some advice about Dorset sheep? Are they a good general-purpose animal as to wool, size, and are they harder to keep than some other breeds?
S. O. R.
Grey Co., Ont.

Ans.—The Dorset is one of the oldest known breeds of English sheep, having been preserved unmixed from a very remote period. They have some very valuable traits, the chief of which is their fecundity. Under favorable conditions the ewes will raise two sets of lambs in a year, but it is not generally considered practicable or advisable to attempt such crowdings. Early-winter lambs bring a high price in the market, and it is quite practicable, by having the ewes in fresh condition in spring, to have lambs born in September and October, which will be very profitable to sell at about Christmas. Experienced Dorset breeders in America consider it undesirable—indeed, a mistake—to have lambs born later than April or before September. Dorsets are hardy as well as prolific, producing a large proportion of twins, and are not harder to keep than other breeds, but are good feeders and pay for good feeding in juicy, lean meat, while the ewes are great milkers and force their lambs along rapidly while young.

FLAXSEED.

Will you kindly publish in the "Advocate" where flaxseed can be bought and at what price? Will they ship a few hundred pounds?
Grey Co., Ont. SUBSCRIBER.

Ans.—The retail price quoted by a local dealer is \$3.25 per hundred pounds. Write S. Fraleigh, St. Mary's, Ont., or John Tanton & Son, London, for quotations on quantity delivered at your station.

PURLANE.

You will find inclosed a weed that has been growing in my garden for several years. I keep cutting it out all the growing season. Some of the plants try to mature their seed when cut and lying on the top of the ground. Every season I think I have mastered it, but behold! when it comes to the middle of July it is there. What do you suppose should be done with it?
Huron Co. E. A. McASH.

Ans.—The weed is common purslane, often called "pusley" (*Portulaca Oleracea*). Once it gets a foothold in the garden, it is about as difficult to grapple with as "bindweed," dealt with several times lately in these columns. Prof. Shaw and other weed specialists have not yet dignified "pusley" by telling how to destroy it, but it is no new foe. Chas. Dudley Warner, in his inimitable little book, "My Summer in a Garden," written over 30 years ago, tells of his struggles with "pusley." Once when Gen. Grant visited his garden, he said his eye rested on some handsome sprays of "pusley" that must have grown up since the previous Saturday night, and said he was pleased that Warner, in one of his newspaper articles, had connected the Chinese and "pusley," which was the natural food of the Chinaman. He welcomed Chinese immigration to eat the "pusley," and he thought the whole problem might be solved by that simple consideration. In another chapter he says: "I am satisfied that it is useless to try to cultivate 'pusley.' I set a little of it one side and gave it some extra care. It did not thrive as well as that which I was fighting. The fact is, there is a moral perversity in the plant which makes it grow more the more it is interfered with. I am satisfied of that. I doubt if any one has raised more 'pusley' this year than I have, and my warfare has been continual. Neither of us has slept much. I have a neighbor, a good Christian man, benevolent, and a person of good judgment. He planted next to me an acre of turnips recently. A few days after he went to look at his crop, and he found the entire ground covered with a thick and luxurious carpet of 'pusley,' with a turnip-top worked in here and there as an ornament. I have seldom seen so thrifty a field. I advised my neighbor next time to sow 'pusley,' and then he might get a few turnips. I wish there was more demand in our city markets for 'pusley' as a salad. I can recommend it." If some reader, professor or otherwise, has a better plan of dealing with purslane than the late Mr. Warner, we would like to have it described for the benefit of suffering gardeners generally.

BURR GRASS (CENCHRUS TRIBULOIDES).

A sample of weed recently received through the mails is what is appropriately named burr grass, as it has smooth, straightish, grass-like stems with burr-like involucre beset externally with many sharp spines that render the burrs annoying by adhering to sheep and other animals. It is not looked upon as a difficult weed to master with good ordinary cultivation. It thrives best in sandy, alluvial soil.



A Scottish Sermon on Charity.

"The congregation will noo be seated and gie their undivided attention to the followin' intimations. Some o' them are maist as important as the sermon," said the Rev. Tammas MacPherson, as he finished "addressin' the throne of grace."

He was in his eightieth year, and had worn out five Bibles in beating the dust out of the pulpit desk of Auchterbirnie kirk during fifty-five years. His parishioners worshipped the ground on which he walked, and though he was practically penniless—for he gave most of his income to the poor—they saw to it that the minister lacked for nothing. Their old minister read the announcements, and then said:

"I hear that Widdy Tamson is in destitute circumstances. This mauna be. Name o' God's heritage maun suffer in the midst o' the guid folk o' Auchterbirnie. Think o' this on the way to yer hames. We have it in Holy Writ, that niver fails, that 'he that giveth to the poor lendeth to the Lord.' There is a blessed privilege. Think o' the farmers o' Auchterbirnie being lenders, and haein' the Lord for a customer! And nae need to foreclose to get back payment, for it'll be returned twenty, thirty, fifty and a hundred fold. Noo ye can a' raise fine craps o' wheat and corn, and tatties, as I can weel testify; for the Lord has moved yer bowels o' compassion, and ye hae been unco generous to me. Then see if ye canna raise guid craps o' brotherly compassion, and bring the first fruits o' the harvest to puir Widdy Tamson."

"Sanders Grant 'll send her a load of firewood. Fine dae I ken that; I see't in Sanders' generous e'e. And fine kenlin he keeps, too, as I weel ken; for I'm burning some o't myself, thanks to Sanders' kindness." Sanders, sitting in his pew, the observed of all observers, was completely won over, and would gladly have given Widdy Tamson the earth, and the fulness thereof, had he owned it, at that moment.

"And Peter Michie 'll send her a pickle tea. Oh! but it 'll be sair miss'd out o' Peter's abundant store. Peter is behouden to the Lord for mony things, and is a living example o' the niver-failin' truth o' the Holy Writ, 'The han' o' the diligent maketh rich.' Peter's a hard-workin' chiel, as we can a' testify."

Peter, too, immediately fell into line.

"Jimmy Grant was tellin' me the ither day," continued the Reverend Tammas, "that he was millin' some fine meal the noo. I quite believe it. He is the only miller in Auchterbirnie, and there's no miller from Maidenkirk to John o' Groat's can compare wi' him. Better send a pickle to the widdy, Jimmy, and keep up yer account wi' the Master." Jimmy registered a full pock of best oatmeal in his own mind.

"Beaton Scott 'll send the widdy some o' the fine tatties I saw in his barn last Tuesday. I needna ask Beaton, for I ken fu' well he wouldna be backward in daeing a kind act to a deservin' widdy in Auchterbirnie."

"And our kind friend, Wull Crapman, by the looks o' him, can hardly keep his seat, sae anxious is he to dae something to fill the widdy's pat."

"Nae fear o' the widdy's starvin' when the Lord has put the saut o' the earth in the parish kirk o' Auchterbirnie. The Lord has promised to be a husband to the widdy, and He wants ye all to be brothers-in-law, and I'm glad ye respond so nobly. Ye're a gallant lookin' lot o' Christians, and yer hearts are as big as yer bodies. The Lord 'll reward yer work o' love. Noo let's praise His name for raisin' up in Auchterbirnie sae mony who honor the faith." There was a hull all through the kirk, and then the minister's voice was raised in prayer.—(Family Friend.)

Life's Mirror.

There are loyal hearts, there are spirits brave,
There are souls that are pure and true;
Then give to the world the best you have,
And the best will come back to you.

Give love, and love to your life will flow,
And strength in your utmost needs;
Have faith, and a score of hearts will show
Their faith in your gifts and deeds.

Give truth, and your work will be paid in kind,
And sound a song will meet,
And the smile which is sweet will surely find
A smile that is just as sweet.

Give pity and sorrow to those who mourn,
You will gather in flowers again
The scattered seeds from your thought-orchard,
Though the sowing seemed in vain.

For life is the mirror of king and slave,
'Tis just what we are and do;
Then give to the world the best you have,
And the best will come back to you.

—Madeline S. Brigham.

More Kind Words from Subscribers.

One of our subscribers, from Port Perry, Ontario Co., writes: "I would be conferring a real benefit upon some of our neighbors by introducing them to the 'Farmer's Advocate.' We are taking it for the first time this year, and it is the best farmer's paper I have ever seen. It has a clear, broad outlook, and gives the farmer and his work their true place. The Home Magazine is of exceptional merit throughout. You are doing a good work in a field that needs it, by endeavoring to cultivate a taste for literature and art, by giving food to nourish and develop the higher, nobler qualities of mind and soul. Hope's 'Quiet Hour,' 'Ingle Nook Chats' and Clarissy Ann's practical talks are all splendid. Your reproduction in last issue of Goldman's picture, 'An Old Story,' is fine."

Another, from Ancaster: "I did so enjoy 'Mollie's' last letter; indeed, they are most enjoyable."

THE QUIET HOUR.

The Master.

Have you really put yourself unreservedly into the Master's hands, to be fashioned into His likeness? If you have, then you are in duty bound to accept everything He sends, thankfully. Great troubles will surely be recognized by every true Christian as divinely sent, but each soul has also many little vexations to bear. We may honestly pray to be lifted nearer to God, even though it may be on a cross, and yet chafe and fret at the daily discipline which He sees fit to use in our case.

An old legend tells of two hermits who lived in the desert. Each planted an olive tree in front of his cell. One watched over his tree, day after day, with anxious care. At one time he thought it needed rain, so he prayed for rain; and it fell, to water the tree. Then he thought more sun would do it good, so he prayed again, and God sent sunshine. He thought the frost might make it hardy, and at his prayer the frost came. And yet, after all his carefulness and all his prayers, the tree drooped and died. Sad at heart, he went to visit the other hermit, and wondered to see his tree full of life and beauty. Having told his own tale, he enquired the cause. The other answered, "Brother, I too prayed to God every day for my tree, but I asked Him for such weather as He in His wisdom saw to be good for it."

This quaint old story teaches a truth which none of us would venture to deny—in theory at least—the truth that God knows better than we do what is really best for us. But how often do we talk as though we knew better than He the kind of treatment needed in our particular case. Every complaining word or thought seems to imply that we are badly treated. In theory we are quite willing to admit that sorrow and pain are good for people, but do we always think that the particular trouble we are called upon to endure to-day is just what we need?

