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

VOL. XXXIV. LONDON, ONTARIO. NOVEMBER 1, 1899. WINNIPEG, MANITOBA. No. 489

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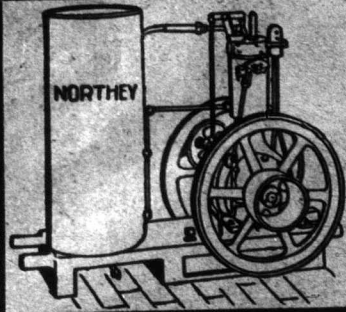


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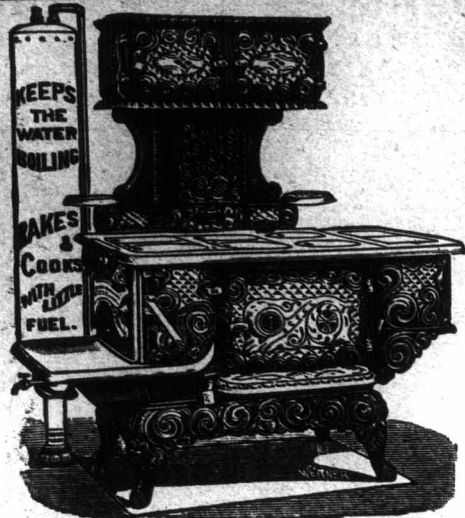
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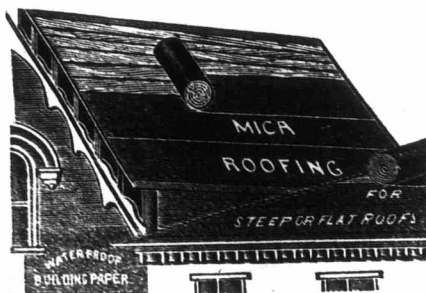
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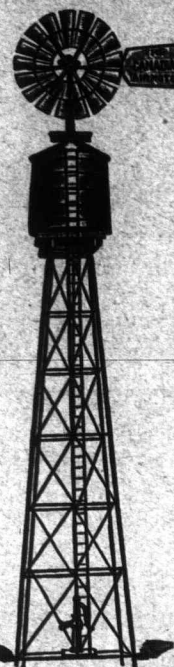
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FARMER'S ADVOCATE

AND HOME AND GARDEN MAGAZINE

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

VOL. XXXIV.

LONDON, ONT., AND WINNIPEG, MAN., NOVEMBER 1, 1899.

No. 489

EDITORIAL.

Slaughter of the Innocents.

The article on "Beneficial Birds," by Mr. Jarvis, B. S. A., of the Ontario Agricultural College, which we publish elsewhere in this issue, calls attention indirectly to a subject which hitherto has not received the consideration which its seriousness deserves. This has been forcibly brought to our attention in many localities on the recent Thanksgiving Day. On this and other holidays young men and boys, armed with guns, swarm out in every direction from the cities, towns and villages, and their pastime is chiefly the wanton and wholesale destruction of innocent birds. We regret to notice that farmers' sons, who, from selfish motives, if nothing else, ought to know better, join in this so-called sport. Every year the ravages of insect pests on the orchards and fields of the farmer appear to grow worse, and against these our native birds are the natural and cheapest defence. Without them the agriculturist would in a short time probably be driven to the wall. It is positively deplorable to notice how our groves and shade trees have during the recent years been decimated of the beautiful songsters that once frequented them. Mr. Jarvis very interestingly describes the more notable beneficial birds, and we hope every father and every father's son will read and heed what he has to say. But he might have put it stronger. Those of our readers who live in Ontario, at least, should remember that the "Insectivorous Birds" statute of 1887 prohibits the killing of all our native birds except hawks, crows, blackbirds and English sparrows, and what are called game fowl (in their season), under a penalty of a fine of from \$1 to \$20, or imprisonment in default. The sole exceptions made are in the case of ornithologists and biologists who wish to secure birds for scientific examination, and they must obtain a permit from the local government Chief Game Warden; and in case of persons protecting their fruit from robins. It is also illegal to destroy the eggs and nests of native birds other than those excepted. The law is shamefully violated. In the interests of humanity and agriculture it ought to be rigidly enforced in every district. A few severe examples made before Justices of the Peace in a neighborhood would have a wholesome effect, and it cannot be done any too soon. No doubt a great many youths are ignorantly violating the law to which we now call their attention. Indeed, it is a very grave question with some of our best ornithologists if the list of exempted birds mentioned above might not almost be narrowed down to the English sparrow, which undoubtedly has proved itself a pest that does more harm than good. In the minds of some it is doubtful if that can truly be said of the despised crow, blackbird and hawk. The killing of birds of gay plumage for millinery purposes is an evil more largely confined to farther south, but is also one that ought in every possible way to be discouraged.

House Plan Competition.

Owing to the large number of plans, descriptions, photos, etc., received in our farm residence competition, involving the careful consideration of many points, we shall not be able to make an announcement of the awards until our next issue, November 15th. For that number of the ADVOCATE we hope also to have prepared engravings of the first of the awards; others to follow in subsequent issues.

The Fairs of the Future.

An anonymous correspondent who has fallen into the not uncommon error of assuming that the fairs of the present century are over and that the beginning of the next year will be that of a new century, writes:—

Let us review the system and general management of the Fair of to-day, and with the dawn of a new century inaugurate, if possible, something better.

We purchase our tickets, and walk into the grounds; the bell is ringing; speeding in the ring is called. Not until the horses have started fairly are they allowed to go. An interesting and anxious crowd watches their progress. The judge names the winners according to their performance and position. The time is given and the crowd is satisfied. A director farther down calls, "Single drivers, carriage." We go to the ring; we admire the high-stepping chestnut with its proud and handsome carriage, and mentally pronounce it the winner. The bright bay horse, somewhat smaller, but with free and easy gait, we pronounce second. The black jogs around slowly. Its wind is bad. They all draw up in a line. The crowd is interested. The judges examine the animals. They walk around them and secretly examine the drivers. They hold a silent meeting for five minutes, during which time the crowd, wearied with waiting, wanders away.

Then with a dozen or so around the ring the prizes are given. Black, *First* (her owner gave \$10 to the Association); Chestnut, *Second*; Bay horse, *Third*. Influence won; merit lost.

We leave the ring and go to the Hall exhibit. We admire the crayon work, and wonder why "The Flower Girl" got first and "The Homestead" second. We pass down the long aisle, with here a red, and there a blue. Hundreds pass by in the same perplexity.

Now, we ask the question, Is this system of awarding prizes or premiums progressive, equitable or educating? In other words, is it in touch with the times of to-day? Is there no way of adjusting matters so that the same interest and fairness be maintained in all classes as that openly displayed in the speeding?

The answer is plain and simple: By adopting the same plan. Let the judges be supplied with stands from which they may fearlessly and faithfully proclaim the winners. In doing so let them briefly give their points of excellence. A judge not competent to carry this into effect is not qualified for his position. It would raise the standard of judges, whose decision would be closely watched and criticised by the spectators. Thus, interest would be secured, and not only so, but justice would be rendered.

A similar system could be adopted in other departments. The judges could be supplied with blanks, briefly stating the winning points. These placed alongside of the prize of the article exhibited told the people which was the best, and why.

This is not an uncommon complaint, but we hope and believe it is less common in these days than in the former times, and from a long experience and close observation we are convinced that as a rule it is a mistaken idea and has little foundation in fact. There may be, and doubtless are, exceptions, but we are persuaded that as a rule fair boards are careful in the selection of their judges and that the men who accept the thankless task act upon their best judgment without fear or favor. Our correspondent makes no allowance for difference of opinion or difference in judgment, or for the reasonable presumption that the judges in the ring who are personally responsible for the awards and have made a close and critical examination of the exhibits are in a much better position to give a correct decision than are the people outside the ring who do not feel the weight of the responsibility which attaches to the giving of a decision in the sight of a critical public. The complaint may be more applicable to the smaller or local fairs, but we believe that in so far as the principal shows in the country are concerned it is generally conceded that commendable care is observed in the selection of competent and fair men, and that better work is done as a rule by judges than in former times; but it is more difficult than many suppose to fix upon men who are at once competent, available and disinterested. That considerable allowance should be made for difference of opinion and of judgment is obvious from the fact that at the leading shows, with judges conceded to be competent and whose honor is unimpeached, an animal which has been placed first at one show is the next week, in the same competition, relegated to third place. We are free to confess that we wish it were otherwise, and that a more general concurrence of judgment on the part of men admitted to be competent were possible, so that the educational influence of their work might be more definite, but we have to take into account the fact that even a week may make considerable difference in the appearance of an animal that is away from home and subject to the disabilities of the showyard and of railway travel, and may look less attractive on his second than on

his first appearance in public. But after all, when we remember that not infrequently the learned judges of the Supreme Court differ and disagree in their judgment of the quality and value of evidence, it is not strange that men honestly differ in their estimate of the value of points in animals or articles in competition in a showyard.

The innocence of our correspondent exhibited in his expressions of confidence in and admiration for the unfailing justice and invariable fairness of the judges in the speeding contests is refreshing and in striking contrast with the estimate formed by a large proportion of fair visitors and of not a few of the owners and drivers, judging from the vigorous language often indulged in around the winning post. If the remedy suggested were practicable, we doubt whether it would prove all-satisfying to exhibitors or even to onlookers, as the effort to convince a man against his will would probably leave him of the same opinion still, and the difficulty of securing efficient judges would be infinitely increased, as many a worthy man competent to judge would shrink from the ordeal of a public address from a raised platform, and the men who talk most are not as a rule those whose judgment commands the greatest respect. Moreover, the remedy suggested is not an untried one, as it has been found that even a college professor has failed to hold an audience of farmers on a fair ground, though descending never so eloquently on the mysterious influence on the performance of a dairy cow of a Flandrine, a Curvaline or a Limousine escutcheon, of wedge-shaped conformation, abnormal navel development, the convex pelvic arch and a distinctly corrugated vertebrae. The proposition to judge by performance sounds well, but it is difficult to conceive how its adoption can be extended to any considerable extent except in milking tests for cows where the scales are supposed to symbolize justice and equity, but even that has not proved a popular tribunal, and few there be that enter there. Judging by a scale of points and furnishing a score card duly filled up, giving the judge's estimate of the comparative value of points in the various exhibits, which is practically stating the reason why, has had a fair trial, has failed to give satisfaction to exhibitors or the public, and has been abandoned in making awards of prizes even in poultry shows, where, if anywhere, it might be expected to prove a success. Men differ as widely in their opinions of the comparative value of points as they do on the individual merits of animals or articles, judging from the general appearance. We do not contend that the prevailing system of fair management is perfect, and we are open to receive light on the subject and will be pleased to receive suggestions that will lead to a more excellent way.

A Growing Time in Poultry Raising.

For some years past we have been devoting more space to the subject of poultry-rearing and urging the use of improved birds, housing and methods of feeding. It has been evident that poultry-keeping on the farm might with profit be vastly increased, and we believe farmers and their families are becoming convinced of this fact. The supply of poultry and eggs for home consumption and export has fallen much below the demand, consequently we find fresh eggs selling lately as high as 20 cents per dozen and plump Thanksgiving Day birds bringing fancy figures. From the central provinces of Canada there has grown up an immense demand both for Britain and for the Northwest and British Columbia. A short time ago one Toronto firm received an English order for 100,000 chickens and another for 50,000 turkeys, which are but samples of how trade is developing. There is no question but that the consumption of poultry both at home and abroad among the more well-to-do classes is wonderfully increasing, and the farmer who has been preparing to meet it by extending and improving his poultry-rearing facilities will undoubtedly reap the reward.

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Arrangement of Horticultural Exhibits.

In our report of the horticultural display at the Toronto Industrial Exhibition, reference was made to the desirability of so arranging the exhibits that the judges should be entirely relieved from even a suspicion of partiality by having the exhibitors' names withheld from all exhibits until after the prizes were awarded, and then for the benefit of the exhibitors and the public the names should be attached to every exhibit. At first sight such an arrangement may seem difficult of achievement, but several years ago the general manager of the Winnipeg Industrial, Mr. F. W. Heubach, devised a system that answers admirably, and which, as he did not patent it, is available to other fair managers. The plan is as follows:

For each exhibit an entry card is made out, on which is given the name and address of exhibitor, and his number and the class and section of the exhibit. One corner of his card is perforated to form a coupon, and on this coupon is the exhibitor's number and class and section of the exhibit, corresponding to the card itself. This coupon is detached by the attendant in charge of the department when the exhibit is put in place, and given to the exhibitor, who produces it when he claims his exhibit at the close of the exhibition. The entry cards are provided with strings, so that they can be attached to the exhibits, and are enclosed in envelopes having the coupon corner cut out so the coupon can be torn off without injuring the envelope. On the outside of the envelope appears a *fac simile* of the enclosed card, with the exception of the name and address of the exhibitor, so that nothing appears on envelope to identify the owner of exhibit, except his entry number. These are to be left undisturbed until the judging is all done, and then the attendant in charge tears off the envelope and leaves the name of each exhibitor displayed on every exhibit. Herewith is reproduced as a sample one of Winnipeg's entry cards and envelopes:

WINNIPEG INDUSTRIAL EXHIBITION

1899—Manitoba—1899

Class.....	Section.....	Entry No.....	Class.....
Article.....			Sec.....
Exhibitor.....			No.....
Residence.....			

This ticket must be fastened securely to the exhibit, or in case of animals, to the pen or stall, and remain there during exhibition, or no prize will be paid.

F. W. HEUBACH,
GEN'L MANAGER.

This Envelope MUST NOT BE REMOVED
until Judges have made their awards.

Class... Section... Entry No...
Article.....

PLEASE ATTACH TO EXHIBIT.

The only improvement to this system that we could suggest, would be to have the coupon attached to the outside of envelope instead of to the card, and then have no opening whatever in the envelope, as we fancy it would be possible, if one desired, to squeeze open the envelope and read the names on the enclosed cards.

While we believe in the integrity of most judges appointed by the leading agricultural fairs, still it may be only human to lean a little toward a personal friend or to a favorite district of country, if there is room for doubt in the mind of the judge. The system above described does away with any temptation of this sort, and leaves the judges free from the suspicion of anything of that kind. The advantage and desirability of having the full name and address of exhibitors appear after the judging has taken place is too apparent to need reference here. There is little interest for the visitor in simply looking at long rows of apples; but if the personal element enters—that is, if exhibitors or districts represented are known to the spectator—then a live and appreciative interest attaches to the whole exhibit. If exhibition managers will not take the trouble to adopt some such plan as suggested, then by all means let the names appear and trust to the competence and integrity of our judges. A discussion of this question by exhibitors and judges would doubtless greatly assist fair managers in improving methods for future exhibitions.

STOCK.

To the Coast and the British Columbia Exhibition.

BY RICHARD GIBSON.

To the Pacific Coast and return, six thousand miles, is a long journey. Going westward the interest never flags. From Toronto to North Bay some rich farming lands are passed, evidently productive and well farmed. After leaving Allendale the vision is gradually prepared for the rocky, inhospitable, lifeless district extending hundreds of miles along the north shore of Lake Superior. Approaching Winnipeg, the rocks are left behind, and for miles spruce forests intermixed with swamp and natural meadows are found. West of Winnipeg the true wheat region commences, and for hundreds of miles will be found wheat fields and prairie, the former fairly groaning under the luxuriant crops of wheat, oats and barley, and the latter providing pasture and hay for the occupiers of the cultivated farms, much of this prairie being held by speculators awaiting purchasers. It is not necessary to name the various places of interest, such as Portage, Brandon, Virden, etc.; but what does strike a stranger is the number of elevators to be seen at each station, as many as seven at one, and generally three to four at the smallest village. An unusual crop has been harvested this year as regards quantity, and a Chicago buyer whose acquaintance I promiscuously renewed, having met him years ago, informed me that of the thousands of bushels he had bought that day all would grade No 1. After leaving Regina the cultivated lands are gradually passed until seen only in isolated spots; the soil is alkali and apparently a desert, for neither flocks nor herds are to be seen until approaching Calgary—the bright Pearl of the Territories. This is a fine city, and by natural surroundings must be some time a great one. Not only will it be a distributing point for the Northern Route, but to the south signs point to it being the junction for the Crow's Nest Pass. With the future we have no right to speculate, but of the present may be said that it strikes a visitor, at first sight only, however, as putting on airs. The buildings seem too good for the business to be done; they are mostly of a rich, warm-tinted sandstone, quarried in the neighborhood. Calgary is the Cheyenne of Canada, for there do the cattle kings and cowboys congregate, and there do they spend their money. Nowhere else, I venture to say, can such a wonderful display of breeches and gaiters be found. The wearers are a sort of hermaphrodite mixture of an educated Englishman and a wild cowboy—equally at home, according to humor bent, in the ballroom or barroom, and gracing each with equal eclat. The show was an initial event, and as such was quite successful. The business men took hold with a will and worked, and it is pleasing to know that the result was satisfactory to them. Of the horses, some capital Clyde stallions were shown, also a good Shire. I am unable to give the names of the prizewinners, as the exhibitors are only to be known by certain numbers. The 1st prize went to the Clyde Mr. Turner won with at the Columbian; he was carrying his years well and beat his competitors in quality. A number of range-bred mares were on view, well grown, and would be considered quite creditable for an Ontario breeder to have raised. A very good Thoroughbred stallion and a nice hackney were forward, the latter by Lord Derby II., out of a Denmark mare. The driving horses were not as good as the drafts, all lacking in action and quality.