Miss Havergal's beautiful little poem, "The Turned Lesson," makes this easier to understand. A child comes to repeat her lesson, and is disappointed to find that the teacher gives back the book with the mark set in the same place. "I thought I had learned it, quite," she says, complainingly; but the teacher, in truest kindness, makes her learn it thoroughly.

"Is it not often so,
That we only learn in part?
And the Master's testing-time may show
That it was not quite 'by heart'?"
Then he gives, in his wise and patient grace,
That lesson again,
With the mark still set in the self-same place.

"Only stay by his side
Till the page is really known,
It may be we failed because we tried
To learn it all alone,
And now that He would not let us lose
One lesson of love—
(For He knows the loss)—can we refuse?"

"But oh! how could we dream
That we knew it all so well!
Reading so fluently, as we deem,
What we could not even spell!
And oh! how could we grieve once more
That Patient One
Who has turned so many a task before!"

"That waiting One, who now
Is letting us try again!
Watching us with the patient brow
That bore the wreath of pain:
Thoroughly teaching what He would teach,
Line upon line,
Thoroughly doing his work in each."

My dear friends, it is so easy for me to preach; but I know it is often very hard to keep sweet when everything gets into a muddle, when the children are troublesome, the work is behind-hand, and one's nerves are all on edge. The irritable tones seem to get into the voice even when the words are patient. Perhaps you, too, think you have been through all that often enough—that you have learned all the lessons it can teach you. If you can only get away for five minutes and find a quiet spot where you can be alone—"enter into your closet," in spirit at least, if it is impossible to retire bodily—you will be able to straighten the tangle out, I think. Try the plan of kneeling at the feet of the Master and putting your hands into His, trustingly as a little child. Tell Him that you want to learn the lessons He sees to be the best for you, and are ready to follow His plan for your education. Then go cheerfully back and do the task He has set, even though it may be a lesson you have had to do over and over again already. When He sees that it has been really mastered, never fear but that you will be promoted to higher and probably harder work. In the Great Master's School, as in other schools, a pupil who does his work well has more difficult tasks set him as a reward. Perhaps you think I talk too much about little cares and worries, scarcely touching at all on the great events of life. But if you can keep the golden thread of God's watchful providence always visible, every hour of every day, there is no fear that you will forget to look to Him when the great troubles or temptations come. Even when the mind is

occupied with necessary work, the glad consciousness of His presence should, like the sunshine, brighten everything. I speak to you who love the Master, and say, will you try to remember that you are learners in His school, and that He himself is training each of the pupils according to His need? Every complaint we make is really a complaint against Him. Shall we dare to say to our King and our God that He does not understand us, does not know as well as we do what lessons are most needful for us to learn? Even we ourselves are able to see, when we look back over our lives, or look at the lives of others, that it is not good for anybody to have too easy a time. Just because our Master loves us, He won't let us shirk the hard bits. Some lessons are only given once; if we fail to learn them then, it is our own irreparable loss. It is well to remember that, though similar lessons may be set, yet "we shall not pass this way again." Let us not neglect the opportunity, given to-day, of getting stronger and better.

"Say oft of the years as they pass from sight:
'This is life with its golden store;
I shall have it once, but it comes no more,
Therefore I must work with my strength and might.'"

Sometimes we may say, despairingly, "The lesson is very hard, my Master." Then we can almost hear the quiet answer, "Yes, My child, but you can learn it for Me."

"Then let our hearts be still,
Though our task is turned to wail;
Oh let him teach us what He will,
In his own gracious way.
Till, sitting only at Jesus' feet,
As we learn each line
The hardest is found all clear and sweet."

HOPE.

Use the Dining Room.

It would seem to be quite unnecessary to advise mistresses or homemakers to serve dinner in the dining-room every day were we not aware of the very strange and wide-spread custom which prevails in many Canadian and American homes, especially in the agricultural districts, namely, of making use of the kitchen for dining in, as well as breakfasting, and also for supper room. This seems still stranger when we reflect that it is not for want of other rooms or furnishings, as we find not only dining-rooms and drawing-rooms, but very frequently parlors, with commodious halls and bedrooms, all well furnished, and for what purpose? We confess our inability to explain, as they are usually in good order, but frequently with curtains and windows closed—we are told, to prevent the dust from getting in or the sun from fading or spoiling the carpets or carpets. It is evidently caused by a lack of knowledge of "domestic science," especially of the fifth department, namely, domestic economy, which could possibly permit such a waste of opportunities for civilization, not to speak of refinement—to build up "ideal Canadian homes" with people who are well fed, well read and well bred, and, as a result, thoroughbred.

As our first duty is towards the civilization of our own families, let us live as refined as our means permit, and if we have only three rooms, let one be a dining-room, which we will use three times a day, and have it clean, wholesome, bright and sunny.—(Ladies' Journal.)

Opportunity.

In one of the old Greek cities there stood long ago a statue. Every trace of it has vanished now. But there is still in existence an epigram which gives us an excellent description of it, and as we read the words we can surely discover the lesson which these wise old Greeks meant that the statue should teach to every passer-by. The epigram is in the form of a conversation between a traveller and the statue:

"What is thy name, O Statue?"
"I am called Opportunity."
"Who made thee?"
"Lysippus."
"Why art thou on thy toes?"
"To show that I stay but a moment."
"Why hast thou wings on thy feet?"
"To show how quickly I pass by."
"But why is thy hair so long on thy forehead?"
"That men may seize me when they meet me."
"Why, then, is thy head so bald behind?"
"To show that when I have once passed I cannot be caught."

"Can't you get it out, Mike?" inquired Barney anxiously, as he watched his friend endeavoring to draw the cork out of a bottle of water—strong. "Get it out! Be jabbers, I'll get it out if I have to shove it in."

A Sunday-school Superintendent, who happened to be a dry goods merchant, and who was teaching a class of very little tots, asked, when he had finished explaining the lesson: "Now, has any one a question to ask?" A very small girl raised her hand. "What is it, Martha?" asked the Superintendent. "Why, Mr. Brooks, how much are those little red paraisols in your window?" said Martha.

A Study in Bees.

Romanes made a study of bees. So did Aristotle. So did Pliny. So did the late Empress Frederick. In the coming ages, no doubt, people will say, "So did Chrysolite." By that time, doubtless, the "Advocate" will have evolved into a periodical better known and more widely read than Webster's Unabridged. Very likely it will then have a gramophone attachment to save people the exertion of reading, and a microscope accompaniment to illustrate new methods of agriculture. However, I haven't made a study of bees, but the other day they succeeded in making quite an interesting study of me. I wonder if Romanes, or Aristotle, or Virgil, or any other of those ancient worthies, was ever stung by a bee? I suppose they could expound on all the fine points of difference between a hornet, a bumblebee, and a honeybee; but, generally speaking, people know a hornet when they see it, a bumblebee when they hear it, and a honeybee when they feel it. As the Highlander said regarding the bee, "She mak's music, but it's nae music; she's a nice wee bird, but she bites wi' her tail, an' it's sair a' day."

There is a boy in our house, named Habakkuk, who is considerable of an apiarist. He has a goodly number of hives, and, in some respects, they are beginning to prove themselves profitable. He hasn't had them very long, but somehow it seems a good while—counting by epochs. Here let me say that if any "Advocate" reader is thinking of starting a bee-garden, it behooveth him not to start it near the kitchen-door.

Well, a few days ago, said Habakkuk decided to extract honey. A young friend of mine was staying with us (we shall call her Prudence), and as she was unacquainted with bees, it was quite an interesting operation to her. Habakkuk cleaned the cans for receiving the honey, and arranged them beside the extractor in a building hard by, and hung a bunch of catnip at the door. Next, he put on a fire in an old stove to warm things up a bit—principally honey; and filled his "smoker" with coals and all the stray chips he could find, to cool things up a bit—principally bees. Then he donned a veil, bracelets and anklets—rather a primitive style of apparel for a gentleman of modern times, by the way, but it goes a long way with bees; at least, they will go a long way without it. The veil is a combination of wire netting and an old grenadine skirt; the bracelets and anklets are of binder twine. He finished off with gauntlets, and a plume of catnip in his hat. In some ways he reminded me of Galahad starting on the Quest, only the armor was somewhat different. Near-by stood the dog, watching operations. He is very fond of Habakkuk, and usually follows him about everywhere, but he draws the line at the apiary; he knows by experience that bees are "multum in parvo."

All things being ready, Habakkuk sallied forth on the Quest—for honey—carrying his "smoker," and a huge knife to loosen the combs. He lifted the lid from a hive, brought in the combs to the extractor, and went back for more. An angry hum rose from the apiary that was ominous to me as the tramp of the Jacobins to the French Royalists; added to this noise, Habakkuk wore a pair of very heavy boots, so, like the "old woman of Bambury Cross," he "had music wherever he went." It so happened that there was a hole in that veil, and, consequently, Habakkuk soon came rushing to the kitchen-door, with—

"An onion! Give me an onion, quick!"

I was busy in another part of the house, but Prudence was in the kitchen. Now, if there is one thing that she detests more than anything else, it is an onion.

"An onion!" she said, "what do you want it for?"

"Why, for these bee-stings, of course; is there one there?"

"How can an onion possibly be any good for bee-stings?" said Prudence. "What's the matter with you, anyway?"

Habakkuk said something with a d in it—it sounded like "daisy," but I don't think it was that—and ran to the garden to procure one for himself. Of course, Prudence, who always likes to know the "whys" and "wherefores," ran after him—she was unacquainted with bees, you must remember.

Then something happened—several things, in fact. First, the dog yelped, and went past the kitchen-door like a comet without a tail; he made a "bee line" for the barn, with a line of bees at his heels. The cats, who were busy pulling down the catnip, arched their backs and took refuge in the nearest tree and on the roof of the cook-house; while out near the apiary Prudence seemed to be trying some new exercises in Delsarte—rather violent ones. She waved her arms, she made curtsies, she described circles, she bolted off at tangents, she ran at right angles, and acute angles, and obtuse angles; but the principal thing she did was to call for me. I generally try to observe the Golden Rule, so I snatched up the nearest available weapons—viz., a dishcloth in one hand and a sun-bonnet in the other—and flew to her assistance, these immortal lines from Hohenlinden ringing in my ears:

"The combat deepens. On, ye brave,
Who rush to glory or the grave!
Wave, Munich, all thy banners wave,
And charge with all thy chivalry!"

The battle was short-lived. I explained to her, a little at a time, that it was imprudent to run towards the hives, so, turning in the opposite direction, we fled to a place of safety, which happened to be part way across a ten-acre field. Then we scraped the "thistles" from each other's physiognomies.



(From original painting by Matthias Schmid.) "THE FÊTE DAY."

That Habakkuk—well, I don't know what to say about him. I think he ought to be hung up by the heels to let sense run into his head. He seemed vastly amused about something or other, but Prudence and I didn't see anything funny about it—we hadn't time, for one reason. "When you had passed," he said afterwards, "it seemed like the ceasing of exquisite music."

However, when we came back to the house he met us with a bunch of onions, and Prudence has decided that the remedy was no worse than the disease.

We begin to look like rational beings once more. Prudence has lost that Cyclopean expression, and I can wear a stock-collar without inconvenience. We like honey just as well as we ever did, but we have no inclination to make "a study of bees."

While a drove of bullocks were being driven through a well-known market town, one of the animals suddenly stopped, and, notwithstanding all the efforts of the drover, would not move on its way. A chemist, who happened to see the affair, went up to the bullock, and injected a drug down its throat. The animal immediately careered down the street at a mad gallop. About five minutes afterwards the drover entered the chemist's shop, and, wiping the perspiration off his forehead, asked the chemist if he were the party who gave the bullock some medicine. "I am," said the chemist. "Well," said the drover, "I'll tak' a pennyworth o't, as I hae to follow the beast."

A Novel Fad.

The latest fad among schoolgirls is a book of confessions. It contains a number of small sheets of unruled linen paper, with a unique cover of rough paper ornamented with a pleasing design in water colors.

A very attractive one has brown-eyed Susans on the cover, while wild roses ornament another.

On the first page are the following questions:

1. Favorite name for a woman?
2. Favorite name for a man?
3. Favorite qualities of a woman?
4. Favorite quality of a man?
5. Choice of blonde or brunette?
6. Choice of light or dark eyes?
7. Choice of musical instrument?
8. Favorite amusement?
9. Favorite song?
10. Favorite poet and poem?
11. Greatest dislike?
12. Greatest enjoyment?
13. Favorite flower?
14. Favorite beverage?
15. Favorite color?
16. Favorite motto?
17. Favorite book?
18. Favorite month?
19. Favorite gem?
20. Favorite game?

Schoolmates and friends are requested to write in this book and answer the various questions, always signing them at the bottom.

"The Fete Day."

Our picture gives us a quaint interior and a peep into a family circle at a moment evidently of supreme interest to it. It is the fete day of St. Francesca, after whom the daughter of the house is named, and the question before them evidently is how best to enjoy the day, and how best to honor the patron Saint? What gifts shall be laid upon her shrine? And what must Francesca herself sacrifice of her possessions to give adequate expression to her pious reverence? Must Chanticleer go to the market, and what will that handsome and much-cherished bird fetch when offered for sale? Chanticleer himself appears the least troubled of the party, lying quietly in Francesca's arms, unsuspecting of treachery. The father, razor in hand and with chin and lip all soap-besmirched, turns round enquiringly, and the mother stops in her task of adding still another patch to the already well-patched waistcoat, to hear what the friendly market-maiden may suggest and what Francesca shall decide. What will she decide? We venture to think—may, to hope—that a solution will be found to meet all requirements, that Chanticleer "may live" to crow if not "to fight another day," and that Francesca may have a happy "jour de fete" without any qualms of conscience to detract from her pleasure.

H. A. B.

The Gifts of God.

When God at first made man,
Having a glass of blessings standing by,
"Let us," said He, "pour on him all We can;
Let the World's riches, which dispersed lie,
Contract into a span."

So strength first made a way,
Then Beauty flowed, then Wisdom, Honor, Pleasure;
When almost all was out, God made a stay;
Perceiving that alone, of all His treasure,
Rest in the bottom lay.

"For if I should," said He,
"Bestow this jewel also on My creature,
He would adore my gifts instead of Me,
And rest in Nature, not the God of Nature;
So both should losers be."

"Yet let him keep the rest,
But keep them with repining restlessness;
Let him be sick and weary, that at least,
If Goodness lead him not, yet Weariness
May toss him to My breast."

—Herbert.

THE CHILDREN'S CORNER.

Our Holiday Letter Competition.

The competitors in our holiday letter competition could not be classified according to age, as none of the younger ones tried this time.

The winners are Willa Harding, Thorndale, Ont., and K. C. McDiarmid, Ormond, Ont.

HOLIDAY LETTER I.

Dear Friend,—

Having a few spare moments, I will now answer your letter which I received last week. You asked me for an account of my vacation, so I am going to give you the best account I can. About three weeks after school stopped, the raspberries were ripe. You know where our berry-patch is, as you and I visited it last summer. Well, we went out there and picked and picked till we were tired. My aunt and two cousins from the city were here picking berries this year, and one of my cousins stayed a week after berry-picking was over. We had a wild time, and it was our delight to drive to the village, two miles distant, to get the mail and other necessities. One lovely afternoon we spent at the river, paddling in the water, gathering shells and mosses along the shore. When we were tired, we all sat down beneath a shady tree and ate our lunch and lemonade. But oh, sad to relate, I spilt the lemonade! A lady was there and sketched us. She promised to show us the picture when it was finished. Then I spent two or three weeks at home. There were the plums and pears to pick, and my dear little baby brother to mind. Sometimes I rested in the hammock, where the green vines clustering around the veranda made a beautiful shade. The last week of holidays I and a couple of my cousins went to visit a friend. We rode on the train part of the way. It is wonderful the different scenes one gets as one flies past on the train. One place there was a pond right near the track. There were five or six little boys in bathing. They splashed just as hard as they could. When the train goes swiftly round the curve, the jar will make the people that are walking in the car almost fall on top of you. Another place we saw the fresh green clover and smelt the sweet fragrance of it; and going on a little farther, we came to a field where the stubble had been burnt, and we got a nasty burnt smell. But at last we had to get off the car. We had a ten-mile drive after this. We put in a wild time playing about the old farm. We used to go out and romp in the hay and play hide-and-seek. One day we went back to a woods where there had been a fire. A number of trees and about seventy yards of fence was burnt. We put in our time in such ways. We stayed for a week and then returned home on the train. Our holidays are over, and I am glad to get back to school again.

WILLA HARDING (aged 14).

HOLIDAY LETTER II.

My dear Cousin,—

I have just returned from a delightful holiday in the country. I had so much fun I really must write and tell you about it. I started for my Uncle Bob Markle's farm at Glendeane on the tenth of June. That morning I wakened pretty early, but alas! it was raining. However, it cleared up somewhat before traintime, so I gathered up my belongings, said good-bye to everybody, and started. Uncle Bob came to meet me, but he was in a bad humor over the rain. Driving home through the drizzling rain, over a splashy road, I was feeling pretty blue. But when I arrived at my uncle's house, I was so cordially greeted by everybody—even the dog making friends with me at once—I forgot all about the discomforts of the journey, and began to take an interest in holidays again. Next morning I had a chance to see what camping out was like. They were putting a new floor in the kitchen, and put the stove and table out under the trees. They assured me affairs were serious the day before in the rain.

After breakfasting on new milk, fresh eggs, hot cream-biscuit and honey, a couple of my cousins and I started to water the horses. They rode them to the river, half a mile away. So we started off—riding clothes-pin fashion—for a jolly ride. All went well until we reached the place where they drink; but when the horses lowered their heads, I nearly slid over my horse's shoulder. My cousins, of course, were used to it, and laughed at me, but I did not find it at all pleasant. Going home, I noticed nuts on many trees, and asked my cousins to get me some, as I wanted some to take home. We went that afternoon to get some, as I thought they would be just as good green. When we found the bushes, the squirrels or something had taken nearly all the nuts. We found about half a dozen, and we were so vexed we sat down to eat them, but there was not one of them good—all little and worm-eaten. We had a lovely row on the river, and gathered some beautiful water-lilies. When we had the boat nearly full of flowers, my

cousins thought we had better go home before we gathered enough to sink the boat. When they were drawing in hay, I thought I would go down and build loads. I think it is great fun riding home. It was all right on the load until the horses began to move, and then I began to bow gracefully, and then I sat down in too much haste to be graceful. I decided that riding home is the best part of drawing in hay. Before I went home they made a party in my honor. It was a lovely evening, and the young folks scattered about the lawn in the moonlight made a pretty picture. The evening was spent in games and music, and everybody enjoyed it very much. Next morning, I wearily packed my trunk and came back to the dusty city again.

Yours sincerely,

K. C. McDIARMID (aged 15).

I have taken both spelling and writing into consideration in awarding the prizes. Both letters are very interesting, but Willa Harding's was much neater than the other. Look out for another competition next time.

COUSIN DOROTHY.

Travelling Notes.

This time my jottings date from Glasgow, and I will do my best to make them as coherent as I can. We both agreed that the man gave a most realistic description of his sensations who is reported to have said that upon his arrival "he was let down by a rope into a mine, and there he stayed as long as he remained in Glasgow," for you literally go through a long black tunnel so steep that a cable is attached to the train to hold it back, and also to pull it up again should you be travelling via Edinburgh. If the traveller who so graphically described his experiences reached his destination during one of Glasgow's fogs, it is no wonder that the whole city should appear to him as one dark mine.

We, however, were more fortunate, for the sun was shining, and we had some beautiful days in Glasgow, the second largest city on this side of the Atlantic. What crowds! What noise! What squalid misery in the crowded back streets, where the women are all barefooted and bare-headed and the children in filthy rags. Nothing lightens the dull, awful weight of the impression which the poor of London and the poor of Glasgow leave upon the heart; and yet there are countless forms of attempted relief in green openings into parks and gardens, in every form of charity known to refined human sympathy, and in missions, schools and friendly societies, and yet the conditions are still awful. Much of the great misery, of course, can be set down to intemperance, for men, women and children alike flock to the public-houses as soon as they earn or beg a penny, and know no other existence.