Shorthorn bulls were very good and shown in nice condition. Shattuck won on one, I believe, purchased at J. I. Hobson's sale. The 2nd prize bull was bred by Arthur Johnston. The females were not up to show form, the hair on all being dry and harsh, indicating unthriftiness, owing no doubt to the weather, and to having been driven direct from range. Some fair Ayrshires, Jerseys, and Holsteins were shown.

Sheep were only represented by two breeds, Leicesters and Shropshires. Mr. Turner showed some good specimens of the latter; a little old-fashioned, perhaps, and lacking quality somewhat; still, they were well grown, and it is evident from his success that sheep will do well in the vicinity of Calgary. Long will Calgary remain in my memory symbolical of the hearty cheer and courtesy extended to a stranger by a generous "bonhomie" people proud of their city, their life's work, and its surroundings. A comical thing I can't refrain from mentioning, showing, as some would say, the progress of civilization (which I doubt). And that was an Indian in paint and feathers, riding a wheel and leading his cayuse. Sixty miles distant the Rockies loom up, and their snow-capped peaks live on the landscape. They look to be only a few miles away, but steam annihilates distance, and shortly we approached "The Gap." At the entrance dead spruce stand erect as grenadiers, as though disputing the right of way and guarding the pass. When once within the confines of these stupendous rocks one's feelings are first of wonder and admiration, then prevails a sense of insignificance. The often sublime and always wonderful scenery never palls the appetite of the eye, ever changing from canyon to rugged and bare mountains or snow-clad peaks, the deep green of a glacier shining like burnished steel, often a thin silklake stream trickling down the dark side of the rocks for 5,000 feet,

brightening up the landscape as a flash of lightning a dark thunder cloud, or again dividing up into streams, forming a network, or what one might fancifully liken unto a bridal veil and that the virgin forest was decking herself for the marriage ceremony. Again the rocks rise in majestic grandeur almost perpendicularly on each side of the railway track. So strong do they appear that it is easy to imagine that they are the rocky foundation upon which the earth's superstructure was builded. Below, the clear green waters of Kicking Horse River rush over boulder and chasm until churned into a foaming, seething mass. Limestone, shale, trap and boulder alternate with each other. Primal rock and granite cheek by jowl with shale and limestone, lying in strata perpendicular to the surface. What a field for the Geologist! An interesting object I must not omit, and that is the Great Divide. Here may be seen a stream trickling down the mountain side; part way a stone interferes with the even current of its way, and so divides, forming two tiny streams, diverging on their separate ways. One gradually flows into the Pacific at Portland, Oregon, the other finds a welcome in the Atlantic via Hudson's Bay.

After traversing through and over the Rockies and Selkirks for some 500 miles, some conception may be formed of the magnitude of the work in building the road, the indomitable perseverance and the engineering skill required. The far-seeing statesmanship of Sir John Macdonald, without whose countenance and support it would never have been built, it stands to-day the greatest national monument to his memory, as well as to the glory and advancement of the empire he sought so much to further.

Vancouver requires no note; it is making a name very fast, and, at same time, solid. It is to be, unless all signs fail, the big city of the Pacific. At New Westminster one is amazed at the vitality of these western towns. Less than twelve months ago news flashed along the wires: "N. W. wiped out." The best part of the city being almost fire-swept and totally destroyed, to-day has risen from the ashes a well-built, substantial city. It is the center of the salmon-canning industry, and there are large lumber industries in the vicinity. The people thereof are a busy, happy community. All seem pleased with their lot, and have an abiding faith in their country; not one growl did I hear. As to the Provincial Exhibition, my report must be condensed. I took no notes, for the reason that only numbers were allowed, and without the names the report would have been like a sum in algebra. Jerseys made the great show, 105 entries; the aged bulls were as good a lot, on the whole, as I ever saw together in Canada. In awarding the prizes, the judge followed his idea as to what a dairy bull should be; coarse shoulders, wide, deep briskets, beefy chines and crops were passed. Some good bulls were fed as for the block; others skins were without color. An excellent lot of cows were shown, Mrs. A. J. Street winning with a very sweet cow, with Mr. J. S. Smith showing two excellent specimens. A particularly good yearling was shown. Ayrshires were good; in fact, all the dairy breeds were very creditable, and would win prizes in Ontario. The Holstein cows were especially good; Messrs. H. F. Page and R. McLeod showed females that are a credit to the Province. Shorthorns were the chief attraction in beef breeds. The bulls were not as good as the females, and more attention must be given to the lords of the harem; they more than represent half the herd. John Sampson showed a yearling that is quite promising. W. H. Ladner showed a quartette of cows that any breeder might be proud to own. His best cow showed signs of age, so had to be content with V. H. C. She is, however, a model to be kept in the eye of the young breeders. Herefords, represented by one exhibitor, the Kirkland Estate, were very good, and would have made a hot fight at Toronto this year.

Sheep made quite a display. Southdowns were well represented. J. T. Wilkinson, a son of our late old Hamilton friend, was the successful competitor. He is not only a good farmer and stock-breeder, but one of the hustling newspaper men. Long may he live. Shropshires were in force, and a nice lot of different types. However, I would suggest to any Ontario breeder contemplating sending sheep to the Pacific Province, to select none but close-fleeced ones. The rainfall is so great that only the tight-coated ones can stand up cheerfully under such rains as here do descend.

Messrs. Shannon Bros., Cloverdale, showed Oxfords. They are keen stockmen, and whatever they decide upon breeding, they will take—not the back seat. I have to thank them for much assistance in getting the classes into the judging ring.

The classes of swine, in most cases, were fairly well filled. Berkshires were well shown by Shannon Bros., who captured most of the prizes. Duroc Jerseys were shown by E. A. Kipp and J. S. Smith, both of Chilliwack, the former winning the majority of first prizes. Chester Whites were well represented, the exhibitors being Messrs. Jas. Thompson,

W. R. Austin, and Jas. McCoel. Tamworths were shown by J. W. McGillivray and G. W. Beebe; Essex, by John T. Maynard; Suffolks, by A. M. Sturdy; and Yorkshires, by H. F. Page and J. S. Smith.

Heavy horses were a good lot. The stallion winning most prizes was a Shire, second at Calgary. There was keen competition amongst the Standard-breds, and some very promising youngsters were forward. I must not forget a Coach stallion owned by J. W. McLaughlin. He is an exceptionally good one, with capital action and lots of quality. Suffolks were well represented.

The fruit and vegetables were, of course, one of the great attractions, and the competitions between sections quite severe. Grain not quite up to the Ontario standard.

Taking the show as a whole, it was most creditable; better than I anticipated. The management is thorough, and directors work well. The secretary, "He's all right." Sorry time did not permit to secure material for a more interesting report.

Our Scottish Letter.

THE SHORTHORN SALES AND THE GLASGOW CLYDESDALE SHOW.

The past has been an eventful fortnight in the annals of Scottish agriculture. We have had a series of brilliant sales of Shorthorn cattle in the North, at which prices have been made which, although far short of the sensational figures paid in the days of the Bates ascendancy, have never been known in Scotland amongst breeders of Cruickshank cattle, and are of a character which promises greater permanency than was ever dreamt of by the most sanguine breeder of Bates cattle. We have had an entirely new departure in the matter of horse shows at Glasgow, and good sales of Clydesdales North and South; and, finally, at Fairfield, near to Stirling, there was the largest sale of Ayrshire cattle which has taken place from one herd in Scotland for many a day. All of these events have passed off with satisfaction to their promoters; and, when taken in conjunction with the improved prices which dairy farmers are getting for cheese and milk, they show that there is still some life in

ever, due to the extraordinary prices made by the bull calves from both herds. For twenty of them Mr. Duthie got the extraordinary average of £123 18s. each; and Mr. Marr got the scarcely less remarkable average of £116 18s. 10d. for 16. The highest price of the day, 305 gs., or £320 5s., was paid by Mr. Patten, the representative of the Duke of Northumberland, who owns an extensive Booth herd at Almirek Castle, for Pride of Princes, a grand youngster got by the great champion bull, Pride of Morning. The other two, one by the same sire, and another by Lord of Fame, made £315 apiece. Mr. Cargill, from Ontario, gave 290 gs., or £304 10s., for Golden Drop Victor, by Nonpareil Victor; and the next highest price was 270 gs., or £283 10s., paid by the noted English breeder, Mr. Deane Willis, for another son of Lord of Fame. A heifer calf by this sire made 100 gs., or £105, her buyer being an Englishman. Mr. Marr had also very notable individual prices. Mr. P. L. Mills, Ruddington, Notts., gave 270 gs. for Royal Fame, a son of Lord of Fame, and 220 gs., or £231, for King Victor, by the young bull, Golden Victor. £180 was paid by Mr. Alex. Henderson, M. P., the famous breeder of Shire horses, for Wanderer's Prince, by the noted old bull, Wanderer; and two were sold at £168 apiece. A white bull by Wanderer made £147 to Mr. W. T. Malcolm, who holds the famous Dunmore home farm; and another son of the same bull made 100 gs. to Mr. C. M. Cameron. Mr. Duthie's average for 38 animals of all ages was £89 17s. 2d., and Mr. Marr's, for 30 head, £79 5s. 6d. The averages made by the produce of certain sires of bull calves are worth recording. Two bull calves by Pride of Morning made £317 12s. 6d.; five by Lord of Fame, a capital breeding bull, unfortunately exported, made £204 10s. 9d.; six by Wanderer made £101 6s. 6d.; and eight by Spicy Robin, a young bull for which Mr. Marr paid a very long price to Mr. Deane Willis, made £78 12s. 4d. As this joint sale at Uppermill was the first of the series, it gave a tone to the whole, and the high prices continued during the week.

The second day's sale was at Newton, Insh, where a fine lot of cattle were offered, and the third best average of the week was recorded, viz., £86 19s. 6d., for fourteen head from the celebrated herd of Mr. A. M. Gordon, which furnished the champion bull of the year, Corner Stone, at the H. & A. S. show. A bull calf by him named Magic Stone went at 200 gs. to Mr. Mills, and another by the celebrated old bull, Star of Morning (now dead), made 180 gs. to the same buyer. A yearling heifer by Corner Stone also made 115 gs., or £120 15s., to Mr. Mills, so that this young sire has made a splendid start as a sire.

Mr. Wilson's forty-two head were sold at the same time, but made the lowest average of the week, £28 13s. 9d. They are good, healthy cattle, and have a good reputation. A fine, steady sale was held on the third day at Stonytown, when fifty-two head made the capital average of £43 3s. 10d., all the more remarkable that only one animal, the famous prize cow Hawthorne, made the three figures. She went at £107 2s., to Mr. Jolliffe, from Stratford-on-Avon. Mr. McWilliam is a good judge of Shorthorn cattle, and his young stock sold well. He got an average of £30 3s. for seven heifer calves, and £43 9s. 5d. for ten bull calves. These were mostly got by the bull, Pride of Fame, a close relation of the Lord of Fame, which bred so well at Collynie.

The fourth day's sale in Ross-shire, when the selections from the herds of Mr. Cameron and Mr. Fletcher were sold, was a capital affair. Mr. Fletcher got an average of £50 6s. 10d., and Mr. Cameron an average of £47 15s. 9d. each for thirty-seven animals. It was Mr. Cameron who bred the celebrated bull, Merry Merlin, whose sale in Buenos Ayres at £850 has recently been announced; and his sire, "Merlin," was the making of Mr. Cameron's herd. Another notable animal bred in this herd was Lady XVII., a two-year-old heifer, which won at the Highland, and stood reserve to the Queen's heifer, Cicely, for the championship of the show. She was sold to Mr. Smiley, from Larne, Co. Antrim, for 130 gs., or £136 10s., and a relative of hers, Lady XXI., went at 145 gs., or £152 5s., to Mr. Henry Dudding, the famous breeder of Lincoln sheep. Mr. W. S. Marr bought a Butterfly cow at 100 gs., and the first of the bull calves went to Mr. Gordon, of Newton, at £115 10s. Considering these high prices, it is a little surprising that Balnakyle average did not exceed that of Rosehaugh, but the latter stock had a more level sale, although only two of them went into the three figures. The highest price was £115 10s., by Mr. Mills, for the cow, Coraline; and Lord Middleton gave £110 5s. for a heifer calf. The young stock from Rosehaugh had a more level sale than those from Balnakyle. Eight heifer calves from the latter made £39 4s. 10d., and ten from the former made £44 6s. 2d. Eight bull calves from Balnakyle made £39 18s., and the same number from Rosehaugh made £49 4s. 4d.

As showing how thoroughly the tide of empire is in the hands of the Cruickshank breeders, look at the averages made by Lord Polwarth's Booth cattle. For twenty-seven Shorthorns he had an average of £32 9s. 10d. His seventeen two-year-old



YEARLING HEIFERS, PINEAPPLE 12th (IMP.) AND ESTELLE 3rd (IMP.), AND YEARLING BULL, ROYAL STANDARD, BY JUDGE. OWNED BY R. & S. NICHOLSON, SYLVAN, ONT. See "Gossip," page 620.

British, especially in Scottish, agriculture. To take the Shorthorn sales first:

These have been conducted by Mr. I. M. Fraser, of Macdonald, Fraser & Co. (Ltd.), and have been attended by buyers from Ohio and Canada, the Continent, and all parts of England and Ireland; as well as, of course, from every part of Scotland. The expositors of the cattle which have sold so well have been: Mr. William Duthie, Collynie, Tarves; Mr. W. S. Marr, Uppermill, Tarves; Mr. John Wilson, Pirriessmill, Huntley; Mr. A. M. Gordon, of Newton, Insh; Mr. James McWilliam, Stonytown, Keith; Mr. C. M. Cameron, Balnakyle, Munloch; and Mr. J. Douglas Fletcher, of Rosehaugh, Avoch. The two last named are in the Black Isle district of Ross-shire; the third last is in Moray-shire; and the others are in Aberdeenshire. All the cattle sold were more or less strongly-bred Cruickshank; but at Rosehaugh Mr. Fletcher has been experimenting with considerable success in amalgamating Bates and Cruickshank blood. At the Underley dispersion he purchased several of the best of the Duchess cows, and these he has crossed successfully with northern bulls. At Smithfield and other shows fat stock from this cross has more than once been exhibited with success, and Mr. Mills spoke very favorably of the animals in the herd and sale similarly bred. He expressed the opinion that it took three to make a perfect Shorthorn: from Booth you get the quarters, from Cruickshank the ribs and middle piece, and from Bates the head. There is truth in this view; and more of Bates will not hurt the Sittyton strain if it be wisely introduced. At Mertoun, in the previous week, Lord Polwarth sold a number of young healthy Booth cattle, but the comparison of prices is altogether in favor of the northern contingent.

The most sensational of the sales was that at Uppermill, where the joint offering of 68 head from Mr. Duthie's and Mr. Marr's herds was made. The average of the 68 cattle was £85 3s. 9d., chiefly, how-

yearling heifers made an average of £28 17s. 6d., and his ten bulls made £38 12s. 10d. The females were good sorts, one in particular being of prize-winning character. His Lordship at the same time dispersed his Galloway herd. Thirty-five head of these made £14 14s. each. This is only a little better than the average made at the Fairfield Ayrshire dispersion, when 132 head of all ages made an average of £13 8s. 8d. Sixty-eight cows, good, big, fancy animals, healthy, and the kind which fill the pail, made £15 8d., a first-rate price, and fourteen three-year-old queys sold well at an average of £14 8s. 4d. Fifteen two-year-old queys made £12 13s. 9d., and twenty yearling heifers, £9 15s. 10d. All this is excellent, and speaks volumes for the buoyancy of the cattle trade.

THE HORSE TRADE

is equally lively. At the autumn sales of colts and fillies an advance of from £4 to £5 per head is reported, and the export trade has not for long been so brisk. At Lord Londonderry's annual foal sale at Seaham Harbour there was good trade. Twenty fine foals made the splendid average of £41 14s. 1d., and ten got by the stud horse, Lord Stewart, drew £52 14s. 2d. each. At Lord Polwarth's sale, eighteen Clydesdales, of varying ages, were sold, and drew an average of £45 8d., the highest price being 97 gs., or £101 17s., paid by Mr. Kennedy for the good young mare, Border Jasmine, which was first at Glasgow when a yearling, and has since been a noted prizewinner.

The great horse event of these later days, however, has been the Scottish Stallion Show. For many years the great Scottish show of Clydesdale stallions has been held in the Glasgow cattle market in February. To it there used to gather the representatives of district societies from all quarters, and selections were made of horses to travel in their districts. About the year 1882, and increasingly since, this system has been falling into desuetude, and most societies had got into the way of engaging their horses privately during the winter. Thus it came about that the Glasgow show was shorn of much of its interest, and the last two shows did not pay the Glasgow Agricultural Society, under whose auspices these shows have been conducted. The Society has recently acquired a permanent stand on which to hold its shows, at Scotstoun, on the north side of the Clyde, about three miles west of the center of the city. It was resolved to inaugurate this new venture by holding the show there during the past week, and to join with the Stallion Show a cart-horse parade and driving competitions. These events came off in due course, and for a first attempt were entirely successful. About thirty horses were hired, instead of seven or eight as in previous years, and the selections were made of horses to travel the Glasgow district during 1900. The winners were Mr. James Kirkpatrick's Royal Carrick 10270, and Mr. Marshall's Mercurio, the latter a son of the dual Cawdor Cup champion, Hiawatha. In open competition for graded prizes, several splendid horses were shown, although they were scarcely in the same bloom as they would have been in spring. In the aged class, Royal Carrick was again first, Mr. W. S. Park's Lothian's Best 10376 was second, Mr. Wm. Park's Prince of Brunstane 9977 was third, Mr. A. Mackobbie's Cannyman 10323 fourth, Mr. Marshall's Moncreiffe Marquis 9953 fifth, Mr. Kilpatrick's Cawdor Cup 10045 sixth, and Mr. Alex. Scott's Holy Friar 10569 seventh. In the three-year-old class, first prize went to what was perhaps the best horse in the show, Mr. Herbert Webster's Baron Kitchener 10490, a son of the famous Baron's Pride, Mr. James Kilpatrick being second with Royal Gartly's Heir 10361, and Mr. Marshall third with Mercurio; Mr. Alex. Scott was fourth with Prince of Cowal, and Mr. Richard Dunn fifth with Rozelle 10638. In the younger class, rising two, the most notable thing was the defeat of the H. & A. S. first prize winner, Blacon Baron, by Mr. Wm. Dunlop's Sylvander, which was placed fourth at the Highland. On Saturday the parade of street cart horses was a great success, and it indicates the value of Clydesdale geldings to say that three of the best horses owned by Mr. James Forrest, of the City Saw Mills, were sold for 370 gs., or £388 10s., an average of £129 10s. each.

"SCOTLAND YET."

Pig Feeding on a Large Scale.

I feed roots whole to my hogs once a day, at noon, on a clean floor littered with straw. Have never tried pulping or cooking. I feed all they will eat up clean in the afternoon. Have never fed any clover hay to hogs. Am now feeding my young pigs that I have just weaned (197) corn in the ear, with a little shorts in water for drink in the morning, mangolds at noon, peas in straw at night, with a little shorts and water for drink. When my pigs get to be 3 or 4 months old I grind my grain and soak it from 12 to 24 hours; I mix in a little wheat bran or oat chop. I fed 2,300 bushels of American corn this last year with good results. I feed from 150 to 200 pigs all together in one pen. I find it is the cheapest and most satisfactory way of feeding, not quarter the work to tend them, and they do fully as well, if not better, than divided up in separate pens.

I make no difference in final fattening period. I simply try and guard against getting them too fat. My feeding pen is 36x60, and I can feed 150 in it very nicely. I have been to see some who have cooked their feed, but I have never seen any satis-

factory way of cooking food where there are as many to be fed as I feed. I am very much interested in these questions myself, and if there is a more profitable way of feeding I would like to know it. Norfolk County, Ont. S. A. FREEMAN.

[NOTE.—An illustration and description of Mr. Freeman's piggery and method of feeding appeared in the FARMER'S ADVOCATE of July 15th, 1898. He is one of the few in Canada who have made a success of feeding a large number of pigs together.—ED.]

Some Intricate Pig Questions Discussed.

DRY AND WARM WOODEN BUILDINGS PREFERRED IN WINTER—RATIONS AT VARIOUS STAGES OF GROWTH AND FATTENING.

Perhaps the man who can write most confidently regarding the proper methods of managing swine is the man who has had the least experience. As experience widens, fresh problems keep arising, and there are so many unsolved problems hovering around us the present time that one feels considerable diffidence in attempting to commit his ideas to paper. It is one thing to say that such and such methods give rapid gains, and quite another thing to say that the same methods will give a first-class quality of bacon. The cry that has gone up regarding "soft bacon," and the conflict of opinions regarding its cause, have had their effect in making thoughtful people cautious regarding their statements. If every feeder could follow his hogs through the packing-house, he would probably find that some of his pet theories received a rather rude shaking up. Some members of packing-houses have given farmers very explicit instructions as to how they should feed their hogs; but during the past summer a very successful breeder and feeder of swine sent to the packing-house a batch of hogs which had been fed according to methods approved by the firm to which he sent them, and was astonished when he received word that his hogs had been improperly fed, some of them being decidedly soft and few of them absolutely firm. This incident is related merely to show that while the packer has no doubt mastered all the intricacies of his end of the business, there are evidently a few things which he does not know regarding the apparently simple operation of feeding a pig. It is true that investigations are in progress, but investigating is necessarily slow work, and so there is still a large field to be explored. This long introduction is intended to explain why it is not possible to deal with the question of wintering pigs as fully as is desirable.

The winter housing of hogs is not an easy problem to deal with. The main difficulty is encountered in getting enough exercise for the animals. When a man has comparatively few hogs, he can master this part of the difficulty fairly well; but when the numbers are large and comprise all ages, sexes, and breeds, the real magnitude of the question is appreciated. Our buildings are not well adapted to provide exercise, and in the winter we are compelled to confine animals more closely than we would desire. We have been able to obtain very satisfactory growth, but have not yet convinced ourselves that we are producing bacon of the best quality. A piggery, above all things, should be dry and warm. We have had best satisfaction from wooden buildings, and prefer wood to anything else for the walls of the building. We have some cement floors, with planked sleeping places, which are giving very fair satisfaction; but our farrowing pens are floored with plank.

For pigs just after weaning we find nothing better than wheat middlings and skim milk. Sometimes we cannot get all the skim milk we want, and have to divide the limited supply among those most needing it. We have used ground oil cake and ground flax seed in very small quantities, steeped with the middlings; but though they are better than nothing, they do not equal milk. Of the two, probably the ground flax seed is the better, but it should not constitute more than about five per cent. of the total food. By the time the pigs are about three months old a little ground grain is usually added. We like barley for this purpose, and often add a few oats ground as finely as possible. Soon after this, a few roots are added to the ration. We have fed roots cooked and raw, and have very little preference, except that sometimes cooked roots are eaten a little more readily. We prefer sugar beets, but turnips and mangels are also good. When potatoes are fed, they are always cooked. When fed raw, the roots are pulped and mixed with the meal ration, after which the whole mass is moistened. As to quantity of roots, we have fed to growing pigs as high as fifty per cent. of the total ration; that is to say, equal quantities by weight of roots and meal mixture. This, however, is an excessive quantity, and probably the roots should not exceed twenty-five per cent. of the total weight of the ration (25 lbs. roots to 75 lbs. meal mixture). In these matters, however, the feeder must be guided by the condition and the whims of appetite of the pigs.

We have fed clover hay in limited quantities, principally to breeding sows. They are given an occasional feed of cut clover hay mixed with a little meal and steamed. It gives variety to the ration, but roots are our main dependence for bulky food.

Hogs intended for fattening usually have their supply of roots reduced when they reach about one hundred pounds live weight. Sometimes the roots are cut off altogether, but this depends upon how rapidly it is desired to force them. If the hogs are

somewhat thin, and it is desired to increase the proportion of fat, as well as secure growth, few, if any, roots are fed. For fattening, we prefer a mixture of grain. Equal parts by weight of peas, barley, and wheat middlings or shorts have given very good satisfaction. Sometimes a few oats are included. We feed three times a day, and in deciding upon quantity we are guided entirely by the condition of the hogs. They usually have their feed cleaned up in less than half an hour after feeding. Food is almost invariably given in a well-moistened condition. We have not found any decided advantage from soaking food over mixing it as required.

We aim to give the hogs as much space as possible, but up to the present the amount of exercise has not been what we would like. If we discover some method of overcoming this difficulty, we shall be pleased to report.

G. E. DAY, Agriculturist.
Ontario Agricultural College, Guelph.

Sheep for Breeding.

At the request of Secretary Coburn, of the Kansas Board of Agriculture, John A. Craig, Professor of Animal Husbandry of the Iowa Agricultural College, delivered an address before the Board's recent annual meeting on "Sheep—Good and Bad." Among other interesting things contained therein he outlines the points that should be found in animals which are to be used especially for breeding purposes, and also the condition they should be in. As Prof. Craig is a recognized authority on all matters pertaining to sheep, the following may be profitably read and considered by all identified with this industry:

The ram should show masculinity in many features. In those breeds that have horns, the latter should spring strong from the head and turn clear from the face. In all rams the face should be broad between the eyes, somewhat short, and with a Roman nose. The crest, or scrag, should be thick and rising, and the neck full. A point deserving emphasis is the depth of the chest. The body should sink deep between the fore legs, and the ribs back of the shoulder should be deep and round, making the girth large and the brisket prominent and wide—two features that are indicative of a strong constitution. A live fleece—that is, one that is springy and not dead to the touch, and especially a dense, thick covering of belly wool—is also indicative of vigor or constitution. For the same reason, in those breeds that are woolled about the head, the more complete and dense this covering is the better it is liked. The legs of the ram should be straight and strong, and short. In movement the ram should be bold and active. This is often influenced by the condition. A ram should never be so heavy in flesh as to be useless in service, as is too often the case in the showing. The flesh should be even and firm, and not gathered in masses or rolls at any part of the body. It is very apt to gather at the foreflank, leaving the back bare or raw. Excessive condition is likely to make the ram unwieldy in action, or result in broken-down pasterns, which usually render a ram useless for breeding purposes.

The ewe should be rather long in the face, with fine features. The neck should be slender and without any of the thickness noticeable in the ram. The body should be deep, round-ribbed, and specially long, so as to provide room for the growing lamb. The type of the good-milking ewe verges strongly toward that which is typical of the good dairy cow. The ewe that milks well, and consequently rears early-maturing lambs, tends toward the wedge shape, deep in the chest, large bodied, and wide across the loins and hips. The condition of the ewe should not be such as to impair her breeding qualities. Excessive fatness, as a rule, is in this way injurious. The flesh should be evenly distributed and not gathered in bunches about the tail-head, and it should be firm and not too flabby.

As a result of our consideration of the good and bad qualities of sheep, there arises the more important problem of breeding to reproduce the former and to remove the latter. I have failed to find, up to this day, where success has been obtained by in-and-in-breeding, cross-breeding, or any other form, but that there was a man behind the system who knew well the merits and demerits of the animals he was breeding. And further, knowing these, he made his selection to get the best blend. This is the basis of a method of breeding that arises from what has gone before. For want of a better term I have named it "balanced breeding," and I believe that this method has the means of developing and adding to the good qualities, and at the same time lessening and removing the demerits of our domestic animals.

To follow balanced breeding in sheep would mean the selection of rams with the leading thought of removing the weakness of the flock. When one realizes the force of balanced breeding, and acts on it in the selection of sires, it is wonderful what strides may be made toward perfection in a few years. With this sire we correct a deficiency of the fleece, and yet retain the good qualities of form; with another we add a little more bone; another deepens the flesh on the valuable parts; and so on, each marking a new advance; while closer discrimination and riper judgment keep disclosing new features to be attained in each additional effort.

The Fall and Winter Care of Pigs.

BY D. LAWRENCE, OXFORD COUNTY, ONT.

A great deal has been said and written on the subject of how much exercise pigs require in order to most profitably grow and fatten. Some writers maintain that pigs should run at large until the last few weeks when they are finishing off. I kept one pen shut in all the time and allowed another pen to run out all day and gave both the same feed, those running out getting the benefit of anything they could pick up. And the result was that those pigs which were shut in all the time grew and fattened most rapidly. They were Tamworth-Berkshire hogs, and perhaps those which had liberty ran about too much for their good. Perhaps pure Berks., Chesters, or Duroc-Jerseys, being of a more indolent disposition, would not run so much, and might do better at large. It is only reasonable that if a pig runs about a great deal, it must take feed to keep up the wear and tear of its system. Our pens are about 9 feet x 12 feet 6 inches, and in my experience afford plenty of room for seven pigs.

For fall feeding I prefer pumpkins. I cook them in our cooking vat, and after the cooked mess has stopped boiling I put in a quantity of well-ground chop, and then with a hoe mix up much in the same way as the bricklayers' attendant mixes mortar. Take out enough at a time for a feed, and thin off a little with whey, milk or swill or water to about the consistency of thick cream. After this has been eaten, the pigs that are finishing off get all the peas or corn they can eat up clean. Unfortunately, our pumpkins were not good this year, and we had only a few vats full. I think if I had plenty of pumpkins that I could force pigs that weighed from 125 lbs. to 140 lbs. to gain nearly 2 lbs. each per day. By actual weighing we had one pen that made an average gain of 1 1/2 lbs. each per day for a month. There is a great science in feeding just enough and the right kind of feed in proper proportions. And it does not do for first one and then another to be feeding the pigs. One man should attend to the feeding and make a study of the wants and tastes of the grunters, and the results will be much better than if any one on the farm runs in and throws the animals a little of whatever feed is handy by.

During winter I think pigs should have some roots, either pulped or cooked. Pulping is very good, but I think for the small pigs and for those finishing off, cooking is much better, especially if one has the proper appliances. We are now cooking small potatoes for the young pigs which are still getting at the sows over night. I think carrots and sugar beets are more suitable for pigs than mangels and turnips. In winter I have tried cut clover hay put in the vat and cooked with roots and chop added; and when one has really good clover hay, well cured, I believe it is a profitable feed for pigs 70 lbs. and upwards. For chop, I prefer to mix peas, small wheat, barley and oats; of course, using a much larger proportion of the two latter than of the two former. When feeding chop without roots we soak in whey or water one feed ahead. But when feeding cooked pumpkins or roots, the chop is mixed with the cooked mess, as already stated. When feeding pulped roots, we find it an advantage to pulp one feed ahead and mix with the chop and a handful of salt. It then heats a little and the pigs relish it more. When cooking feed we never throw away any ashes, but when cold give a shovelful to each pen, which is eaten up greedily. For vermin I use Little's Sheep Dip, weakened down in the sprinkling can, and treat piggy to a spray bath while he is eating his dinner. The old sows with long bristles are better to have it rubbed in by hand. Our boar's tusks grew long and protruded, so that he tore one sow on the side. I got the man who dehorn our cattle to take his clippers and clip off the offending tusks very neatly and I believe almost painlessly. This is a much better way than the old method of knocking them out with a cold chisel and hammer. We give some fresh straw every day and endeavor to clean out twice a week, and oftener when possible. I think it pays to use enough straw to soak up all the liquid. The manure made in the pigpen is worth something. We feed the first time before breakfast, then at noon, and again before retiring for the night. At the final fattening period I gradually reduce the roots and increase the grain ration until the last few days, when no roots are given.

Fall and Winter Feeding of Pigs.

To the Editor FARMER'S ADVOCATE:

SIR,—As the fall and winter season approaches there comes to every stock raiser and breeder a somewhat perplexing crisis when pasture begins to fail—how best to tide his stock over this critical period without too much expense? This is especially true where many hogs are kept, which is now the case on almost every well-regulated dairy farm, since hog-raising has become such a profitable feature in farming. Experience has taught us that there is wisdom in making a provision for this period. We all know that clover, green corn, and many of our natural grasses and stubble-gleaning furnish an abundance of succulent and other food during the summer and early fall feeding.

One of the cheapest and best foods to begin with is a sufficiency of rape where the hogs can be turned on when the pasture begins to fail, which often furnishes succulent food till nearly the end of the year. Hogs are remarkably fond of it, and do well on rape and a little grain. When this is not provided, with roots or corn, ensilage must

necessarily take their place where profitable and successful hog-raising is carried on. For brood sows an outdoor run with proper shelter is best; whole roots, turnips or mangels, with a little grain scattered on the ground (peas are very good). The searching for the grain and the breaking up of the roots gives them good exercise. I find some succulent food is most valuable in all stages of pig life. It gives health and helps to promote growth. A very profitable way, and the most successful in my experience when roots are to form the main part of a winter ration for young shoats, is to pulp them. A very good way is to mix the meal and roots one meal ahead in the proportion of a peck of meal to a bushel of pulped roots. Very little sloppy food should be fed, and if fed, should be fed separate. There is enough water in the roots. I believe here is where great damage comes in, especially in cold weather. I have found equally good results with corn ensilage fed fresh in same proportion, where roots are not prepared as above. A few roots (either whole or pulped) should be given where heavy grain rations are fed, or any ration. About six weeks before finishing for market the succulent food must be gradually withdrawn and more fattening food fed in place, but a few roots are very beneficial and are greatly relished, giving appetite and keeping the bowels regular.