My first experience was the difficulty with the language in this land of cakes. I was quite conceited about my knowledge of Scotch, for had I not learned it from my own dear mother? But when I encountered it in its pure and unadulterated form it was a different thing. Upon landing in Glasgow, I, as usual, rushed to a policeman for information, and asked him to direct me to Sauchiehall street—pronounced Sockehall, which I did not then know. He replied: "I dinna ken what you min. Whareryegauntea?" (i. e., where are you going to?) Having at last made myself understood, he very politely directed me, and I thanked him and turned away but very little the wiser. Then the money—they tell you it is "hauf a croon," or "twa and sax," or "a bob and a tanner"—more puzzling than the "two bits" or "four bits" they talk about in the Western States. Tramways, as they call our electric or horse cars, with seats on the roof as well as inside, pass in every direction, and the charge of a penny or a half-penny seems ridiculously low. The shops are full of charming goods; it is interesting to stop and look at them. Prices of every kind of clothing are much lower than those to which we have been accustomed. The city is crowded. People have come from all parts of the world to visit the Exhibition, and all, apparently, go away delighted; for there are to be seen many of the finest specimens ever produced in art, needlework in silk, cotton and wool, as well as beautiful things in china, glass and silverware. It would be impossible to enumerate the different exhibits, for though one can get an idea of the extent and vastness of the Exhibition after spending three days at it, one does not begin to see half of the articles shown. It is not just to compare it with the World's Fair, where for situation, general effect of the buildings, statuary, lakes, etc., and artistically-planned harmony and beauty, the palm would have to be given to Chicago, but many of the exhibits are finer at Glasgow. The pictures, for instance, are all the choice paintings from the Royal Academy and other exhibitions for years and years, which have been purchased by the wealthy and loaned to this exhibition by their possessors. Most interesting, too, are the exhibits—French, German, Russian, and Japanese, as well as those from Morocco, Rhodesia, Australia, Ireland, and last, but by no means least, from our own dear Can-

ada. Canada makes a good exhibit, both in the large main building and in her own department. She sends samples of all kinds of wood, coal and other minerals, and all produce possible, from the Pacific to the Atlantic coast: Canadian buggies and canoes, machinery, ranges and stoves, fish, flesh and fur bearing animals. The forest wealth of Canada is enormous, and all the woods generally used are here to be seen, and beautiful they look. The samples of Canadian apples are greatly admired, the delicious smell pervading the whole building. Mr. Hamilton, who is in charge of the apple exhibit, is a thoroughly kind and genial Canadian, and I am sure this exhibit from Canada will do good in advertising and opening the eyes of those who believed that we could produce only ice and snow. It is astonishing the ignorance that prevails in this mother country, of the extent and advanced state of our fair Dominion. Just fancy, I was asked the other day "if that animal upon our Flag represented a skunk?" The gravity with which the question was put precluded all hope of my treating it as a joke, so I had to choke down my wrath as best I could, at the insult to Canada's emblem, our time-honored, beautiful beaver.

Upon reviewing our experiences, after we had taken our last trip to the Exhibition at Glasgow, we concluded that perhaps more might have been made of this great opportunity to enlighten the world as to the great resources and the growing wealth of the Colonies of the British Empire. It was an object lesson indeed, but one which stopped short of all it might have taught. Canada realized her opportunity best, but she could have demonstrated with far greater effect than she did, how up-to-date she really is in her great system of travel and general transportation, and how great have been her engineering feats in mastering what to an inferior intelligence and to a less progressive people would have been insurmountable natural obstacles. My next chat will probably still be dated from "bonnie, bonnie Scotland!"

MOLLIE.

The Busy Man.

If you would get a favor done
By some obliging friend
And want a promise, safe and sure,
On which you can depend,
Don't go to him who always has
Much leisure time to plan,
But if you want your favor done,
Just ask the busy man.

The man with leisure never has
A moment he can spare.
He's always "putting off," until
His friends are in despair.
But he whose every waking hour
Is crowded full of work
Forgets the art of wasting time;
He cannot stop to shirk.

So, when you want a favor done,
And want it right away,
Go to the man who constantly
Works thirty hours a day.
He'll find a moment, sure, somewhere,
That has no other use,
And help you, while the idle man
Is framing an excuse.

The Nameless Hero.

(From the Denver News.)

There are countless heroes who live and die,
Of whom we have never heard;
For the great, big, brawling world goes by
With hardly a look or word;
And one of the bravest, and best of all
Of whom the list can boast
Is the man who falls on duty's call,
The man who dies at his post.

While his cheek is mantled with manhood's bloom,
And the pathway of life looks bright,
He is brought in a moment to face the gloom
Surrounding the final night,
He buoyantly sails o'er a sunlit sea,
And is dashed on an unseen coast—
Till the ship goes down, at the helm stands he—
The man who dies at his post.

Who follows the glorious tide of war
And falls in the midst of fight,
He knows that honor will hover o'er
And cover his name with light,
But he who passes unsung, unknown,
Who hears no applauding host,
Goes down in the dark to his fate, alone,
The man who dies at his post.

Who bears the disease while death draws near,
Who faces his fate each day,
Yet strives to comfort and help and cheer
His comrades along the way,
Who follows his work while he yet may do,
And smiles while he suffers most,
It seems to me is a hero true—
The man who dies at his post.

There are plenty to laud and crown with bays
The hero who falls in strife,
But few who offer a word of praise
To the crownless hero of life,
He does his duty, and makes no claim,
And to-night I propose a toast
To the silent martyr unknown to fame,
The man who dies at his post.

An Irishman was sitting in front of his house a few days ago pulling frantically at his pipe. He lighted a match, and pulled and pulled, threw the match away, and then lighted another. He continued the performance until the ground was strewn with burnt matches. "Come in to dinner, Pat," said his wife. "Faith, and I will in a minute, Biddy," said he. "Moike was tellin' me to-day that if Oi smoked a piece of glass Oi'd see an eclipse av the sun. Oi dun know whether Moike's been foolin' me or whether O've got the wrong kind of ghllass."

Ingle Nook Chats.

My dear Guests.—Some of the competitors in the Camera Contest made the mistake of sending their work to me, instead of to the "Advocate" office as directed. I re-addressed them, however, and as soon as possible had them forwarded to London, where I trust they arrived safely and in good time for the competition.

As it is now some time since we have had one of our old-time contests, I have not heard from many of the guests recently, and the absence of their cheery letters leaves quite a blank. Never mind, our "calling-day" is coming soon, and I hope the reception-room of the "Nook" will be crowded with faces familiar and new. I promised something easy and of interest to puzzle-lovers, and forthwith I attempt to redeem that pledge by offering:

"A COPPER FOR YOUR THOUGHTS."

In other words, Contest XV. consists in taking an ordinary copper coin and finding thereon the list of things (or their equivalent) given below:

- | | |
|------------------------|------------------------------|
| 1. Well-known flowers. | 9. A beverage. |
| 2. Name of an animal. | 10. A useful organ. |
| 3. Name of a fruit. | 11. A cavalier. |
| 4. What we all love. | 12. A badge of royalty. |
| 5. A body of water. | 13. A foreign language. |
| 6. Place of worship. | 14. The victor's gaudion. |
| 7. A messenger. | 15. Part of a hill. |
| 8. A method of voting. | 16. What the postman brings. |

We offer three prizes for the three best sets of answers to the foregoing puzzle, which is simple enough for the veriest beginner, and yet may test the observational powers of many. Not all will have noticed so closely the make-up of our most common coin. This contest will be divided into three classes, to give the little folks a chance, and one prize will be given in each class. Class I. includes all over 18 years of age; Class II., 14 years and under 18 years; Class III., all under 14 years. Work for the contest must reach Pakenham by Nov. 20th. Address as given below. In case of a tie in any class, neatness, correct spelling, etc., will decide the winner.

Did any of you see the Royal visitors when on tour through our fair Province? The Royal train passed quite close to where your humble friend, "The Hostess," lives, but they never stopped to peep into the Ingle Nook. Just think what they missed! They did stop at several of the towns near by, for a few moments only, but long enough for the citizens to give evidence of their loyalty. In almost every case the parting guests were saluted with a universal cheer from crowds of lusty-throated school-children—Young Canada! What a day it was, for the little ones to see not only the son of our King, but the King-elect himself! I should like to have been present myself, but circumstances decreed otherwise, so I tried to practice what I have often preached, and did "the duty nearest" me. The long autumn evenings bring an increase of leisure on the farm, so I shall hope for a large influx to the cosy corner of our Ingle Nook.

THE HOSTESS.

Ingle Nook Chats, Pakenham, Ont.

PRIZE ESSAY—CLASS I.

Country versus City Life.

(By Mossback's Daughter, Port Perry, Ont.)

As I have always lived on the farm, I shall speak of country life as I find it. I know but very little of city life, so shall leave that side of the question to my city cousins.

The child born on the farm has a great advantage over the one born in the city, for laying the foundations of a strong, sound constitution, and an alert, inquiring mind. After he is able to run alone, his nursery is the door-yard, fields and woods. The children gather wild flowers, fruits and nuts, run to the farthest end of the farm before dinner to get a ride up on horseback, drive the horses for Papa as he loads the golden grain, or hunt the orchard through for the first ripe fruit. There is no need to tempt these children's appetites with dainties, they are ready for the plain, but fresh and nourishing, food prepared for them. Do they know that in this natural, free and vigorous child-life they are laying up great stores of strength for the strain and labor of future years? They are developing the sterling qualities of their future manhood and womanhood by furnishing their own amusement. The parents are too busy with their farm or household work to spend much time in amusing the children. Left largely to furnish it for themselves, they quickly learn to do so. When they tire of one thing, they take something else and make it serve their purpose, often inventing not only the play, but the things with which to play, for store toys are a luxury comparatively few country children know. The older ones help the younger to carry out some plan in which they cannot succeed alone. So in the happy hours of play, inventive skill, self-reliance, independence and mutual helpfulness are being built into their characters.