Exercise is of great importance to health and makes firmer and better meat. The pens should be roomy enough to give every hog enough space for comfort, warm and free from drafts when shut up and weather cold. Where possible, outdoor pens about twice the size of the indoor are most helpful. When weather is not cold the pigs are out most of the time, which saves a great deal of labor and the pigs do much better. By keeping them well bedded it is surprising the amount of good manure that can be made and labor saved. Where no outdoor pens are provided an occasional run is very necessary. The pens must be kept very clean, well ventilated and dry or the hogs will not give the most profitable returns. A good disinfectant should be used every week where many hogs are kept, to kill disease germs. In regard to feed,



PAIR OF GRADE AYRSHIRES, BY ORPHAN BOY. 1. Rena, three years, winner in grade dairy class at Ottawa, 1899, against all breeds, at fourteen months in milk. 2. Snowflake, two years, won first in same class, all breeds competing. OWNED BY H. J. WHITTAKER & SON, NORTH WILLIAMSBURG, ONT.

mostly all kinds of grain on the farm are good; oats, whole or fine crushed, are very good for young pigs. Barley is an excellent feed. For finishing there is nothing better than peas. Corn is good, but must be fed cautiously and with other grains, or there will be a kick from the packers, and justly so, for it appears the British market does not want corn-fed hogs for the best trade, and it is our duty to supply the packer with what the market demands.

I believe a combination of the above grains, barley and oats first, and the heavier foods later on, gives best results. I feed large quantities of wheat, middlings and some bran to young pigs. One part bran to 3 of meal, and a little oil cake with a pinch of salt, soaked one meal ahead, is the best way to feed middlings. With other grains I find very little difference whether soaked or fed dry. Cooking roots, in my experience, does not pay. You can make food more palatable and make a nice mixture and pigs do well on it, but outside of this there is no profit in it when cost of fuel and labor is deducted. It is a good plan to take the chill off the feed for young pigs in cold weather. I feed three times a day, but vary the noon meal. Have had very little experience with clover in winter, but what I have fed has proved very satisfactory and I believe it could be fed with much profit.

A. C. HALLMAN.

Spring Brook Farm, Waterloo, Co., Ont.

Winter Care of Pigs.

Too much importance cannot be attached to this question, especially with small pigs just weaned or yet with their dam. They should be kept warm, dry, and clean. I have found that nothing will stunt the growth of small pigs more than running in the wet and mud in chilly weather. Give plenty of fresh air and dry bedding. There is no feed that can be used with as much profit in wintering hogs as mangels or sugar beets. For young pigs I mix to a nice thickness two bushels of pulped mangels to one bushel of shorts (mix with skimmed milk or water). This I feed twice a day to twelve pigs 90 to 100 lbs., about five pails full night and morning. For noon feed, three pecks of pulped mangels, with six to eight quarts of dry shorts, and one to two

pails of swill or thin drink. I cook them for night and morning in very cold weather, and I am of the opinion that it would be to a good profit to cook all the time. But as yet have not seen any cooker that is quite suitable for cooking extensively. Perhaps some of your readers could suggest a good safe, reliable cooker, at a price that ordinary farmers can purchase. We need something that will keep the pen fairly clear of steam. An occasional feed of corn or peas at night with a thin mixture of drink will make them relish feed better. Ashes or charcoal, or both, with a little sulphur once or twice a week, will help to brighten pigs up and make them thrive well. For final fattening take away mangels morning and night; add more shorts or a little corn meal, or pea chop added will hasten them for market. I feed very little feed but shorts and mangels for winter, and believe it to be the most perfect hog feed there is.

As to yard and pen room most suitable for profit, I have as yet made no tests in this matter, but have found my pens to be very convenient for my use; pens are thirteen feet square. I feed from ten to twelve pigs in the pen. Yard to each pen is 16 x 30. Growing pigs run out all the time. When weather is fine always go out every day, no matter how cold. Even fattening pigs go out a little every day. I clean the pens every day without fail. By feeding as stated above and keeping pigs clean and dry, I have had very few sick or weakly ones.

All being well, I shall test hot and cold feed this winter. Have had no experience with clover hay. Oxford Co. Wm. J. WHALEY.

Timely Pointers Where Fodder is Scarce.

AN EXPERIENCED DAIRYMAN REVEALS HIS METHODS—CAUTIONS AT CALVING TIME.

To the Editor FARMER'S ADVOCATE:

SIR,—Where the supply of fodder is short, as it is in many quarters this fall, I would advise running all fodder through the straw cutter, as there is then no waste, which is the first consideration under such circumstances, and there is no doubt that a given amount of fodder will go much farther by being chaffed. If one has ensilage, I would cut straw and hay and mix with the ensilage if possible twenty-four hours before feeding, and add what chop stuff I wished to feed. When fed to the cows, you can then give each cow the amount of grain you want her to get. Where one has roots and no ensilage, I should pulp all the roots, and follow the same plan as with the ensilage. In both cases I would add a little salt. Feed prepared in this way is more appetizing, and will be eaten up clean by the cows. Whereas, every farmer knows that a large part of the dry fodder, such as cornstalks, straw, and poor hay, is always thrown out under foot and wasted. Where one has plenty of rough feed, this is not of so much importance; but with the prospect before most of us this winter, we must either economize our feed or sell some of our stock.

As to what change I would make in feeding when a cow goes dry, the condition of the cow at the time would be my guide. If low in flesh I would feed liberally to get her as strong and hearty as possible without getting fat, as it will all come back into the milk pail if she is a good cow, and we cannot afford to keep any other kind.

Just before parturition I stop all grain food, except perhaps a little bran. Care must be taken at this time to keep the cow loose in the bowels, and, if necessary, would give a dose of salts. After parturition feed no grain for some days and give warm water to drink, as a chill at this time must be carefully guarded against, and all cows are very likely to get a chill at this time which will affect them very seriously, if not fatally. Wentworth Co., Ont. R. S. STEVENSON.

Gratifying Progress in the Great West.

The Director of the Experimental Farms, Dr. Wm. Saunders, has returned to Ottawa after an absence of nearly seven weeks. He spent about ten days of the latter part of August in attending the meetings of the American Association for the Advancement of Science, at Columbus, Ohio, and in visiting the experiment stations in Minnesota and North Dakota. From thence Dr. Saunders proceeded to Southern Manitoba, arriving there at the time the wheat crop was being harvested. He also visited the noted grain-growing localities in the central parts of Manitoba, and found the crops everywhere satisfactory.

EXPERIMENTAL FARM, BRANDON.

At Brandon, the Director inspected the various lines of work in progress at the branch Experimental Farm. The crops of cereals there were unusually heavy. Some of the most productive varieties of oats have given from 100 to 112 bushels per acre; the best varieties of barley from 40 to 45 bushels; while the different sorts of wheat have varied from 30 to 45 bushels per acre. Indian corn and millets have given lighter crops than usual; but the returns from turnips, beets, and carrots will be about the average. The potato crop, although good, is not likely to be above an average yield.

The crops throughout Manitoba are very good, and from the returns already received from the threshing, it is generally believed that the wheat crop will average about 22 bushels per acre. Threshing is progressing rapidly.

THE NORTHWEST TERRITORIES.

The crops in Eastern Assiniboia are also very good, and will probably give an average quite as heavy as that obtained in Manitoba. There has been very little injury from frosts. In the Indian Head district there is an unusually large acreage under wheat, and it is believed the crop in that section will average fully 25 bushels per acre. In the Prince Albert and Edmonton districts the rainfall during the latter part of the summer was exceptionally great, and the excessive moisture produced a rank growth of straw; hence the grain was late in ripening, and in some localities frosts occurred before it was fully matured. Many of these green crops have been cut for fodder, and will furnish a large supply of nutritious food for stock. The feeding of beef cattle and the manufacture of dairy products have for some years past been important branches of farm industry throughout this part of the Northwest country.



SHROPSHIRE RAM LAMB.

First prize and sweepstakes winner at Calgary Exhibition, 1899. BRED AND OWNED BY J. A. TURNER, BALGREGGAN RANCHE, MILLARVILLE, ALTA.

EXPERIMENTAL FARM, INDIAN HEAD, N.-W. T.

At the Indian Head Experimental Farm all cereals have yielded bountifully. Most of the best-yielding varieties of wheat have given from 30 to 33 bushels per acre; oats, from 80 to 97 bushels; barley, from 55 to 69 bushels per acre. Peas have not yielded so well, the crop ranging from 22 to 33 bushels per acre.

CROW'S NEST PASS AND MINING DISTRICTS.

A trip was made through the Crow's Nest Pass, where the scenery, although not nearly so grand as on the main line of the C. P. R., is very varied and interesting. Wonderful development is going on in that portion of the Dominion. The output of coal is enormous, and the growth of some of the towns phenomenal. At Fernie, a town but little more than a year old, there is a population of nearly a thousand people. The coal there is specially adapted for the manufacture of coke of excellent quality for smelting, and 150 coke ovens were constantly running, turning out 1,200 tons of coke per week, while 50 additional ovens were in course of construction. The advent of the railway, by which large and valuable coal deposits have been reached, has been an important factor in the progress of the mining industry in that region, which is advancing by leaps and bounds. Cranbrook is an older and larger town, in which a large business is done. A day was spent at Nelson, and another at Roseland, both of which are now important and interesting places. In Roseland, especially, mining is being actively pushed and the daily output of ore is very large, the greater part coming from the War Eagle and Le Roi mines. At Roseland the formation of the mountains is such as to resemble a large basin, and partly up the steep sides of this basin, at an elevation of about 3,000 feet, the town is built. The railway climbs to this height by a succession of steep grades. Although only four years old, the town has a population of several thousand, and business of all sorts seemed to be very brisk. On the way to Roseland, Trail is passed, where there is a very large smelter, which is now being worked to its fullest capacity and the valuable metals extracted from an enormous quantity of ore every week. On the way up the Arrow Lakes from Robson, the new railway recently built by the C. P. R. has been opened to the valley of Kettle Creek and the eastern part of the boundary country. Starting at Robson, the line runs along the valley of the mountains which skirt the margin of the Arrow Lakes, for about thirty miles; then, turning south-westerly up the Kettle Creek Valley, it is soon lost to view. The traveller by this route can now take a sleeper at the head of the lakes, which, connecting with the express on the main line at Revelstoke, runs through to Vancouver.

EXPERIMENTAL FARM, AGASSIZ, B. C.

Work on the Experimental Farm at Agassiz is making good progress, a further area of land has been cleared, and the portions devoted to field crops and orchards enlarged. About 140 acres are under cultivation, about half of which has been planted with fruit. A very large number of varieties is being tested, and much useful information is gained from year to year as to the sorts

best suited to the climate and most profitable to the grower. The spring of 1899 was very wet, and the rain was almost constant throughout the blossoming period, which prevented the fruit from setting, and hence the fruit crop is small. There was, however, a considerable number of varieties of apples and plums, as well as some pears, at Agassiz which were bearing well. The crops of hay and oats, which are among the most important in this Province, were good, and barley also has given a fair yield. The quantity of wheat grown here is small, and the crop about an average one. The season has been cool as well as wet, which has been unfavorable for Indian corn, but the field roots promise well.

THE DOUKHOBOURS.

On the return journey, a trip was taken up the Manitoba and Northwestern Railway from Portage la Prairie to Yorkton, and thence north by vehicle nearly one hundred miles to the north trail of the Swan River. Journeying then from Thunder Hill eastward for many miles, the Swan was again forded and travel continued on the south trail until the Dauphin Railway was reached. During this drive, of about 150 miles, many villages of the Doukhobours were passed, and some time spent in inquiring into the progress they are making in their new settlements, in preparing for crop next season, and in providing shelter and food for the winter. Nearly all the able-bodied men were away from the village, working on the railways and assisting the settlers in their harvesting and threshing operations, thus earning money to buy supplies for winter; while some of the older men and the boys, with the help of the strong and active women, were building houses and assisting in getting the land in order for crop next year. They are a very industrious people and are well satisfied with the country. Most of their land is of good quality, and the locations they have chosen are partly wooded, affording abundant material for building operations and firewood. They are all vegetarians and will not eat animal food, as they consider it a sin to kill. Most of them, however, will eat fish, and some of their villages are well located for food of this sort. They like butter, cheese, and eggs, but, as yet, can get very little of these useful and concentrated foods, as their stock of cows is very small, giving them but a meager supply of milk, and they have very few fowls. At present they are subsisting mainly on bread from a low grade of flour, with soup made of a mixture of flour and water, with the addition of vegetables, such as cabbage, onions, and beets, and, in some instances, potatoes, of which they are very fond. In most of the villages they have grown a considerable quantity of vegetables, but not nearly enough for their requirements during the winter. Their houses are substantially built of logs, and roofed with poles, on which prairie sod about four inches thick is laid, and the interstices filled with fine earth. The sides of the houses are well-plastered on the exterior with clay mixed with cut hay, and, sometimes, on the inside with the same material. The furniture in the houses is all of their own make, and consists of a few rough stools to sit on, and higher benches which serve as tables. The beds are made of a series of poplar poles about six feet long and three or four inches in diameter, placed close together along one or both sides of the house, with the ends to the wall. On these some hay is placed and over this a piece of thick felt. Most of the people recline on this structure with their heads to the wall, feet outwards, using such bedclothes as they can command. A few have feather beds, and curtains to divide the sleeping places into compartments. Most of the houses consist of one large room for living, cooking, eating, and sleeping. The aim is to have in all their villages a house for each family, and these houses are being erected at varying distances, in two rows, with a wide street between them. Although new homes are going up rapidly in every village, the absence of the men necessarily interferes with the progress of the work, and in many of the villages each house is at present occupied by from ten to twenty people, and, in some instances, in the larger dwellings the inmates number from twenty-five to forty. In these densely-populated buildings the beds are arranged along each side of the houses, in a double tier, the upper ones being reached by a ladder. In each house there is a Russian oven, similar to those used by the Mennonites in Manitoba, which serves for the warming of the building and cooking the food. Each village is provided with a steam bath-house, in which steam is generated by pouring water on heated stones. In this way profuse perspiration is brought about, and, in the absence of towels, the body is whisked briskly with a bunch of small branches of the mossy cup oak, the large leaves of which still hold tightly to the branches. These people seem very contented, and although in many instances conditions were met with which would with us be regarded as cases of hardship, not a word of complaint was heard from any of them. The Doukhobours are honest, truthful, and hard-working people, of cleanly habits, who use neither liquor nor tobacco. Being vegetarians, they are at present at a disadvantage as compared with other settlers, as there is much game about their settlements, with which they could easily supplement their vegetable diet with great advantage. They appear, however, to be very strong and hardy, and will no doubt prove a very useful class of people in the districts in which they are settled. They will

soon form prosperous communities and assist much in the development of the country. They may, however, need some assistance for a time, until they can produce enough from their land to sustain them. Many families of Galicians were seen at different points. They are a hard-working and industrious people, who are improving their conditions very rapidly.

The return was made by the Canadian Northern Railway, which runs through the Dauphin country, and is now completed from Gladstone to Swan River. The Manitoba and Northwestern and the Canadian Northern are both substantially built roads and connect with the main line of the C. P. R. at Portage la Prairie. Each line runs through portions of the country where much of the land is of excellent quality and the conditions favorable for mixed farming. The traffic is rapidly developing and the prospects of good returns improving from year to year.

PREPARATIONS FOR THE PARIS EXPOSITION.

During the journey, interviews were held with members and officers of the Provincial Governments in Manitoba, the Northwest Territories, and British Columbia, in reference to the Paris Exhibition, and arrangements were made for a very complete display of the agricultural and horticultural products of the Great West. A magnificent display of grain grown in Manitoba and the Territories has been secured, and a fine lot of fruits and cereal products from British Columbia. Ottawa, October 12th, 1899.

Why There are No South American Cattle.

A special correspondent of the *Times*, writing from Buenos Ayres on 20th August, says that recent statistics show, under existing circumstances, no less than 25 per cent. of the value of the cereal crops is absorbed by taxation imposed in one form or another by the national, provincial and municipal authorities. In the matter of cattle brought into Buenos Ayres for shipment abroad or sale for consumption from districts at no great distance from the city, the various taxes to be paid before an animal is sold sum up to \$10 per head. This condition of affairs cuts all profits for the farmer. The effect of high protective duties on one hand and excessive taxation on the other restrains the natural tendency to expansion and restricts in all directions the prosperity that should ensue from the wealth of a fertile soil and beneficent climatic surroundings.