In the children's daily contact with the plant, animal, bird and insect life about them, in their work in field, garden and house, as they grow older, their powers of observation are being cultivated, their perception faculties are being trained to a nicety of distinction, to a search for the cause of an effect, that will be of inestimable value through life.

Farm life is real, busy and happy. It is real and happy because it is busy. From early morn till evening, there is work and plenty of it to do. And it must be done; necessity urges us to it. We farmers' sons and daughters feel that in our work we are supplying a real need, for the farm could not be run successfully without us. We have a sense of independence and a pleasure in our work that does not pall. Then when the long winter evenings come, how we enjoy them! We get time to read our favorite authors, make the acquaintance of new ones, or take up some branch of study.

When one member of the family takes a holiday, his or her share of the work has to be done by the others at home. It adds to their burdens, oftentimes already heavy, but they forget self in the pleasure and benefit afforded to the other. There is a law of life that has been hidden deep in human nature since the days of Adam—oftentimes hidden so deep that it is never found; and because it is not found, life never attains to its full and true measure of happiness. Jesus Christ enunciated it in these words, "The Son of Man came not to be ministered unto, but to minister." When we spend our lives laboring for those we love, the reflex action warms and fills our own hearts. That, I claim, is the secret of the true happiness so often found in humble farm homes, where all have to work hard and "pull together" to make both ends meet.

The social life too, in the country is real. I have no time to entertain a lot of mere society friends, or be entertained by them. I choose my friends not because they belong to a certain set of society, but because I see in them a true manhood or womanhood, find in them congenial tastes and an affinity that draws us together. I find a few—a very few—true kindred spirits. A force that is within us draws us closer and closer together, until we see and understand each other's inmost self. We each see life from the other's point of view; each gives the other needed sympathy, encouragement and help in hard places. In the genial atmosphere of such a friendship, one grows open, frank, true and strong.

A country boy is likely to have a larger measure of success in life than a city boy. It is a well-known fact, and one often wondered at, that so very large a proportion of the men who to-day stand in the front rank, the greatest of our statesmen, educators, preachers, and others, were born and brought up in the country. When we come to consider the qualities necessary for a successful career—physical endurance, tireless energy, will power strong enough to make things bend, intense application and concentration of all the powers to the end in view—we see that the conditions of life surrounding the country boy are more conducive to their growth. There are not many boys brought up on the farm but who know what it is to work from daylight to dark during the busy summer season, and often at work so hard that a few hours of it would make a city boy think he was nearly killed, as perhaps he would be. It is in just such rough, hard ways that physical endurance and tireless energy are gained. The quiet life of the country gives the innate trend of character in a boy a chance to show and develop itself. In the earlier stages of its growth, it might be lost in the rush and whirl of city life, but in the many hours on the farm while the hands are employed with work which still leaves the mind free, this germ begins to grow, gathers force and strength, until the boy, absorbed by his one purpose, bends all his energies to that end. In overcoming one difficulty he gathers strength for the next. By sheer strength of will, force of character, and the genius of hard work, he pushes his way until he stands abreast with the foremost men of his day.

Country life develops in children a true love of beauty and a reverence for the sublime, with a power to enjoy it such as none can know but those whose souls have grown into harmony with it during the quiet hours scattered through the years. Though we look on the same scene every day, it is always new. The changing seasons make it a real panorama. The spring with its fresh, bright, living green; the summer with its darker foliage and waving golden grain; the autumn with its brown furrows as a relief for its forests of crimson and gold; the winter with its mantle of white so sensitive as to reflect the varying moods of the vaulted arch above it—all these make a scene which we never tire of watching, for even in the same day, between the morning and the evening light, a subtle change passes over the landscape. We look away to the farthest point of vision and see the beautiful hills, whose distance is measured by the depth of their blue. We snatch a minute to watch a beautiful sunrise dispel the shadows or pierce the mists of morning. Again a brilliant, glowing sunset thrills our entire being, and a quiet rest and calm steals over the soul as we watch the soft coloring and subtle, harmonious blending in the sky, whose beauty is repeated in the lake at our feet. It casts its spell over us and holds us until the stars come out one by one to keep us company. Sometimes we see old Luna dreamily sailing through the fleecy clouds, now hiding her face entirely behind a darker one, then the silvery light of its edges gradually increasing to a glow as she sails again into full view, only to partly hide herself behind another. It is impossible for any artist ever to put these pictures on his canvas.

Some clear, bright night I step outside to look at the heavens above me, studded with twinkling orbs. I see my childhood's friend, the polestar, with its circling constellations, the Great Bear and Cassiopeia. I see other brilliant stars, and the clouds of light in the Milky Way, and wonder what they are. I get a work in astronomy, and am carried far beyond this little earth, the sun, the solar system, into galaxy beyond galaxy, the sun, the solar system, into galaxy beyond galaxy of the infinite depths of space. And then my thought reaches out to God the Creator and Controller of all, and I stand in wonder and awe. There is no place on this green earth better fitted for the development of a strong, vigorous, intelligent, true and noble manhood and womanhood, than in our Canadian country homes.

Camera Competition Awards.

Over sixty photographs were received in our Camera competition, a large proportion of them showing very marked evidences of artistic skill both in the selection of subjects and in the execution of the work. We are pleased to find such a widespread and intelligent interest taken in amateur photography, and trust that many others will take up this delightful pastime whereby so many beautiful home scenes and reminiscences of travel may be preserved permanently. Selections from the photos in our competition will appear from time to time as engravings in the "Farmer's Advocate." Following is the list of awards:

- 1st. Ada M. Johnston, Middlesex County, "Scene on the River Thames."
- 2nd. John Jackson, Wentworth County, "Sheep Judging at the Toronto Industrial Exhibition."
- 3rd. Reginald G. Waring, Lambeth County, "Country Home on the Banks of the St. Clair."
- 4th. James Field, Muskoka District, "A Muskoka Sugar Bush."
- 5th. Mr. Chalmers, Wellington County, "Farmyard Scene."
- 6th. A. C. Bridgen, York County, "On the River Credit, near Meadowvale."

Another Holiday Jotting.

Cambridge, Massachusetts, U. S. A.—Life is full of contrasts, as we all know, and it is well that it should be so. Even one's holidays are all the more enjoyable and beneficial when they afford variety and change of scene. It is good in every sense to widen one's horizon, to travel with one's eyes open and one's mind on the alert to profit by all one sees. My holiday this year has come to me somewhat sandwich-fashion: a fortnight of quiet Placidia, on Lake Huron, as the under slice of bread, then two months of simple home routine and ordinary duties, followed by a dainty, well-battered upper slice provided by a fortnight's delightful visit to this land of enlightenment and culture, Boston and its neighborhood. My prescribed time is all too short to enable me to get more than a general or bird's-eye view of my surroundings. My friend's home is within a stone's throw of Harvard itself—i. e., the central buildings and the beautiful grounds which environ them. There is such a wealth of foliage everywhere, there are magnificent trees, well-kept grass and flower-beds; no neglected corners; everything, within and without, thorough. The strength of a chain is in its weakest link, they say, and to the outward eye, at least, no weak link is anywhere discernible at Harvard, for a most full and ample provision is made to turn even the dullest of boys into a learned man or to provide him with such training that it will be no one's fault but his own should his after-life become one of failure.

The Harvard "Agassiz Museum" is open to every one, and is, I believe, freely used by the teachers of the ordinary schools to illustrate any subject which they may be teaching. It is in an immense building, many stories high, and contains every possible specimen of the animal, vegetable and mineral world. I have seen many museums, but I cannot remember ever leaving any before with such reluctance as I left the Harvard Museum yesterday, as the hand of the clock pointed inexorably to the hour of closing. It has one exhibit unknown to any other collection in the world, and provided at immense cost, in the interests of the study of botany. It illustrates every form of floral life in natural or magnified size, with every tender, delicate tendril, seeds, pollen, etc., with their exact shade or shades of coloring, most exquisitely executed in glass. The invention and its secret is known only to one family, that of Blaschka, of Germany, and this secret is handed on from father to son, never to be revealed to others, or so I understood the story. No one could imagine the specimens to be anything but of the living plants themselves or actual sections of the same. The supposition that they were made of glass would never enter the mind of even the most imaginative, so perfect is the imitation.

Perhaps if there is one thing more than another which strikes the observer, on first coming to Cambridge, it is its air of quiet and dignified repose, its signs not only of well-to-do-donesse everywhere, but of positive wealth. If there are any poor people, they keep their secret well. Wages are high, and that, of course, means a set-off against the heavy rentals, which sound appalling to the Canadian mind. The usual outcry for domestic help is heard here as elsewhere, and various methods for its substitute, or to do without it altogether, are under consideration at Boston and Cambridge, as in Canada. The need of training, both for mistress and maid, is fully recognized and provided for. Amongst the most interesting places I have been privileged to visit were the cooking classes at the Cambridge High School, and the school of housekeeping under the auspices of the Women's Educational and Industrial Union. The course is most comprehensive, including a knowledge of housework in every branch, as well as providing, as a basis for the same, a thorough knowledge of sociology, sanitation, chemistry of food, etc., etc. In a community where claims of the intellect appear at first sight to be paramount, it is good to see that due recognition is given to some of life's greatest essentials. If a college is founded, supported, and gives equal privileges for study and obtaining degrees by the women as by the men students at Harvard, so also is training provided which may—nay, *must*—add to the happiness of the future homes of both. In illustration of this I add a clipping from a "Boston Transcript" of last week:

"Miss Nannie Vickroy, a teacher, of Macon County, Mo., is the author of a unique answer to the question, 'Who is the greatest woman in all history?' which was put to 200 school teachers. Miss Vickroy passed over Queen Victoria, Frances Willard, Helen Gould and other women whose names were the most popular, and declared: 'The wife of the Missouri farmer of moderate means, who does her own cooking, washing and ironing, brings up a large family of girls and boys to be useful members of society, and finds time for her own intellectual and moral improvement is "the greatest woman in all history."' She was awarded a prize for the originality of her answer."

With this message as consolation and encouragement to many a tired wife and mother in a Canadian farm homestead, I somewhat reluctantly close my little record of a pleasant holiday in Massachusetts, leaving very much untold which might also have an interest for the readers of our Home Department.