FARM.

Green Manure for Summer-fallow.

To the Editor FARMER'S ADVOCATE:

SIR,—Referring to inquiry of A. A. D., Haldimand County, Ont., in October 16th issue, about green manure for summer-fallow, I have had good



DORSET HORN SHEARLING RAM.

First prize at Toronto Exhibition, 1899. OWNED BY R. H. HARDING, THORNDAL, ONT.

results on poor, light soil from the following method:—Seed in the fall with rye, 1½ bush. per acre, and when it is in head, but not ripe, say about 1st of June, plough under, taking care to cover well by dragging a chain from doubletree to plow beam. Then sow buckwheat, about ¼ bush. to an acre, which will be ready to plough under in time for fall wheat if desired. Whilst clover is probably the best green manure, it is often hard to get a good "catch" on the soil that most needs it, but rye and buckwheat both grow readily, even on poor soil. J. A. M. VAN NOSTRAND, York Co., Ont.

Best Farm Journal.

H. N. BINGHAM, Simcoe Co., Ont.:—"Yours is the best farm paper I know of, and I have had the opportunity of reading the leading American and Canadian journals."

Beneficial Birds.

BY CHESTER D. JARVIS, B. S. A., ONTARIO AGRICULTURAL COLLEGE.

This is a subject of great importance to the farmer, yet it is one in which but little interest is shown. It certainly seems strange that so little is known of the nature and habits of our common birds by the average agriculturist of to-day. Few indeed are they who stop to think of the injury which would be done by the great army of noxious insects were it not for their friends, the useful birds. Unfortunately, there seems to be a tendency to dwell on the harm they do, rather than on the good.

When it becomes necessary to destroy any animal, nature is far more competent to do so than ourselves. So long as we refrain from interfering with her regulations she will preserve her own balance, and will allow none of her creatures to increase and multiply beyond their due limits. Furthermore, she will perform the work required at a very low charge, whereas it cannot be carried out by ourselves, save at great, and even excessive cost. The small birds will destroy mischievous insects by hundreds of thousands, and will help themselves with a little of our produce in return for their services. Grain or fruit thus stolen must be looked upon as wages due them for their services, by which we are preserved from losses infinitely greater. We pay our plowmen and our reapers so much a day; the birds require payment too. The difference, however, is that, instead of asking for that payment, they take it out of our produce. In the members of the feathered tribe the farmer meets his truest and most powerful allies. Just as, of all living creatures, insects have been endowed with the greatest power for harm, so birds have been endowed with the greatest power for good.

The points which are chiefly forgotten by the opponents of small birds are briefly these:

1. That a bird which is certainly injurious at one time is not necessarily so at another.
2. That the good wrought at one season may possibly outweigh the evil caused at another.
3. That an insect killed by a bird is seldom missed, while any grain or fruit which it may steal is at once noticed, and brought up in evidence against it.
4. That while produce stolen is a final and definite loss, an insect killed represents a continual and cumulative gain, owing to the co-destruction, if such a term may be employed, of its presumable descendants.
5. A bird which does not eat insects at all, may yet devour quantities of wild seeds, and so help the farmer, although in another manner.

The last mentioned point is one of great importance, and is one which is usually overlooked. Certain garden weeds produce an incredible number of seeds. A single plant of one of these species may mature as many as a hundred thousand seeds in a season, and, if unchecked, would produce in the third season ten billion plants. Fortunately, certain agents are at work to check this harvest, and perhaps the most efficient among them are seed-eating birds. Each fall and winter they flock in myriads to agricultural districts, and live upon the ripened seed of weeds. Since they attack weeds in the most critical stage of life, the seed period, it follows that their services must be of enormous practical value. The birds which accomplish most as weed-destroyers are the various species of native sparrows that flock to the weed patches in early autumn and remain until late spring. Sparrows generally seem to be regarded with favor, but the English sparrow drives away native birds, and does so much damage to grain and fruit, that it is considered a pest.

THE KINGBIRD.

This is a very active bird. We have it with us in the summer, but it spends the winter in more southern climes. It is about eight inches in length. In color it is almost black above, and whitish below. The tail jet black, terminating in a white band. The wing feathers are also edged with white. The male carries an orange-red crest. It has a great antipathy for hawks and crows, and never hesitates to give battle to any of these marauders. It is largely insectivorous, and takes a large part of its food on the wing. One of the complaints alleged against it, is that it preys largely upon the honey-bee, but an examination of the stomach of this bird has not proven this to be the case. It seems to be clearly established that about ninety per cent. of its food consists of injurious insects, and that the vegetable food consists almost entirely of wild fruits, which have no very great commercial value.

THE NIGHT HAWK.

This is a bird which is under the ban. I have no doubt the unpopularity of the bird arose from the prevalent superstitions, which considered all nocturnal creatures as emissaries of the powers of darkness. The theory was probably strengthened by the peculiarity of the cry. It is often mistaken for the whip-poor-will. The night hawk, however, can easily be distinguished by its harsh, whistling note, instead of the woful cry of the whip-poor-will. The night hawk is about ten inches in length. The head is large and depressed. The structure of the mouth is very remarkable; the gap being exceedingly wide,

insects of large size can be accommodated without difficulty. The color of plumage may be described as dark gray, mottled or splashed with a white above, and gray and white, much lighter, below, with waving bars of gray and white. Insects, and principally mischievous insects, constitute the entire food of the night hawk. It is a common summer resident, migrating in early September.

OWLS.

The owls, too, are usually looked upon with suspicion, and are always treated with a certain amount of ridicule and contempt. In the minds of the ignorant and superstitious they are associated with cats and witches. Space will not permit of a detailed description of the many kinds of owls. This, however, is unnecessary, as their habits are quite similar, and there are few indeed who cannot recognize them at first sight. Most owls are night feeders, but the snowy owl and the hawk owl may be found feeding during the day. The great horned owl, or "cat owl," as it is sometimes called, has been accused of stealing chickens, but an examination of many stomachs has proven this to be only rarely the case. The benefit derived from this class of birds lies in the destruction of rats, mice, and other rodents, which, if left unrestrained, would in a few years destroy all vegetation on the face of the earth. These birds are endowed with natural faculties specially adapted for the work they do; the only trouble is that we have too few of them. If the useless destruction of our beneficial hawks and owls was stopped at once, the balance of nature may be restored.

SWALLOWS.

Almost like night hawks, but on a reduced scale, are the various members of the swallow tribe, which take up the task of insect destruction at earliest dawn and carry it on uninterruptedly throughout the day. The food of these birds consists almost exclusively of flying insects, or, perhaps, in some cases, those picked from the tops of tall grass or weeds. They are so plentiful, so ubiquitous, and so strongly attached to the haunts of humanity, that there must be few indeed who are not well acquainted with them. We have at least six common summer residents among the swallow family. They have a few characters in common, the chief of which are as follows: flight



DORSET HORN SHEEP.

In first-prize flock, Toronto and Ottawa Exhibitions, 1889. PROPERTY OF M. N. EMPY, NAPANEE, ONT.

strong, skimming, and darting; exceedingly graceful; plumage usually black, with a bluish or greenish luster, sometimes dull, and generally white below. They have small bills, but very large mouths. Long and pointed wings, generally reaching beyond the tip of the tail.

THE SPARROW HAWK.

Among the hawks we have a few foes, and a great many friends. Therefore, before we turn the shotgun toward this class of birds, we should be able to distinguish the beneficial species from the injurious forms. The sparrow hawk is by far the most common of the beneficial species, and will receive special mention. It is a common summer resident, about the size of the robin. In color it is bright, reddish brown above. The tail is similar, biased with black and white at the tip; the wings are slate-blue. It is characterized by a short neck, large head, and strong bill. The bird kills, in the course of the year, so many mice, grasshoppers, and other enemies of the farmer, as to more than compensate him for its occasional misdemeanours—it robs him of sixpence and repays him with a shilling.

CUCKOOS.

Of the cuckoo family we have two species, much the same in habits and general appearance; the chief difference being in the color of bill—one having a black bill and the other a yellow bill. They are long, pigeon-shaped birds, whose backs are grayish brown with a bronze luster, and whose under parts are white. Bill, long and curved; tail, long, and wings large. Song is lacking, but they have a very characteristic call-note, from which it gets its popular name. They usually inhabit low trees and undergrowth. They work in silence and solitude. These birds are apparently given to eating caterpillars, and, unlike most birds, do not reject those covered with hair. The tent caterpillar, which is so abundant in our forests, is its chosen food.

THE BLUEBIRD.

This is among the first birds to arrive in the spring, and is welcomed as an indication of the

final breaking-up of winter. It is to be found in orchards and gardens. It builds its nest in hollow trees, and often in the nesting boxes frequently seen around farm homes. The bluebird is somewhat larger than the common English sparrow. The upper parts, tail, and wings are bright blue; the throat and breast are buff red, and under parts white. The color of the female is less distinct than that of the male. Although it is usually found in the orchard and garden, it has not been accused of stealing fruit. Its food consists of grasshoppers, beetles, caterpillars and spiders. When caterpillars and grasshoppers are plentiful, these almost entirely constitute its daily food. So far as vegetable food is concerned, the bluebird is positively harmless.

THE THRUSHES.

belong to a family closely related to that of the bluebird, and, as a rule, have similar feeding habits, being particularly fond of white grubs and cutworms. They are medium-sized, stout-built birds. All are fine songsters, and inhabitants of woodlands. They are usually of a grayish or brownish color above, and lighter below.

THE ROBIN.

which is a somewhat qualified friend of the farmer, also belongs to the same family as the bluebird. Unlike the bluebird, it values highly its services, and, consequently, makes frequent visits to our cherry trees. A description of this most familiar bird is unnecessary. Many fruit-growers consider the robin the worst enemy they have among the feathered tribe, while others, by the result of careful observation, are inclined to think it at least pays for all the fruit it eats. In the early part of the season it feeds itself and its young almost exclusively on outworms and white grubs, so that during the breeding season alone its services must be of a very valuable character.

WOODPECKERS.

Of the woodpeckers we have at least nine species in Ontario, the most common of which are the red-headed woodpecker, the hairy woodpecker, and the downy woodpecker. They are medium-sized birds, usually with plumage black and white, and always with some red feathers about the head of the males. They are strong-looking birds, with high shoulders, and a strong, well-developed bill, suitable for drilling holes in the bark of trees. The tail feathers are very stiff and serve as a prop. In the woodpeckers we have fresh examples of friends which have been reckoned as foes. Even at the present day the presence of a woodpecker in the garden would be looked upon with great suspicion, and the very sight of the hole which it makes in the tree trunk would be considered as sufficient evidence of its mischievous propensities. Careful observation, however, proves that these birds rarely leave any important mark on a healthy tree, but that when a tree is infested with wood-boring larvae the insects are accurately located, dislodged, and devoured. Everyone who has examined the trunk and chief branches of a very old tree knows how the rough bark acts as a sheltering place for all kinds of insects, and how hopeless is the task of extirpating them. This feat, however, is performed by the woodpecker, who scales off the bark, and with its curiously-formed tongue seizes and draws into its mouth the tiny insects which have been lurking beneath in fancied security. An examination of the stomachs of these birds has shown that almost all of their food (excepting what fruit or beechnuts that some of them take), consists of insects, chiefly noxious.

RED-WINGED BLACKBIRD.

This bird is noted for its beautiful coloring. It is glossy black throughout, except a small scarlet patch, with a yellow border, on the shoulder. In size it is somewhat smaller than the robin. It arrives in March and flocks to the marshes, where they remain until the young are able to fly. While in the swamps their food consists chiefly of aquatic insects. When the young commence to fly, they resort to the grain-fields, where they live chiefly on white grubs, which are so troublesome in our corn-fields; at the same time they eat no small quantity of grain. After having devoured so many grubs they feel justly entitled to a share of the profits. They will not take corn, however, if there is plenty of wild rice in the neighborhood.

BALTIMORE ORIOLE.

This bird has a beautiful plumage, and a very sweet song. It is about eight or nine inches in length, considerably smaller than the robin. The head and back are glossy black; wings and tail brown or black, with white or yellow markings; all other parts bright orange red in the males, and yellowish in the females. The oriole is a common summer resident, and is to be found foraging among the early bloom of apple trees, where it hunts for caterpillars and moths, which largely constitute its fare. It sometimes eats chick beetles, the larvae of which are among the most destructive insects known.

THE MEADOW LARK.

This bird belongs to the same family as the oriole, but is much larger and lacks the richness in

color of plumage. The upper parts are brown, with darker brown or chestnut markings; throat and breast yellow, with a large crescent-shaped mark, which is black; under parts are buff shading to brown. Meadowlarks are very plentiful, but are seldom observed. The nest is found on the ground, in meadows and grain-fields. It is almost wholly beneficial, living on beetles, bugs, grasshoppers, and caterpillars, with which our meadows are infested. The greatest danger to which this bird is exposed is that of being shot for the table, its flesh being delicious. We cannot make any return for the good this bird does, but we can at least refrain from destroying its life, and exert ourselves a little to prevent others from doing so.

THE WREN.

The wren family comprises several species, the most common of which is the house wren. It is a small bird, not more than five inches in length. Upper parts are of a light brown, barred with a darker brown; the under parts are grayish or white. Year after year the wren returns to its same resting place, which is usually about the house, under the eave, behind the shutter, or any other sheltered place. From its confiding manner and cheerful song, it is a favorite wherever known, and we find that it feeds largely upon the eggs and young larvae of many species of insects.

PHOEBE.

This bird is about seven inches in length, or somewhat larger than the English sparrow. In color of plumage it is dusky brown above, and creamy white below; the bill and feet are black. The phoebe is rapidly becoming domesticated. They usually build their nests around bridges or rocky cliffs, but of late years nests are frequently found in our barns, or even on our piazzas. The phoebe subsists almost exclusively upon insects, most of which are caught on the wing. These belong chiefly to noxious species, and include many click-beetles and weevils. Grasshoppers in their season are eaten to a considerable extent.

In this paper, where I have made the attempt to combine brevity with a certain amount of detail about the birds spoken of, it has been impossible to mention all the birds which are considered beneficial. What I have tried to do has been to touch on the more salient points in the habits of birds, to briefly describe the birds spoken of, in order that the observing farmer shall be able to recognize them, and to impress upon the mind of the reader the necessity of protecting these birds from injury. There is an excellent law on our statute book demanding the protection of all birds save hawks, blackbirds, crows, and English sparrows. Let us see that this law is carried out to the letter.

With every bird which exercises an influence upon us, we should draw up a debtor and creditor balance sheet, placing on the one side the loss, if any, which we suffer through its agency; upon the other the benefits which it confers upon us. Birds, of all loving beings, are the best friends of the agriculturist, for they, and they alone, can cope with the armies of the insect world.

Fall Wheat in Southern Alberta.

Mr. Wm. Anderson, traveller for the McClary Co., recently handed us a head of fall wheat from a handful he had collected out of a 50-acre field belonging to C. Kettles, of Pincher Creek, Alta. The heads were very fine and the sample large and plump. Mr. Kettles and a neighbor, Mr. Morden, have been growing this fall wheat for several years with very satisfactory results. Mr. Kettles brought the seed from the States, and finds ready sale at \$1.50 per bushel for all the seed he can spare. The Mormons in the Cardstone district are buying all they can get hold of. It is found that sowing about the last of July gives best results, and, sown this early, is generally ready for harvest in August.

Alfalfa a Kansas Favorite.

To the Editor FARMER'S ADVOCATE:

SIR,—The assessors' returns for this year to the Board of Agriculture reveal much expansion sentiment as to the sowing of alfalfa in Kansas. The number of acres reported for the year ending March 1st is 278,477, a net increase of 46,929 acres, or 20 per cent. over last year. Every county in the State except Haskell and Stevens report an acreage.

Seventy-three counties show a gain of 51,604 acres, and thirty a decrease of 4,675 acres. Of the 105 counties of the State, 21 have each 5,000 and more acres in alfalfa, led by Jewell with 14,260 acres; Butler next with 13,743, Finney 11,541, Norton 10,761, Lyon 9,811, Greenwood 9,251, Mitchell 8,522, Wabaunsee 7,619, Saline 7,353, Marion 7,101, Phillips 6,989, Sedgwick 6,865, Republic 6,632, Cloud 6,589, Osborne 6,512, Ford 6,011, Cowley 6,003, Pottawatomie 5,956, Kearny 5,663, McPherson 5,558, and Reno 5,160.

Although 60 per cent. of the alfalfa is in these counties, it is grown in all parts of the State. The largest increases this year were principally in the northern half of the State, between the 96th and 100th meridians of longitude.