H. A. B.

FARM BOOKS.

The farmer's home without an Agricultural Library is lacking in one of the chief aids to pleasure and success. We have gone over the available first-class works on agricultural subjects, and have selected the best. See below for prices and how to obtain.

SOIL AND CROP.

- THE FERTILITY OF THE LAND.—*Roberts*. 372 pages. \$1.25.
- A BOOK ON SILAGE.—*Woll*. 185 pages. \$1.00.
- SOILS AND CROPS.—*Morrow & Hunt*. \$1.00.
- FORAGE CROPS.—*Thos. Shaw*. \$1.00.
- SOILING, ENSILAGE, AND BARN CONSTRUCTION.—*F. S. Peer*. 247 pages. \$1.00.

LIVE STOCK.

- VETERINARY ELEMENTS.—*A. G. Hopkins, B. Agr., D. V. M.* \$1.50. A practical book for stockmen and agricultural students.
- THE STUDY OF BREEDS (CATTLE, SHEEP, AND SWINE).—*Prof. Shaw*. 400 pages; 60 engravings. \$1.50.
- HORSE BREEDING.—*Sanders*. 422 pages. \$1.50.
- LIGHT HORSES—BREEDS AND MANAGEMENT. 226 pages. \$1.00.
- HEAVY HORSES—BREEDS AND MANAGEMENT. 219 pages. \$1.00.
- CATTLE—BREEDS AND MANAGEMENT. 270 pages. \$1.00.
- SHEEP—BREEDS AND MANAGEMENT. 232 pages. \$1.00.
- CATTLE BREEDING.—*Warfield*. 386 pages. \$2.00.
- THE DOMESTIC SHEEP.—*Stewart*. 371 pages. \$1.75.
- THE SHEEP.—*Rushworth*. 496 pages. \$1.50.
- PIGS—BREEDS AND MANAGEMENT.—*Sanders Spencer*. 175 pages. \$1.00.
- FEEDS AND FEEDING.—*Henry*. 600 pages. \$2.00.

Vinton Series.

GENERAL AGRICULTURE.

- AGRICULTURE.—*C. C. James*. 200 pages. 30 cents.
- FIRST PRINCIPLES OF AGRICULTURE.—*Voorhees*. 207 pages. \$1.00.
- AGRICULTURE.—*Storer*. 1,875 pages, in three volumes. \$6.00.
- CHEMISTRY OF THE FARM.—*Warrington*. 183 pages. 90 cents.
- FARMYARD MANURE.—*Aikman*. 65 pages. 50 cents.
- IRRIGATION AND DRAINAGE.—*King*. 502 pages. \$1.50.
- IRRIGATION FOR THE FARM GARDEN AND ORCHARD.—*Henry Stewart*. \$1.00.
- SUCCESSFUL FARMING.—*Rennie*. 300 pages. \$1.50, postpaid.

DAIRYING.

- AMERICAN DAIRYING.—*H. B. Gurler*. 252 pages. \$1.00.
- THE BOOK OF THE DAIRY.—*Fleischmann*. 330 pages. \$2.75.
- MILK AND ITS PRODUCTS.—*Wing*. 230 pages. \$1.00.
- TESTING MILK AND ITS PRODUCTS.—*Farrington & Woll*. 255 pages. \$1.00.
- DAIRYING FOR PROFIT.—*Mrs. E. M. Jones*. 50 cents.

POULTRY.

- ARTIFICIAL INCUBATING AND BROODING.—*Cypher*. 146 pages. 50 cents.
- PRACTICAL POULTRY-KEEPER.—*Wright*. \$2.00.
- AMERICAN STANDARD OF PERFECTION.—*Pierce*. 278 pages. \$1.00.

APIARY.

- THE HONEYBEE.—*Langstroth*. 521 pages. \$1.50.

FRUIT, FLOWERS, AND VEGETABLES.

- VEGETABLE GARDENING.—*Green*. 224 pages. \$1.25.
- FLOWERS AND HOW TO GROW THEM.—*Rexford*. 175 pages. 50 cents.
- THE PRINCIPLES OF FRUIT-GROWING.—*Bailey*. 514 pages. \$1.25.
- BUSH FRUITS.—*Card*. 537 pages. \$1.50.
- HORTICULTURIST'S RULE BOOK.—*Bailey*. 312 pages. 75 cents.
- SPRAYING OF PLANTS.—*Lodeman*. 399 pages. \$1.00.
- THE NURSERY BOOK.—*Bailey*. 365 pages; 152 illustrations. \$1.00.
- AMATEUR FRUIT-GROWING.—*Samuel B. Green*. 5x7 inches; 134 pages, with numerous fly leaves for notes; bound in cloth, and illustrated. 50 cents.

PLANT AND ANIMAL LIFE

- THE STORY OF THE PLANTS.—*Grant Allen*. 213 pages. 40 cents.
- THE STUDY OF ANIMAL LIFE.—*J. A. Thomson*. 375 pages. \$1.75.
- INSECTS INJURIOUS TO FRUITS.—*Saunders*. 436 pages. \$2.00.

MISCELLANEOUS.

- THE HOME PHYSICIAN AND CYCLOPEDIA OF MEDICINE.—By seven eminent physicians, aided by specialists. 1,300 pages; illustrated. Cloth, \$4.75; leather, \$5.75.
- LANDSCAPE GARDENING.—*S. T. Maynard*. 333 pages. \$1.50.

HOW TO OBTAIN THESE BOOKS:

We will furnish present subscribers any of the above books for cash or as premiums for obtaining new yearly subscribers to the FARMER'S ADVOCATE at \$1.00 each, according to the following scale:

Books valued at from	\$0.30 to \$0.65,	for 1 new subscriber.
"	.90 to 1.25,	for 2 "
"	1.50 to 1.75,	for 3 "
"	2.00 to 2.50,	for 4 "
"	2.75	for 5 "
"	6.00	for 12 "

We can furnish any of the above books at the regular retail price, which is given opposite the title of the book. By a careful study of the above list, any farmer can choose a select list of books suited to his needs, and for a small outlay in cash, or effort in obtaining new subscribers for the ADVOCATE, secure the nucleus of a useful library.

Cash to accompany names in every case. Subscriptions credited a year in advance from date received.

The WILLIAM WELD CO., Ltd., London, Ontario.

Want a Good Watch?

WE have succeeded in procuring from one of the most reliable jewelers in Canada a complete list of Gents' and Ladies' Watches of sufficient variety to suit every one, and have no hesitation in recommending them to our readers as premiums worthy of an effort to secure. These are not by any means trashy goods, but first-class in every particular, and we assure you that you will be pleased with whatever of the above premiums you may obtain. Let us hear from you at an early date with a good list of new subscribers accompanied by the cash, and take your choice.

Gents' Watches.

No.	Description	New Subscribers.
No. 1.	Yankee Nickel Watch	2
No. 2.	Trump Nickel Watch	4
No. 3.	Trump Gun Metal Watch	5
No. 4.	No. 14 Silver Watch	8
No. 5.	7 Jeweled Gent's Elgin in 3 oz. Nickel Case	10
No. 6.	7 Jeweled Gent's Elgin in Gun Metal Case	11
No. 7.	7 Jeweled Gent's Elgin in Sterling Silver Case	14
No. 8.	7 Jeweled Gent's Elgin in 20-year Filled Case	18
No. 9.	7 Jeweled Gent's Elgin in 25-year Filled Case	21
No. 10.	15 Jeweled Gent's Elgin in 3 oz. Nickel Case	15
No. 11.	15 Jeweled Gent's Elgin in Gun Metal Case	15
No. 12.	15 Jeweled Gent's Elgin in Sterling Silver Case	18
No. 13.	15 Jeweled Gent's Elgin in 20-year Filled Case	21
No. 14.	15 Jeweled Gent's Elgin in 25-year Filled Case	25

Ladies' Watches.

No.	Description	New Subscribers.
No. 15.	Gun Metal Swiss Chatelaine	4
No. 16.	Sterling Silver Swiss Chatelaine	5
No. 17.	Nickel American O. F., large size	5
No. 18.	Gun Metal American O. F., large size	5
No. 19.	Nickel, small size	9
No. 20.	Gun Metal, small size	10
No. 21.	Sterling Silver, small size	10
No. 22.	7 Jeweled Elgin in 20-year Filled Hunting Case	20
No. 23.	7 Jeweled Elgin in 25-year Filled Hunting Case	22
No. 24.	15 Jeweled Elgin in 20-year Filled Hunting Case	23
No. 25.	15 Jeweled Elgin in 25-year Filled Hunting Case	25

Description of Watches.

The accompanying cuts fairly well represent all the Ladies' and Gents' Watches, and a description of each as numbered is as follows:

No. 1. American Nickel Key-wind Boy's Watch that is absolutely guaranteed to keep good time and give satisfaction.

No. 2. Gent's Nickel American O. F. Watch; stem wind, and push-in stem and turn to set hands. This is a very strong, reliable Watch.

No. 3. Same as No. 2, excepting that it has Gun Metal case instead of Nickel case.

No. 4. Is a smaller-sized Gent's Watch, has sterling silver case, O. F. Screw Back and Bezel; stem wind, and push-in stem and turn to set hands. This is the lowest-priced and most reliable Boy's or small Gent's Silver Watch that is on the market.

No. 5. Is fitted with 7-Jeweled Nickel, first-quality Elgin movement. The case is a 3-oz. O. F. Nickel case; stem wind and set; screw back and bezel case.

No. 6. Same movement in Gun Metal or Black Steel screw back and bezel case.

No. 7. Same movement with Sterling Silver O. F. screw back and bezel case.

No. 8. Same movement in 20-year guaranteed Gold Filled O. F. screw back and bezel case.

No. 9. Same movement in 25-year guaranteed Gold Filled O. F. screw back and bezel case.

Nos. 10, 11, 12, 13 and 14 are fitted in the same style of cases as Nos. 5, 6, 7, 8 and 9; the difference is in the movement, and the movement is 15-Jeweled Nickel, first-quality Elgin movement.