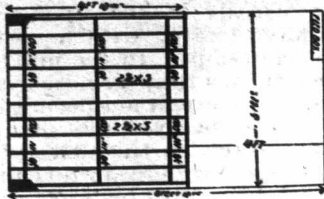
The widespread interest taken in this wonderful crop by growers of all kinds of live stock is indicated by the fact that the area has increased from 34,384 acres in 1891 to 278,477 in 1899, making a total gain of 244,093 acres, or 709 per cent.

F. D. COBURN, Secretary.

Horse Stall Floor on Cement Bottom.

Mr. W. V. Hopkins, Halton Co., Ont., sends us the following plan of horse stall floor which he finds works complete, and as so many have little bedding to use, it will keep the horse clean, dry, and off the cement.

Mr. Hopkins writes that his sketch was not drawn to any rule, as the number of pieces, 2½ x 5, are too few, and are not split; but he would have 5 pieces in each part bolted together. The part to the right in cut is solid nailed to oak strip laid in cement. In the rear part a half-inch washer, a blank iron nut, separates



the 2½ x 5 oak pieces, giving drainage. Each half is bolted with 3/8 inch iron rods. It is easily lifted out for cleaning when desired, as it lies on cement, and is held by corner against the post. A bent iron cleans out cracks by just pulling it along them.

DAIRY.

Does it Pay to Dry Cows?—Calves Should Come in the Fall—Continuous Housing Not Advisable.

Regarding the question as to whether a cow should be given a rest during the winter or kept on milking all the year, I would say that my experience has been that the cow that milks all the year is the one that gives the best results. If a cow will milk from calf to calf let her do so; but if she is dried at all she should be six or at least five weeks dry, as after that time nature is stimulating the milk-producing organs to increased activity, and by forcing her dry then means forcing her against nature and she will not do as well as she would if either dried earlier or continued milking to calving time.

I have a cow that has been milking continuously for over eight years, except once that I forced her dry, and that time she did not give much more milk when she came in fresh than she did when I commenced to dry her. I have also noticed in other cows the same thing, and my experience teaches me to milk a cow as long as she will give milk, and to try to get my cows to be continuous milkers; they will in this way give more milk in a year and give you just as good calves. A heifer, especially with her first calf, should be milked from calf to calf, even if she give but very little at the last, as you largely make your cow a good or a poor one by the way you handle her with her first calf.

I find I get the best results by having most of my cows come fresh in the fall or early winter; this way they give the most satisfaction when the price of butter is the highest. In this way they pay me a profit over cost of keeping when that cost is at the highest, and when let out in the spring the change to the fresh grass stimulates them to increased production again. When many cows are kept some should come in fresh at different times during the year, but most of them should freshen in the fall.

As to keeping cows in the stable continuously all winter, I do not think it advisable, as I think a little exercise on fine days now and then does them good, although those days may show a slight falling off in their milk, due, of course, to the fresh air and exercise they have had. By no means, however, let them out on cold or stormy days; do not let them out such days even to get water. It pays to have water before them in the stable all the time; they can then drink when they wish and the water will not be ice cold. Ice cold water certainly lowers milk production.

F. L. GREEN.

Ontario Co., Ont.

Cows Should be Dry Two Months.

SIR,—I have found with my herd of twenty cows that it is most profitable to let them go dry at least two months between the two milking seasons. A few years ago there was a great deal said in reference to milking cows continuously. Some said we could milk them right up to day of calving, with profit, by commencing with the heifer her first season's milking. So we thought we would try that plan with two three-year-old heifers, which milked well their first milking-year right up to the time of calving. Then, after milking them about six months we became so disgusted with the amount of milk they gave that we dried them off and gave them about six months' rest. Since then they have been fairly good milkers. Their calves came very small and thin, and have been of delicate constitution and very poor feeders. We haven't tried that system since.

Now, with regard to keeping cows in the stable tied up the whole winter, we don't believe in the system, but believe it is essential that they should have some exercise in order to have first-class health. We let our cows out each day for a short time, unless it is very cold or stormy. Every dairyman should use his own good judgment with regard to the time and the days they should be out. Cows shouldn't be allowed to become chilly. We find they will chill easier after eating ensilage than when eating all dry food. It is surprising how many farmers there are that neglect stabling their

cows in cold and stormy weather in the fall. They generally think they haven't time, as they are busy with the work getting ready for the winter. These farmers usually say dairying don't pay.

I would like to contract with all those farmers in the Province of Ontario who have milking cows, for me to pay the expense of stabling them in cold or stormy weather, especially bad nights through the months of October and November, and for me to get the extra amount of milk that would be got by so doing.

A. JACKSON.
Elgin County, Ont.

Butter from Pasteurized Cream.

It is not infrequently heard from critical butter consumers in cities that they would pay more for really first-class home-dairy butter than for that made in a large butter factory. This is easily understood when it is remembered that in the home dairy the feeding of the cows, the milking, and the care of the milk and the making of the butter are all within the control of the one firm or family; whereas the butter made in a factory is from milk produced from all sorts and conditions of herds, handled in as many ways as the factory has patrons. It is true that the man at the vat may reject milk on which he can detect defects in odor or taste, but on milk that has been well cooled down harmful odors may be hidden, not to become evident till it is too late to reject. When the defects are due to uncleanness or lack of thoroughness in washing and scalding the pails, cans, etc., the early recognized taints are simply as the seed to the harvest, since the odor-giving, decomposition-producing bacteria increase at an almost incredible rate in the ordinary process of cream ripening and buttermaking. To come against this, however, the process of pasteurization can be resorted to, which, by heat, destroys the life of the bacteria so that its objectionable influence is nipped, as it were, in the bud. Of course, when this is done another supply or seeding of bacteria must be introduced, but, thanks to science, the desired sorts can be separated and cultivated so that when introduced into pasteurized cream the harvest of flavor and keeping quality can be depended upon when the work of making the butter is carried on according to modern good practice. This is the plan followed by St. Mary's Creamery Co., which enables them to secure the top price in England all the time for their large output, and it is the plan which is becoming more and more favored in creamery practice, especially in winter when some herds are confined in dirty, ill-ventilated stables and fed on objectionable flavor-giving foods. Just in this connection we may state what the English Dairy World says:

"Experiments conducted at the Wisconsin Station have shown that pasteurized butter keeps better than that from unpasteurized milk, and a Chicago butter expert who examined the samples was convinced that pasteurizing helps butter to hold its sweetness for two or three weeks more than unpasteurized butter. There was, however, only a slight difference in favor of pasteurized butter as regards uniformity. For this reason, and also because of the extra trouble and expense involved, the method is not recommended for adoption by those American creameries which already produce good butter. It is only when difficulty is experienced in producing butter of the first quality that the system is recommended, or in case the export of butter to England were to increase considerably, inasmuch as the present standards demanded by the foreign markets are as easily obtainable, or even more so, by the pasteurizing system as by any other."

"It must, however, be remembered that the new method in question is still in its infancy, and that it probably has not reached its highest state of perfection. It is undoubtedly founded on a sound scientific basis, since the following simile graphically illustrates. The use of pure cultures in unpasteurized cream is like the selection of clover-seed with great care so as to avoid all foul seed, and then planting it in the soil that has not been prepared in any way, in which case it could hardly be expected that the clover would come up clean and remain free from weeds. Similarly, the dairyman, who in using pure cultures is simply carrying on bacterial farming, can hardly expect to reap the full advantage of the pure cultures without first destroying (by means of pasteurization) the growing bacteria that exist in the milk and cream."

The Brantford Milking Test.

SIR,—I expected there would be some explanation about the milking test at the Southern Counties' Show at Brantford, as it was run on very unfair principles. I don't mean that any person was to blame, but it was an oversight. The rules were taken from those of the Provincial Dairy Show, that being a two-day's test, and allowed one point for each ten days in milk after the first twenty days, and as the Brantford test was only a one-day test, a cow that had been milking a long time had a big start, and a fresh cow only had one day to make up. As will be seen by table in ADVOCATE of October 2nd, the Holstein grade had 21 points to start with, and you will see she only gave thirty-one lbs. milk, and the Ayrshire, "Nellie Gray," gave fifty-three lbs., a difference of twenty-two lbs. in one day, and nearly double the butter-fat, so that there was nothing fair about it. A milk test is all right if properly conducted, and to do this feed should be considered, and then we should know where the profit comes from.

N. DYMENT.
Wentworth Co., Ont.

this is unavoidable, insist that the skim milk or whey tank be kept clean.

48. Cans used for the return of skim milk or whey should be emptied and cleaned as soon as they arrive at the farm.

49. Clean all dairy utensils by first thoroughly rinsing them in warm water; then clean inside and out with a brush and hot water, in which a cleaning material is dissolved; then rinse, and lastly sterilize by boiling water or steam. Use pure water only.

50. After cleaning, keep utensils inverted in pure air, and sun if possible, until wanted for use.

POULTRY.

What it Costs to Keep a Hen.

BY L. E. KEYSER, SAYRE, PA.

Where one keeps but a few hens and purchases his feed from the grocer the expense nearly, if not quite, equals the value of the eggs produced. In scientific, systematic and economical feeding lies the profit in the poultry business, whether we are feeding for meat or eggs. To produce a ration that will carry a flock through the year, and at the smallest possible expense, requires considerable study. There are very few who know just what the food consumed by their flock has really cost, or what its nutritive value has been.

A ration for laying hens should contain a considerable variety of grains, grasses and roots to tempt their appetites, and should be rich in egg-forming properties, the nutritive ratio being about one to four. This can be produced with cut clover, bran, corn-meal and middlings for a morning mash, and whole grain—corn, wheat, buckwheat and as many more of the grains as can be obtained—for the evening meal, with the addition of raw cut bone twice a week. Beets, carrots and small potatoes cooked and added to the mash will greatly increase its appetizing qualities and somewhat lessen the cost. Beets, carrots and cabbage can also be fed raw to good advantage.

Of such food a large hen will consume about one-fourth of a pound per day, and it should be made sufficiently bulky by the addition of clover and bran to the mash, so that this amount will give her at least two full crops. At the present prices of grain, and allowing that roots cost fifteen cents per bushel, a hen may be kept in confinement on the above ration at a cost of seventy-five cents per year. I have, by careful buying and judicious blending of the food products, kept hens satisfactorily at an average cost of fifty-six cents each per year.

I find buckwheat one of the best whole grain foods for hens. They never become cloyed on it and it is a great egg-producing grain. In experiments made in feeding during the past winter, where the evening feed had been wholly of corn, I found that the substitution of buckwheat materially increased the egg yield. Kaffir corn is a grain that should receive more attention from poultrymen. While its nutritive value is about the same as that of Indian corn, it is relished much better by fowls and seems to produce more eggs. Where one raises his own grain I prefer to feed both buckwheat and Kaffir corn, unthreshed, as working it out of the straw gives the hens exercise. Millet is highly recommended, and where it can be produced cheaply, is an excellent addition to the list of grains. In some sections of the west it is sold as low as thirty cents per bushel. I have only used it in an experimental way for young chicks, it being too high-priced in this section to allow of its extensive use.

I prefer to feed but twice a day, especially during the winter, not only on account of the lessened labor, but because I deem it sufficient. If fed three times a day the hens are apt to wait for their food instead of scratching for it. Where the mash is fed in the morning they usually secure a full crop and then attend to their duties on the nest, and in the dust bath until they become hungry, when they will begin work in the scratching-shed, endeavoring to find some of the stray kernels that were left from their last grain feed. Where hens are inclined to be lazy, it is a good plan to feed the mash or soft food at night, letting them work for their breakfast in the morning.

Where fowls are given free range or confined in extra large, grass-grown runs, and one has the land to produce nearly all the feed required, it is possible to keep the expense down to thirty cents per annum, and this is the course to be pursued by those who would make a profit on ten-cent eggs, and where hens are rightly managed they can be made to yield a good profit with eggs at this price during the summer season.—*Artificial Incubating and Brooding.*

How to Make Your Flock of Poultry Profitable.

BY J. E. MEYER.

It is now time for you to prepare your flock of poultry so as to obtain the greatest possible returns from them during the coming winter. Experience has taught us that a hen is, generally speaking, profitable for two seasons, so that you should kill all those hens in your flock that you have had two winters, and keep only this year's pullets and those that were pullets last winter. If after you have done this you find any that are not through the moult by Dec. 1st, you should get rid of them also, as they are not likely to prove layers during the winter. Your most

PROFITABLE WINTER LAYERS

are those birds that mature earliest and come through the moult the earliest. If you have any late-hatched pullets you will find them a great bill of expense to you during the winter, as they are certain not to lay until eggs become cheap in the spring, and next fall are likely to moult too late to lay a profitable number of eggs the following winter. We believe that the greatest profit is to be obtained from these late-hatched pullets by making a *polpie* of them at once, because they are very likely to lay their eggs during low-price times. Right here it may not be amiss if we say what we consider late-hatched chicks or when

CHICKS SHOULD BE HATCHED.

We believe that the best results can be obtained by hatching our chickens from March 15th to May 15th. Leghorns, Minorcas, Andalusians and all the smaller breeds may profitably be hatched up to the end of May. We are aware that if all pullets hatched after May and all hens over two years old are culled out that many flocks of poultry on our farms will be made pretty small, but is it reasonable to expect a flock of 50 hens and pullets to prove profitable when you feed the whole 50 all winter and only 25 ever lay. During the coming winter feed only the 25 workers and then by spring you will have forgotten the old song, "Hens don't pay."

Much of the health and profit of your flock depends on how you feed during the moulting season. The growing of a crop of new feathers is quite a strain on the bird's constitution, and they should be fed liberally on different kinds of grain, green bones, etc., and not forced to hunt their living. A patch of sunflowers would be a great help, as the seeds greatly assist at moulting time. A small patch of Mammoth Russian sunflowers will produce a lot of seed, and we know of nothing better or more profitable to raise.

See that there is no vermin on your hens at this time. If you have never used a pure-bred male in your flock, now is the time to buy one to use next spring. Breeders of pure-bred poultry will sell cheaper now than later. Your chickens next season will be greatly improved if you use a pure-bred male. They will be many times more valuable than the cost of the male.

ONE MALE BIRD

is all you will need in your flock, no matter how large it is, as you will wish to breed only from your largest and best-laying hens, as your object is to increase the value of your flock in every possible way. Ten of your best hens and a pure-bred male bird placed in a suitable pen, with yard attached, during the breeding seasons will furnish all the eggs you will require for hatching purposes next spring. If you wish to improve

THE LAYING QUALITIES

of your flocks, with a view to making money out of eggs chiefly, try Leghorns, Minorcas or Andalusians. If you wish to sell both eggs and dressed poultry, try Wyandottes, Plymouth Rocks, Langshans or Dorkings. Besides paying attention to the number of eggs a hen lays, you should always have regard to the size. We are looking forward to a large and profitable trade in eggs and dressed poultry with England, and in order to meet the requirements of that market we must send large eggs and well-fatted poultry.

APIARY.

Wintering Bees.

BY MORLEY PETTIT.

Bees, like any other stock, must be well cared for in winter, and their usefulness the following summer depends greatly on the kind of attention they receive. In nature the summer's stores are not disturbed, and in their hollow home the bees are protected from cold and wet, the very structure of their hive making it dry and self-ventilating.

In frosty weather bees cluster compactly, generally on the lower part of the combs just below the capped honey, and as the cold increases they draw closer together, each bee having its head under the abdomen of the one above. The ones at the top pass the honey down to those below, so that all are provided.

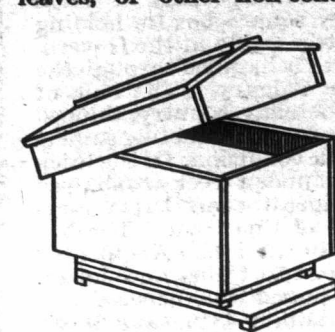
As the cold increases they keep up a tremulous motion and fanning with their wings, to develop more heat by active exercise. This exercise causes them to eat large quantities of honey, filling their intestines with fecal matter which they cannot void, as bees never discharge feces in the hive, unless too long confined or greatly disturbed. It is highly important, therefore, that great care be taken to provide the best quality of food, and to keep the hives quiet, well ventilated, and at a temperature that will not arouse the bees to great activity. Otherwise dysentery and death result.

It is rendered much more easy for the bees to cluster and keep in reach of stores when large combs are used, if two three-eighth inch holes are made in each comb, near the top, to allow the bees free passage from one to the other. These must not be made till feeding is done, as they would probably close them up. With single-walled hives all the combs in one hive can be perforated at once. Have two three-eighth inch holes in one side in the desired position, and stopped with plugs. The borer is an iron rod, sharpened flat at one end, and

having a crank on the other. Removing one plug at a time, and using a guide, bore slowly through the hive. There is no danger to bees or queen if the work is not done too rapidly. The borer should be plunged in hot water long enough to warm it before using.

About thirty pounds of stores per colony is required for winter and spring use.

When bees are to be wintered in the open air they should be made strong by uniting weak colonies, and rich in stores by feeding. Chaff hives require little other preparation, but single-walled hives must be protected by straw, chaff, forest leaves, or other non-conductor. This should be



WINTERING BEES.—Hive with packing case for outdoor wintering, showing space in top for cushion.

packed all around the hive to a thickness of from 2 to 4 inches, and held in place by clamps or outer boxes, which may be removed and stored in summer. The case illustrated is set over the hive, and the opening at the bottom, between the hive inside and the case, is stopped up with padded sticks. Replace the quilt on the frames by a porous cloth of best cotton, and on this place a three-inch cushion of chaff or other absorbent to take up moisture from the bees' breath. This is essential to either outdoor or cellar wintering. Fit the regular hive cover over all.

It is absolutely necessary that bees wintered outdoors be allowed to fly at will. It is true that many will be lost, but most of these are diseased, and, at any rate, it is better to lose a few healthy bees than incur the risk of losing, or greatly injuring, a whole colony by the excitement caused by confining them when they wish to fly. Then, again, they should not be jarred or disturbed in any way in cold weather, as bees that leave the cluster often perish before they can get back. Besides, every disturbance causes them to eat more food, thus increasing the danger of dysentery. Leave the entrance open, but contracted to about five inches, and shaded from the direct rays of the sun.

As the winter advances, bees dying from natural causes clog the entrance, unless removed by means of a hooked wire. Snow should also be cleaned from the entrances after every storm.

If the colonies are strong in numbers, and stores have upper moisture absorbents, easy communication from comb to comb, good ripe honey, shelter from piercing winds, and can have a cleansing flight once a month, they have all the conditions essential to wintering successfully in the open air.—Langstroth. The experience of Mr. S. T. Pettit shows that one good flight, say in February, will suffice.

For indoor wintering a dry, well-ventilated cellar is used. This is described on page 486 of the September 1st FARMER'S ADVOCATE, in "A Model Bee-Yard Portrayed and Described." It may be added that a pipe opening near the floor and connected with the pipe of a stove in the room above, completes the ventilation. The stove is used also to regulate the temperature. The bees are moved in just after they have had a flight, about November 17th-20th, and piled one upon another on benches, which keep them up from the dampness of the floor. A cushion is placed on each as in outdoor wintering.

It is important that the temperature be not allowed to rise above 45° F., or fall below 40° F. This and ventilation require almost daily attention. Any murmur from the bees is indicative of discomfort, due largely to faulty temperature or ventilation, or external disturbances, such as noise or jarring. No sound should reach the bees while in cellar. This is the ideal condition, but of course cannot quite be attained.

VETERINARY.

Medicinal Treatment for the Stomach Worm.

As the lambs of the Experiment Station were not exempt from the stomach worm scourge, we were forced to take active measures to overcome the ravages of that parasite in the station flock. As we had an experiment under way, which called for frequent weighings of the lambs, we were able to determine to a certain extent the efficacy of the remedies tried. Benzine and creolin (Merch-Pearson) were used on equal numbers of lambs. The benzine was administered in two dram doses, fasting for three successive mornings, the creolin in one dram doses, fasting also on successive mornings; on the fourth morning a light dose of raw linseed oil (three ounces) was given to each lamb. The two drugs mentioned were each diluted with three ounces of new milk, the mixture being administered as a drench by the station shepherd. Extreme care is needed in the drenching process, and for novices the rubber tubing and funnel is to be recommended as means of administering the medicine. Postmortems were held and confirmed the diagnosis, although the following symptoms were quite con-

insive of the parasite's presence, viz.:—Rapid loss of flesh and weight, loss of appetite, fever, dullness, craving for dirt, coughing, frequent passing of urine, which was clear and profuse; intense thirst. Diarrhoea was not noticed in the station flock, although numbers of our correspondents report scouring in their flocks. One of the first symptoms observed by the shepherd was a lagging behind the flock. Previous to using the two remedies, we had used worm powder with seemingly little effect. A correspondent reported using one hundred pounds of worm powders, while his flock continued to die, losing in the entirety one hundred and eighty (180) out of four hundred (400) lambs. In the course of ten days after the administration of the benzine and creolin, the lambs were weighed and gains of from two to five pounds each were shown (the last weighing was two weeks previously, and it had shown losses in weight or a standing still in the flock.) The second weighing, about three and a half weeks after the administration of the medicines, showed continued and increased gains. The medicines seemed to be equally efficacious, the benzine, however, being more readily taken, the creolin odor being very distasteful to the lambs.

ARTHUR G. HOPKINS, B. Agr., D. V. M.,
Asst. in Animal Husbandry.

Wisconsin Agricultural College.

GARDEN AND ORCHARD.

Fruit Exhibits at the Halifax Exhibition.

Prof. F. C. Sears, of the School of Horticulture writes us as follows regarding the fruit display at Halifax:

"It is to be regretted that prominence was not given to barrels of apples packed for export, since this subject is of so much importance to growers, and anything which could be done to encourage better methods in this respect ought to be done. At present the prize offered is only \$4 for the best barrel of different varieties, the fruit to become the property of the exhibition commission, and this is scarcely the cash value of some of the better varieties when sorted as carefully as these prize apples have to be. It is not too much to say that in no other department of fruit-growing is there greater need of improvement than in the matter of packing apples. If growers could only be brought to realize that when they pack a barrel for export they are competing for a far greater prize than was ever offered at any exhibition, we might hope for better methods in the future.

"The value of modern methods of culture and spraying was well illustrated by some Burbank plums exhibited by Mr. Ralph S. Eaton, of Kentville. They were almost a third larger than any other specimens of the same variety exhibited, and Prof. John Craig, who acted as judge of fruit, pronounced them the finest Burbanks he had ever seen. Mr. Eaton practices thinning his fruit, which is doubtless, in part, accountable for the superb character of these plums; but cultivating, spraying and fertilizing are also largely responsible. If Nova Scotia can grow such plums as these, and if cold storage can be developed sufficiently to land them in perfect condition in the London market, there is no reason why this branch of fruit-growing should not become of great commercial importance.

"Peaches again formed an interesting part of the exhibit, and enough were shown to prove that Nova Scotia can grow them for the home market, though they may never be of commercial importance. Some really creditable plates were shown of such sorts as Alexanders, Crawford's Early, and Hill's Chili.

"Comparing the fruit of this exhibit with that to be seen in other parts of the country, one could but be impressed with the fact that Nova Scotia is pre-eminently an apple-growing country. It is rare, indeed, that one sees so fine a display of apples as were shown, while the exhibit of other fruits, though creditable, was not remarkable. The lesson which the writer would draw from this would be, that our growers should bend their energies toward perfecting their methods in apple culture, and take up other lines of fruit-growing only in a moderate way—at least till they have been well tested.

QUESTIONS AND ANSWERS.

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

Veterinary.

BARBED WIRE INJURY.

READER:—"On August 19th my trotting-bred filly, 18 months old, got into a wire fence and cut hind leg on inside of spavin joint. It healed, leaving a small scar, but cannot get swelling out of leg. Mare is running in pasture, taken up at nights, and in the morning leg is all swelled up. What can I do to prevent big leg, and what will make scar hair over?"

[It is difficult, without further particulars and inspection, to account for the cause of leg's swelling. Most probably constitutional. I would recommend a course of alterative medicine, taking the horse into stable, bandaging the legs for a few nights, and having found the cause would after-

wards blister the wound with a mild biniodide of mercury, say one part of mercury to twelve parts of lard.

SORE SHOULDERS ON HORSE.

G. L., Prescott Co., Ont.:—"Please advise me concerning my horse's sore shoulders. He is about ten years old. Ever since I got him, 4 years ago, he has been troubled with round spots about the size of a penny, half way down the collar, are very tender, and get raw nearly every spring and fall. Very little hair grows on the spots, and the skin is greasy and scaly, and when the thicker scales are rubbed off it leaves the flesh raw. I thought his collar was too big, so I shortened it to fit, and the sores began to heal. That was last spring, and I thought all soreness would be gone by now, but they are very much as before."

[Give the horse one ounce of hyposulphite of soda once a day in feed for two weeks. Then a tablespoonful of Fowler's solution of arsenic twice a day in feed for the same length of time, and paint the spots with tar of iodine once a day for a week or ten days, or until they disappear.]

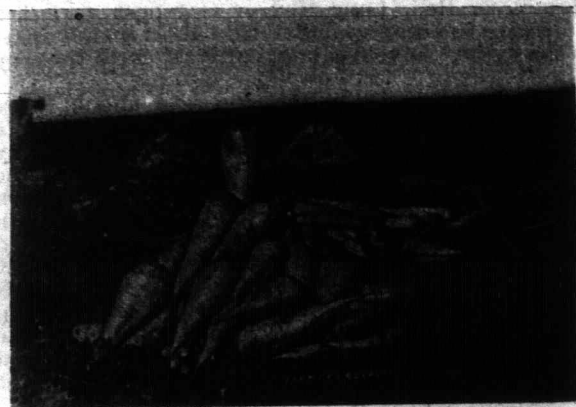
LAME COW.

J. W., Wellington Co., Ont.:—"I have a young cow four years old. She is partly stiff in left hind leg. She jerks it up and sideways, then for a little way sometimes she can't step on her fetlock. She is worse when she stands or lies down for a while. Would you please let me know through the ADVOCATE what is wrong with her, and a remedy, if she can be cured?"

[It is impossible to state positively the exact nature of this cow's trouble, but we would suspect either luxation of the patella or paralysis, either of which is probable, and in the absence of a more definite history of the case, suggesting treatment would be mere guesswork. If the cow is valuable, the best veterinarian in the section should be called in to examine and treat her.]

RESULT OF BLOOD POISONING.

FARMER, Norfolk Co.:—"I have a two-year-old filly with a swelling under belly from udder to eight inches in front of the navel. The swelling has



SAMPLE OF PILE OF FIELD CARROTS, IVERSON'S CHAMPION.

Six hundred and forty-three bushels and thirty pounds per acre, grown on Experimental Farm, Indian Head, Assa.

gone about down now, except below the navel: there the swelling is wide and hard; at the navel it was narrow and high, but is soft and flabby now. Can you give me cause and cure? The colt had navel trouble when a foal and was treated by a veterinary surgeon.

"2. About that calf I wrote to you. Many thanks for your answer. The urine came all safe enough through the urethra, but in small quantities, and continuously when put off a walk. Seems to be uneasy lately; lays down a lot and switches when he is up."

[From the description given of swelling under the colt's belly, we are inclined to think that the trouble is the result of the navel ill (blood poisoning), which she had when a foal. There is nothing stated about her general appearance. Is she thrifty or out of order? Give her one of the following powders twice daily until they are all used up: Sulphate of iron, 2 ounces; chlorate of potash, 3 ounces; nitrate of potash, 2 ounces; pulv. digitalis, 3 drams; pulv. nux vomica, ½ ounce; divide into 24 doses.

2. Give the calf teaspoonful dose of bicarbonate of soda twice daily, and boiled flax seed in its feed freely.]

STRANGLES.

ENQUIRER:—"I have a three-year-old carriage colt which had the strangles very bad last winter; seemed to get all right; when I commenced driving him he was taken with a cough similar to 'strangles.' I consulted a veterinary; he said it was an irritation of the throat, and gave me some powders, also liniment to blister the throat. I have been using it all summer. He seems some better, but every once in a while or about every two weeks the cough will return, especially when I first hitch him. After coughing he will generally give a sneeze. Once this summer, after hitching, he was taken with a fit of coughing, and coughed up quite a quantity of blood; also slobbers a good deal, and looks unthrifty in coat. Have been feeding quite a few mashies, chopped oats and hay, also on pasture until lately. Would you be kind enough to tell me what is the cause of cough, if it can be cured, and what to do for it?"

[In many cases the effects of strangles do not terminate with the apparent cure of the disease. In this disease the whole respiratory tract is in a weak and irritable condition, and frequently a diseased or weakened condition of some of the organs appears as a sequel to the primary trouble. From the symptoms given, I should say that in the case of your colt there is a chronic bronchitis, with probably an irritable state of a small portion of the lung tissue. Hence the periodical coughing, with the escape of blood referred to on one occasion. In most cases of this nature treatment is difficult and improvement slow, but by careful treatment and good care a permanent cure will in all probably result. I would recommend the following: Take P. potassium iodide, 5 oz.; P. digitalis, 6 drs; mix thoroughly and make into 24 powders; give a powder every night and morning in damp food. When all have been taken discontinue for two weeks, when, if the symptoms are still present, give another course of the powders. In the meantime take very good care of the colt. A reasonable amount of light driving will be better for him than complete idleness, but be very careful to not over-drive him or over-heat him in any way. Do not allow him to get wet or cold, nor to stand in a draft. Feed tolerably well and dampen his hay or any food that you are feeding dry with lime water, made as follows: Place a piece of unslacked lime in a vessel; pour a little water on it to slack it, then fill the vessel with water and stir briskly for a few minutes with a stick. Allow it to stand, when all the undissolved lime will settle to the bottom. The clear liquid on top is lime water.

J. H. REED, V. S.

Ontario Agricultural College.]

INDURATED UDDER.

W. B., Middlesex Co., Ont.:—"I have a grade cow which has never seen a sick day until about two months ago she came up with a caked udder, in the left hind quarter; it produced stringy milk for a few messes, but it passed off until only the first stream of each milking was stringy; but the cake has gradually worked into the other hind quarter, and from time to time it is much harder (and quite hard to night); yet her milk is always good looking and tasting."

[Your cow has what is called indurated udder, the effect of inflammation of the gland. A greater or less portion of one or more quarters becomes quite hard, feeling like a lump. In some cases the induration does not increase, while in others there is a gradual increase of diseased tissue, accompanied by more or less inactivity of the quarter or quarters affected, with usually periodical alternation in the quality of the milk. The trouble is hard to combat, but care and perseverance is often followed by success. Apply the following ointment: Take iodine, four drams; iodide of potassium, four drams; vaseline, six ounces; mix, and apply to the hardened parts, with good friction, once daily. Treatment will probably have to be kept up for a considerable time.

J. H. REED, V. S.

Agr. College, Guelph, Oct. 30th.]

Miscellaneous.

GROWING CEDAR HEDGE - GROWING PEACH TREES.

SUBSCRIBER:—"1. Can cedar hedge be grown from the seeds? If so, what time of the year should they be gathered and sown? How deep should they be planted and how cultivated?"

"2. How may peach trees be grown from the stones? Do they need to be budded?"

[1. To grow a cedar hedge from seeds would take a considerable time. The better plan, if one does not desire to buy trees, is to go to the woods this autumn or next spring and dig stocky young cedars of from 12 to 18 inches in height. If they are got larger than this, they are very likely to be loose growing, and it will then be difficult to make a hedge which will be thick from the bottom. The young trees should be planted in a single row, about 18 inches apart, in soil which has been thoroughly worked. The trees should be planted a little deeper than they were in the woods. Planting could be done either this autumn or next spring.

The disadvantage of planting in the autumn is that the frost is liable to heave them during the winter. If, however, it is desired to grow the plants from seeds, the seeds could be gathered now and kept over until next spring, when they should be planted broadcast on the surface of the soil in a bed prepared for them. After they are sown, enough fine soil to cover them should be sifted on top and then pressed down firmly. As the young plants are very tender, it is necessary to protect them from the direct rays of the sun.

Named varieties of peaches are not produced from the stones. The method usually adopted is to bud the variety desired on seedling stocks. The stones may be buried in the ground during autumn at a sufficient depth to prevent them from drying out, but not deep enough to escape frost, as the effects of frost are required to cause the stones to break. Early in the spring the nuts are planted in nursery rows, and if the young trees make sufficient growth, they may be budded the same season.

W. T. MACCOUN, Horticulturist.

Central Experimental Farm, Ottawa.]

LICE ON TURNIPS (*Aphis brassicae*).

D. C. BLACK, Middlesex Co., Ont.:—"Can you inform me through the ADVOCATE, the name of a louse that came on my turnips a little over a week ago. It was after the frost I noticed the leaves wilted, and on closer examination, I found it was a small green louse that was doing the mischief. I tried one stalk with Paris green; gave it a good dose last Saturday, but it don't seem to have killed one. Do you know anything about them, and what will destroy them?"