No. 15. Is a small-sized Swiss O. F. Gun Metal Chatelaine Watch.

No. 16. Is the same, only with Sterling Silver case, which can be had nicely engraved.

Nos. 17 and 18 are a good-quality American Watch, O. F. stem wind, and push-in stem and turn to set hands. These are a little larger than the usual Ladies' Watches, and are smaller than the usual Boys' Watches, though can be used for either Boys, Girls or Young Ladies.

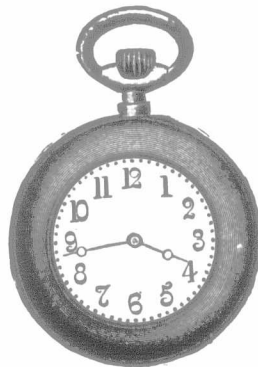
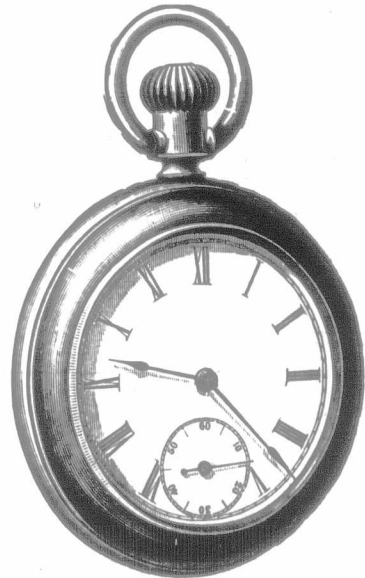
Nos. 19, 20 and 21 are small sized; in fact, are the exact size of cut. These are American Watches, O. F. stem wind, and push-in stem and turn to set hands, and are first-class timekeepers. Will give perfect satisfaction.

If a nice leather wrist case is desired with these watches, send two extra subscribers.

Nos. 22, 23, 24 and 25 are similar to the accompanying cut. These are regular Ladies' Hunting Watches. Nos. 22 and 24 are fitted in 20-year guaranteed Gold Filled cases, nicely ornamented, or to be had in plain or plain engine turned, and the same applies to Nos. 23 and 25, excepting that they are fitted in 25-year guaranteed Gold Filled cases, and 14k Gold Filled; 22 and 23 are fitted with 7-Jeweled Nickel, first-quality Elgin movements. Nos. 24 and 25 are fitted with 15-Jeweled Nickel, first-quality Elgin movements.

When making your choice of Watch as premium, be sure to mention its number as given in premium list, also whether Lady's or Gent's.

The WM. WELD CO., Ltd., London, Ontario.



Its True Character.

Catarrh is Not a Local Disease.

Although physicians have known for years that catarrh was not a local disease, but a constitutional or blood disorder, yet the mass of the people still continue to believe it is simply a local trouble, and try to cure it with purely local remedies, like powders, snuffs, ointments and inhalers.

These local remedies, if they accomplish anything at all, simply give a very temporary relief, and it is doubtful if a permanent cure of catarrh has ever been accomplished by local sprays, washes and inhalers. They may clear the mucous membrane from the excessive secretion, but it returns in a few hours as bad as ever, and the result can hardly be otherwise, because the blood is loaded with catarrhal poison, and it requires no argument to convince anyone that local washes and sprays have absolutely no effect on the blood.

Dr. Ainsworth says: "I have long since discontinued the use of sprays and washes for catarrh of head and throat, because they simply relieve, and do not cure."

For some time past I have used only one treatment for all forms of catarrh, and the results have been uniformly good. The remedy I use and recommend is Stuart's Catarrh Tablets, a pleasant and harmless preparation sold by druggists at 50c., but my experience has proven one package of Stuart's Catarrh Tablets to be worth a dozen local treatments.

The tablets are composed of Hydrastin, Sanguinaria, Red Gum, Guaiacol, and other safe antiseptics, and any catarrh sufferer can use them with full assurance that they contain no poisonous opiates, and that they are the most reasonable and successful treatment for radical cure of catarrh at present known to the profession.

Stuart's Catarrh Tablets are large, pleasant-tasting 20-grain lozenges, to be dissolved in the mouth and reach the delicate membranes of throat and trachea, and immediately relieve any irritation, while their final action on the blood removes the catarrhal poison from the whole system. All druggists sell them, at 50c. for complete treatment.—Advt. —om

SPRINGFIELD FARM
HERD OF
**Shorthorns, Oxfords,
AND Berkshires.**

Young bulls and Heifers on hand. Also a few choice Berkshires.
**CHAS. RANKIN,
Weybridge, Ont.
SIMCOE CO. —om**



**LIDLAW'S CONCENTRATED
TOBACCO POWDER**

**Sheep
Dip.**

Contains correct proportion of powder, all mixed and ready for bath. For thirty years Laidlaw's Tobacco Powder Dip has had steadily increasing sale. Many hundred millions of sheep have been dipped with it. Non-poisonous; no injury possible to sheep or wool. For full particulars and prices, write—

**ROBERT MARR,
WALKERTON, ONT.**

SPRING GROVE STOCK FARM

Shorthorn cattle and Lincoln sheep. Herd prize and sweepstake at Toronto Industrial Exhibition, 1897 and 1898. Herd headed by the Marr Missie bull, Imp. Wanderer's Last, last of the get of the great sire, Wanderer of the Crick, shank Brawith Bud tribe. High-class Shorthorns of all ages for sale. Also prizewinning Lincolns. Apply on

T. E. ROBSON, ILBERTON, ONT.

SHORTHORNS: We are offering for sale 8 bulls, from 8 months to 3 years old, by Mungo 2nd and Scottish Bard. Also a few cows bred to Baron's Heir. —om

ROBT. GLEN, Owen Sound, Ontario.

**SHORTHORN BULLS AND HEIFERS
FOR SALE.**

Choice quality and best Scotch breeding. Imported and home bred. Imported Knuckle Duster (7273) and Imp. Royal Prince head the herd, which has furnished the Provincial Fat Stock Show champion three out of the last five years. Catalogues on application.

**H. SMITH, HAY, ONT.
Exeter Station on G. T. R., half a mile
from farm. —om**

PLEASE MENTION FARMER'S ADVOCATE.

GOSSIP.

At a sale of Aberdeen-Angus cattle from the herd of Messrs. Whyte and others, at Hatton of Eassie, Scotland, the 52 head sold made an average price of \$251. The best prices for cows were from 72 guineas to 120 guineas.

Mr. John Tudge, Duxmoor, Salop, England, has cabled his acceptance of Mr. C. A. Jamison's purchase of the 2½-year-old Hereford bull, Albany, at £1,200, for exportation to Kansas. Albany is one of the numerous prize-winning sons of the many-times champion, Albion, and has never failed to take a first prize at any show. In fact, he has taken three championships, and been first at the Royal, Bath and West of England, Royal Counties, Shropshire and West Midland, and other exhibitions where entered.

A. C. Hallman, New Dundee, Ont., writes: "Intending purchasers would do well to take a trip to Spring Brook Farm to make their selection in Tamworths, Holsteins, and Barred Plymouth Rock cockerels. My Tamworths are the finest in quality and breeding I ever had. The young stock for sale would please the most particular. The Holsteins I need scarcely mention, with the record they have scored at the Toronto Industrial. The get of my prizewinning bull, Judge Akkrum De Kol, is unsurpassed in style and quality. I have also a very fine lot of Barred Rock cockerels, very plump, nice birds, well barred, and from prizewinning stock."

John Campbell, Fairview Farm, Woodville, Ont., gives the following particulars of his Shropshires' doings at the Pan-American: "Our exhibit of twenty-two (nineteen of which were put into the ring) won half of the first premiums competed for—viz., ten—and got, in all, 28 ribbons. Winning all with home-fitted and nearly all home-bred sheep was fairly satisfactory. Our pen of fine home-bred rams won three firsts in three different competitions: First in American-bred class; next when it was made open to all Shropshires, when they had for competitors the first and second prize shearing rams and sweepstakes ram in the Exposition class; and thirdly in class open to all breeds, for pen of five rams, owned and bred by exhibitor. Again, in sections of class confined to American-bred sheep, we won all firsts and sweepstakes for rams, and all firsts except that for shearlings in ewe sections, and first for aged flock of one ram and four ewes. All in all, we consider the success of our flock at the Pan-American fully equal to that at the Columbian."

THE BROWN SHORTHORN AND OXFORD SALE.

On Nov. 12th, at their farm, as per advertisement in this issue, will be sold by auction the entire herd of Shorthorn cattle belonging to Messrs. A. & D. Brown, Iona, Ont., consisting of 24 females and 6 bulls. These cattle are bred straight from first-class Scotch tribes, and good bulls, imported or bred from imported stock, have been used ever since the establishment of the herd, as enumerated on page 653 of our Oct. 1st issue. The stock bull at present in service is Imp. Blue Ribbon, and most of the young things are sired by him and many of the older females in calf to him. They are principally of the excellent Miss Syme and Cruickshank Cececia families, the former of which has produced probably more prizewinners than any other in Canada, and the latter one of the most richly bred of the Sittytion tribes. A nice young imported cow and her heifer calf (imp. in dam) are also included in the sale. The remainder are of sound families that have proved valuable breeders of good feeding and milking stock. The two handsome heifer calves illustrated in this number fairly represent the younger portion of the herd. A nice lot of 20 pure-bred Oxford Down sheep will also be sold. See the advertisement and send for catalogue.

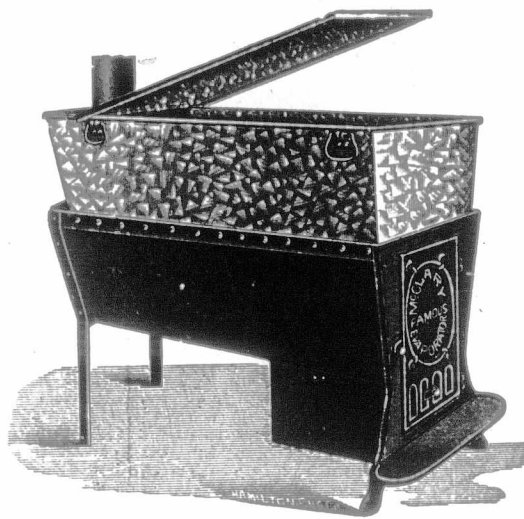
OFFICIAL RECORDS OF HOLSTEIN-FRIESIAN COWS—FROM JULY 29 TO SEPT. 30, 1901.

During this period thirty-two reports have been received. Eight were of full-age cows, averaging: Age 7 years 6 months 20 days; 26 days after calving; milk 429.2 lbs.; butter-fat 14.340 lbs., equivalent to 17 lbs. 14.8 ozs. butter 80 per cent. fat or 16 lbs. 11.7 ozs. 85.7 per cent. fat. Four were of the four-year-old class, averaging: Age 4 years 8 months 6 days; 35 days after calving; milk 349.3 lbs.; butter-fat 12.176 lbs., equivalent to 15 lbs. 3.5 ozs. butter 80 per cent. fat or 14 lbs. 0.8 ozs. 85.7 per cent. fat. Seven were of the three-year-old class, averaging: Age 3 years 4 months 14 days; 24 days after calving; milk 360.1 lbs.; butter-fat 11.533 lbs., equivalent to 14 lbs. 6.7 ozs. butter 80 per cent. fat or 13 lbs. 7.3 ozs. 85.7 per cent. fat. Thirteen classed as two-year-olds, averaging: Age 2 years 3 months 8 days; 48 days after calving; milk 261 lbs.; butter-fat 9.377 lbs., equivalent to 11 lbs. 11.5 ozs. butter 80 per cent. fat, or 10 lbs. 15 ozs. 85.7 per cent. fat.

It should be borne in mind that this class of records are made under the authorities of Agricultural Colleges and Experiment Stations, at the homes of the cows. Every process is conducted under careful supervision, and by scientific methods. Where there may arise a shadow of a doubt as to the reliability of the results, the cows are tested and watched until a day or two, all such results are compared and confirmed—S. Hoxie, State Agricultural Registry.

Famous Feed Boilers

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Dairymen.



Can also be used for boiling sap.

Made in four different styles and eleven sizes, and sold at as many prices.

No farmer should be without one. Stock can be fattened in half the time and at half the expense of the ordinary way.

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Large English Berkshires.

My herd consists of sows imported from England; three of them (including a show sow) were selected from the herd of Geo. Green and were bred to his show boars. Young stock for sale (not akin).
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J. & W. B. WATT, SALEM, ONTARIO,

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(POST AND TELEGRAPH OFFICE)

Shorthorn Cattle, Clydesdale Horses, Leicester and Oxford Sheep, and Berkshire Pigs.

OUR herd contains such families as Matchless, English Ladies, Mildreds, Village Buds, Missies, Stamford, Clarets, and Marthas. Royal Wonder = 34682 =, junior champion of 1901, now heads the herd. A choice lot of young bulls and a few females for sale. We offer our whole flock of Leicesters for sale—thirty-five ewes and ewe lambs and fifteen rams.

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When properly arranged, it will give you perfect sanitary stables. It is free to all of our patrons.

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Rapids Farm Ayrshires.

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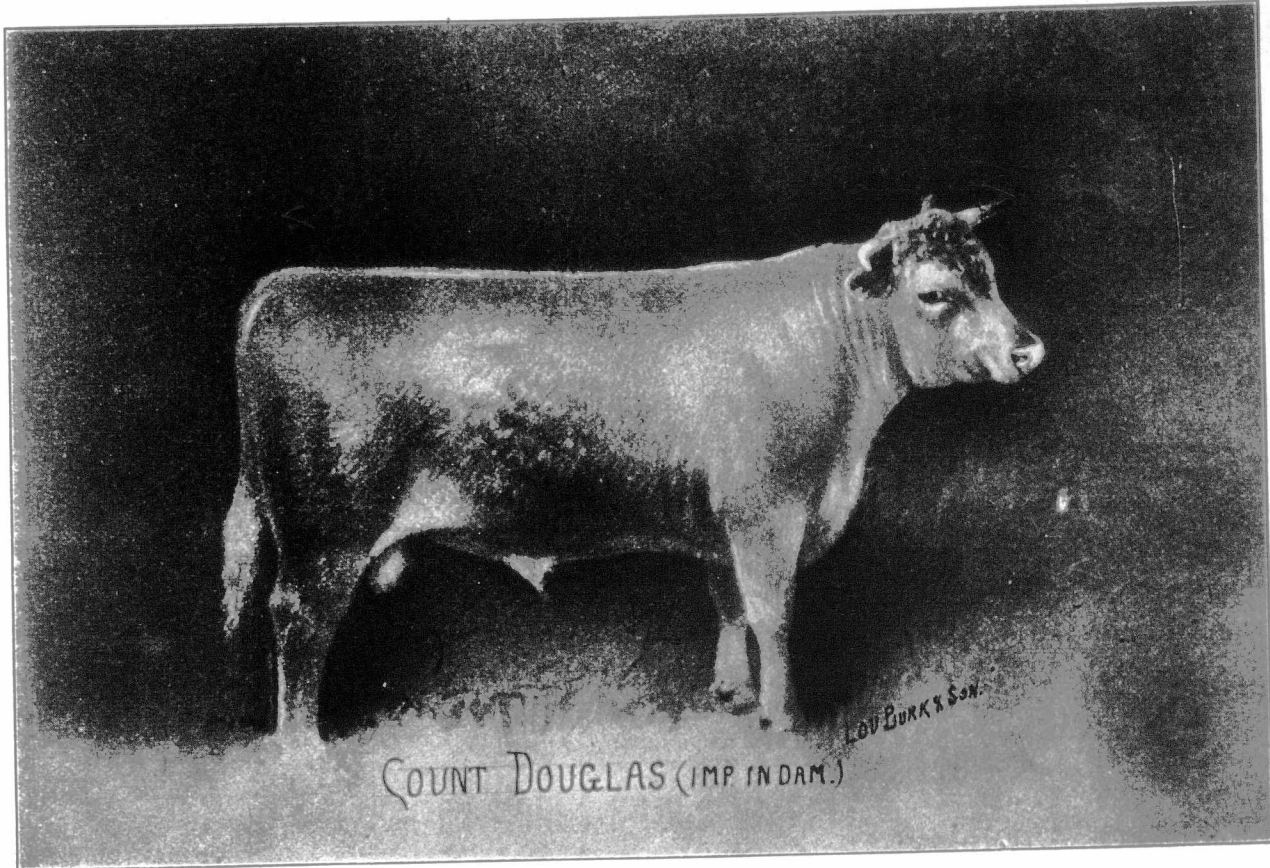
160 HEAD.

Young imported cows with calves at foot for sale. A number of the calves are imported in dam.

Some of the families represented in the herd are as follows:

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- GOLDIES
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- MATILDAS
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- ROSEBUDS
- BRAWITH BUDS
- LANCASTERS
- MAYFLOWERS
- AMARANTHS
- BUTTERFLYS
- CLIPPERS
- EMMAS
- BROADHOOKS
- MEDORAS
- MINAS
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- FLORAS
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- LUSTRES
- GEMS OF THE VALE

Herd headed by the imported bulls, GOLD-EN DROP VICTOR and PRINCE BOSQUET.

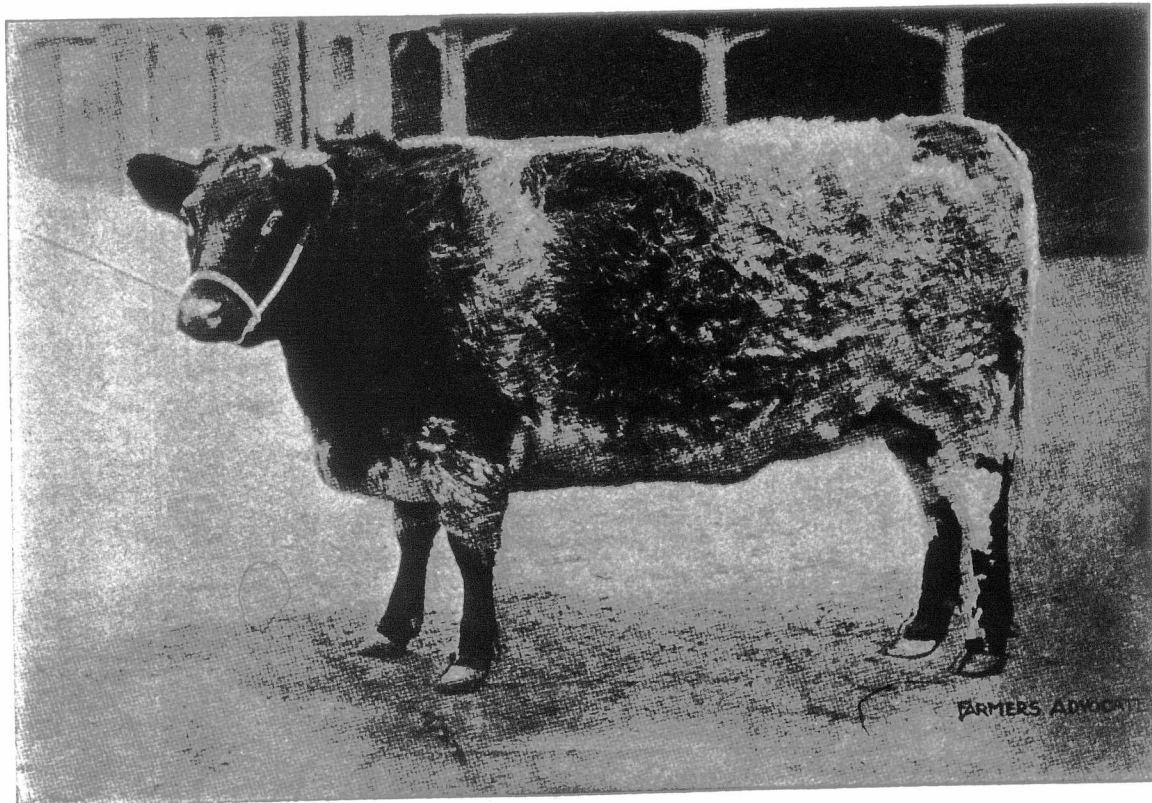


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