[The turnip louse, or aphid, is a very common and troublesome insect, which is usually more destructive on early-sown crops or those that have received a check in their growth from continued dry weather. It is a small, greenish insect about one-tenth of an inch long, and generally covered with a whitish mealy coating. They occur in great numbers on the leaves during the late summer and early fall months. They take their food by suction after pushing their slender beaks through the outer skin of the leaves, which renders poisoning by Paris green of no avail. The correct remedy is spraying with kerosene emulsion, which kills the insects by coming in contact with their bodies. To prepare the kerosene emulsion, use 2 gallons of coal oil, 1 gallon of rain water, and half a pound of soap. Dissolve the soap in water by boiling; take from the fire and while hot pour in the coal oil and churn briskly for five minutes. Dilute before use, with 9 parts of water.]

VIGOROUS CHERRY TREES NOT BEARING.

MR. F. C., Brant Co., Ont.:—"We have a row of cherry trees that for a number of years have made a good display of blossom, and a fair proportion of which sets, but drop off in a few weeks. The trees appear to be in a very vigorous state, and show no signs of black knot or other disease. We have sprayed them repeatedly with standard preparations at the recognized proper seasons. The land is a free loam and in a good state of cultivation. What is the cause of the unfruitfulness, and what can be done to effect a remedy?"

[In reply to the question why vigorous cherry trees which blossom do not bear fruit, I may say that unfruitfulness of trees is one of the problems which horticulturists of late years have been trying to solve. There are two principal reasons why healthy trees might produce blossoms but no fruit: First, if the blossoms were injured by frost or other unfavorable conditions of weather; second, if the trees were self-sterile. There is, of course, no practical remedy for the first. The second might be overcome by planting in the vicinity of these trees some trees of other varieties, which might fertilize the blossoms of the others and cause them to produce fruit. If the fruit has really formed, as one may be led to infer by the information given, it is difficult to tell what is the trouble. If a sample of the fruit with a twig were sent to the Experimental Farm, more definite information might be given, but it is impossible to tell for certain without seeing specimens. W. T. MACOUN, Horticulturist, Central Experimental Farm, Ottawa.]

FALL TREE PLANTING—STALLION RUBBING HIS MANE.

YOUNG FARMER, Waterloo Co., Ont.:—"Would you be kind enough to let me know, through your valuable paper, if it would be advisable to plant young maple and basswood shade trees this fall. Will they grow if planted during November as in the spring? I have hardly time to plant them then. Please give me instructions how to plant. 2. I have a three-year-old stallion that has been rubbing his mane quite a bit. What shall I do to make him stop it? He is in good health; am working him since season is over."

[1. See FARMER'S ADVOCATE of October 16th, pages 581 and 582.

2. It is not uncommon for stallions to rub their manes, and the habit is not easily stopped when once it has become established. The trouble may be from the presence of small lice, which can be destroyed by frequently rubbing well into the skin creoline, 2 ounces, diluted with 1 quart of soft water. Any of the sheep dips or cattle washes advertised in our columns will answer the same purpose. It would be well also to give in teaspoonful doses twice a day in his feed nitrate of potash and sulphur, in equal parts, for two weeks. This will cool his blood and help to allay irritation.]

SYMPTOMS OF CHOLERA IN TURKEYS.

W. H. B., York Co., Ont.:—"We have what we think is cholera among our turkeys. They move around, pass yellowish-green excrement, and they themselves turn yellowish. They stop eating, their wings hang down, and in a few days they die."

[Many turkeys and fowls are said to die from cholera, when the mortality is due to other causes. Cholera is a disease more peculiar to the Southern States than it is to Canada. The symptoms of disease described by your correspondent are somewhat similar to those of cholera. It would be in the interests of investigation and progress if your correspondent would kindly send a bird which has recently died, to the Bacteriological Dept. at Guelph, or to Prof. Wesley Mills, of the Physiological Dept. of McGill College, Montreal, for examination and determination as to the particular germ causing death, if a germ disease is cause of death. Meanwhile your correspondent might separate the well birds from the sick and give them a good condition powder, as per instructions. The sick birds may be given the following prescription, by Dr. Dickie:

"Blue mass, 60 grains; pulverized camphor, 25 grains; pulverized rhubarb, 48 grains; cayenne pepper, 30 grains; laudanum, 60 drops. Mix and make into 20 pills. Give a pill every 4 hours to the sick, even to those that cannot eat. When the pills have had time to act, give half a teaspoonful of coal oil and 10 drops of laudanum to each bird. Let them drink scalded sour milk, with a gill of Douglas mixture for every twenty-five head per day. When the evacuations become darker in color and more solid, give alum water and no other drink." Douglas mixture is made as follows: Dissolve one pound of sulphate of iron in two gallons of water, adding 2 ozs. sulphuric acid. Handle the latter carefully. A good disinfectant is a five per cent. solution of carbolic acid. The premises, roosts, nest boxes, etc., should be thoroughly disinfected. Diseases with cholera symptoms, acute diarrhoea, etc., are difficult and troublesome to cure. It would be well for your correspondent to communicate in his own interest, and that of many others, with the Bacteriologist of the Ontario Agricultural College, and send him a bird which has just died from the disease. The well birds should be kept away from filthy water, barn leakage and decaying or decayed vegetable and animal substances.

W. S. GILBERT, Poultry Manager,

Central Experimental Farm.]

PASTURE AND ROOTS FOR PIGS.

W. G. SEWELL, N.B.:—"We have twelve acres of land on which we want to get clover and mangels next season. Will you kindly tell us in your next issue of the ADVOCATE the very best and quickest way to do? We are dealing largely in pigs and want to feed some to them."

[The ground should be plowed this fall and given a dressing of good manure, if it is not already fairly rich. A winter dressing will answer if the manure cannot be obtained this autumn. In the spring, work up the ground well and sow the portion for mangels, in raised drills about 30 inches apart, as early as the danger of frost is past. Sow about four pounds of seed per acre of Yellow Globe, Mammoth Red, Long Red or Gatepost varieties. Cultivate the crop well and thin to 14 inches apart in the drills. Give frequent cultivation till the crop is well grown.

For a clover crop in 1900, the seed should have been sown this year, not later than August. We would advise preparing the land in the spring by cultivation, and sowing it to tares and vetches, one bushel per acre, as early as the ground is fit to work well, and there is warmth in the land. Along with the tare seed, sow six pounds to the acre of Red Clover seed. When the crop of tares is about 10 inches high, the pigs should be turned in. If it is not overstocked, but kept moderately eaten down, the tares will continue to grow well through the season, and by fall the clover will have made good advancement, and will be in good condition for pasture the following season.]

PUMPKIN SEEDS FOR STOCK.

MRS. S. J. C., Lambton Co., Ont.:—"We have been told, on authority, that when feeding pumpkins to milk cows the seeds must be removed, as they (seeds) tend to diminish the flow of milk; presumably, because they increase the action of the kidneys. We are feeding pumpkins freely to our cows; and the question is, what to do with the seeds? It seems waste to throw them away. The hens will eat them in winter, if saved. But may they not be injurious to other stock—even fowls? We are feeding cooked pumpkins to the pigs, seeds and all, and perhaps an extra dose of the seeds would be too much. What does the ADVOCATE say?"

"2. Would you give hens a daily full feed of sunflower seeds in winter?"

[1. Pumpkin seeds are alike harmful to all kinds of stock when fed in excessive quantities. It may be possible to sell the surplus seeds to a seedsman, but it would not be wise to make use of them as stock or poultry food.

2. Sunflower seeds are heavily charged with oil, and should not form more than a portion of a poultry ration. They answer a good purpose when fed in a mixture of other grain, forming not more than one-third of the ration. A full feed twice or three times a week would do the fowls no harm.]

WINTERING BEES OUTSIDE.

W. J. W., Manitoulin Island:—"I would like to know what is the best way to winter bees outside. I have boxes made 13 feet long by 30 inches wide, which will hold 16 hives, packed with 2½ inches of chaff on the sides, 1 inch on the bottom, and five to six inches on top, and an air space over the top of all. 1. Do you think they would winter better that way than in single outside cases? 2. Should the summer quilts be left on in the winter, or should they be removed and burlap be put on next to the frames?"

[1. Yes, slightly; but there is the disadvantage of fall and spring moving from and to summer stands. Many bees not having noticed their new location, would perish while searching for their home. If, however, there is sufficient warm weather to allow the hives to be moved a couple of feet every day toward the desired position while bees are flying, there is no danger. 2. The summer quilts are so propolized as to prevent upward ventilation, hence they should be replaced by some firm porous cloth. See article on this subject in another column.]

MORLEY PETTIT.]

COOKING FEED FOR CATTLE AND OTHER STOCK

A SUBSCRIBER, Cumberland Co., N. S.:—"I have seen a great deal in the ADVOCATE in reference to mixed rations—small and large rations, etc.—for growing and fattening steers, but I have never seen anything in reference to cooked or raw feed. I cook a large quantity of feed for my stock, such as barley, oats, wheat—ground, of course,—also cornmeal. My neighbors say that raw feed is just as good, if not better. If they are correct I should like to save time and fuel. But if cooked feed is best, I do not begrudge either time or expense for my stock. I take good care of them, as every intelligent man ought to do."

[Prof. Henry, in his admirable work on Feeds and Feeding, after quoting a number of authorities upon cooking coarse forage for cattle, summarizes the results as follows:—"The advantages are very slight, and not worth the trouble of either building the fire, cutting the wood, or erecting the apparatus, to say nothing at all of these combined, with danger and insurance added." In addition to cooking food for swine, the trustees of the Maine College, summing up the results obtained at that institution of nine years' continuous feeding of cooked and uncooked cornmeal to pigs, wrote:—"The results have in every case pointed to the superior value of uncooked meal for the production of pork." In reference to this matter, Prof. Henry says:—"To the assertion that stockmen who cook feed have the finest animals, the writer ventures the opinion that one who is willing to cook feed will usually give his animals many attentions which feeders generally pass by as not worthy of their time or notice. It is this extra care, and the larger variety of feeds usually supplied, rather than the cooking, which make animals of superior quality." While many agree in the main with Prof. Henry's conclusions, we would gladly hear from feeders who have made sufficient tests to enable them to pronounce in favor of either cooked or raw feed for cattle or other stock. Not a few hold to the idea that in swine feeding greater gains are made from cooked or steamed feed, owing to it being more digestible than raw; but tests must be very carefully made to determine the question of actual profit. It is well, however, not to confuse the foregoing point with the advantages of supplying animals with warm feed in palatable form, particularly in cold weather. It is not reasonable to expect pigs to do well on a half-frozen diet. Foods, like corn, that have become hard and flinty, may be made more easily masticated by soaking or steaming; but cooking, according to many careful investigations made, does not appear to increase the digestibility of feeding stuffs. There is a pretty general opinion among horsemen, however, that feeding limited quantities of cooked barley or oats to horses has a decidedly advantageous effect.]

HENS FOR EGGS AND FLESH.

ENQUIRER, Grey Co., Ont.:—"1. What is the best kind of hens to raise so as to have fleshy, good-laying hens."

"2. What is the kind of grain to feed hens?" [Either Barred or White Plymouth Rocks, Wyandottes or Dorkings fill the bill admirably for both purposes. Wheat is best, but it is well to vary it either by mixing with oats or feeding once a day with oats, and it is well to scatter it in chaff or straw on clean floor so the hens will get exercise in scratching for it, and will eat more slowly.]

ANALYSIS OF WELL WATER.

SUBSCRIBER, Wentworth Co., Ont.:—"1. Would a certain proportion of corn chopped with oats be a good grain ration for breeding ewes?"

"2. How may I get a Government analysis of well water?"

[1. One-fourth oats and three-quarters corn is good, and preferable to barley.

2. Send sample, labelled, to Prof. Shutt, Experimental Farm, Ottawa, asking for analysis and report.]

MARKETS.

FARM GOSSIP.

Prince Edward Island.

We are having a very fine fall here, a lot of sunshine, and so far, very little frost. The crop is now all gathered except the roots, and they are being taken in now. Potatoes did not come quite up to an average crop, and there are some not showing. All kinds of roots are good crop. Fall plowing is well advanced for the time of year. Shipping has just commenced at Charlottetown and also at the outports. Prices are low for oats and potatoes. The former sell for 27c, and the latter are worth about 18c. per bushel. Prices of other farm products are good. Lambs averaging 80 pounds sell for 3c. to 3½c. live weight, for shipment to the States. Beef cattle are scarce and high in price. The best would bring 4c. to 4½c. live weight. Large numbers of live geese are being shipped to Boston, at about 55c. each. Mr. McCallum, of Iowa, U. S., has just made a shipment of 200 year-and-a-half and two-year-old steers from here to that State. He reports cattle very scarce out there and he wants all he can get to help eat up their enormous corn crop. The cheese make continues quite large for October, and cheese are about all sold up to October 1st; 11½c. is being offered for this month's make. Creamery butter sells for about 22c. Most of the cheese factories will make butter after November 1st. We look for a large increase in winter dairying this season. A lot of chickens are being fattened at the Dominion Government station, and some are now being shipped in cold storage to the English markets. The steamship Lake Huron, of the Elder-Dempster line, which was due here on the 14th, has not arrived yet. Her space is all taken, principally for stock shipment. A large number of hogs are feeding for market. Those now going forward bring 4c. to 4½c.

October 23rd.

Simcoe Co., Ont., Fall Notes.

The weather since Sept. 1st has been very changeable, with about two weeks without rain, but on Sept. 30th we had a snowstorm, with wind, which did heavy damage to fruit trees, and made the roads very disagreeable for several days.

Oxford County, Ont.

So far, we have had beautiful fall weather and the work is well advanced, at least in the case of those who keep enough help. Our corn has been husked and the stalks all set up on end in the barns some time ago.

Manitoulin Island, Ont.

Threshing is now nearly over. Crops are exceptionally good this year, with the exception of fall wheat, which was badly winter killed.

Canadian Hay and Food Products for the Transvaal.

The Department of Agriculture, Ottawa, has received a cable from London stating that England wants 2,000 tons of the best quality of timothy and mixed hay, pressed in 100-pound bales, to be delivered at Cape Town before Christmas.

Chatty Stock Letter from Chicago.

Table showing current and comparative live stock prices for Beef cattle, Hogs, Sheep, and Pigs, with columns for prices now, two weeks ago, and 1897 prices.

The cattle situation is not quite so good as it was awhile ago. The end of the Western Range season is close at hand, and buyers feel that they want to buy the medium to good native beef, retail, at about the prices they have been paying for the Western rangers, namely: \$4.50 to \$5.00.

high-grade Shorthorns, and ever since he has been a breeder of that class of stock. He also has a fine herd of Herefords. He is of the opinion that the days of the western cattle grower are numbered, and that the number is not large.

Toronto Markets.

The trade at the Western Cattle Market has been particularly dull. The want of space on the ocean boats, and the low prices in Great Britain, are the two chief causes, in addition to the low condition of those offered and the number of Northwest cattle offered.

Export Cattle.—The heavy run of cattle forced prices down from 15c. to 25c. per cwt. Three hundred exporters from near Calgary, N. W. T., in prime condition, purchased by Mr. Wm. Leveck, at \$4.00 per cwt.

Butchers' Cattle.—Trade in butchers' cattle was slow, except for best quality, which are readily picked up. For a few selected loads, 4c. has been paid. Only two loads reached 4 1/2c. per lb.

Stocks.—Stockers for Buffalo were plentiful; price easy; small rough yearlings, weighing from 350 to 600 lbs., nearly unsalable. Prices from \$2.25 to \$2.50 per cwt., while heifers, black and white, were quoted at \$2.00 per cwt.

Feeders.—Not many of the right sort on offer. Choice high grade steers, suitable for farmers' purposes, sold at \$3.00 to \$3.80 per cwt. Feeders, suitable for the buyers, sold at \$3.40 to \$3.50 per cwt.; a few wanted. Messrs. Halligan and Lunness shipped 2 cars to Walkerville.

Sheep.—Butchers' sheep sold at from \$2.50 to \$3.00 per head. Prices a little firmer in the best class of exporters; \$3.00 to \$3.25 for ewes; bucks sold at from \$2.00 to \$2.50 per cwt.

Lambs.—About 500 lambs on offer, at \$3.50 to \$3.75 per cwt. One lot of twenty ewe and wether lambs sold at \$4.00 per cwt. This was the pick of the market, bought by Mr. Wesley Dun, for export.

Calves.—Demand easy. Prices ranged from \$1.00 to \$3.00 per head for choice; not many on offer. Milk Cows.—About 10 cows on offer at prices ranging from \$30.00 to \$50.00 per head; extra choice cows wanted. One very choice springer sold for \$80.00, the top price for the year at this market.

Hogs.—Receipts 2,700, with prices steady on choice singers, \$4.75. Hogs are closely culled into thick, fat and light, at \$4.00. Unculled ear lots are quoted at \$4.25, as they run over scale.

Grain Market.—Receipts of farm produce to-day were more plentiful. Wheat, eastern; 700 bushels sold at 70c. for white, 70c. for red, 68c. for Fyfe, and 73c. for goose. There is, of course, a good deal of talk as to the probable advance in wheat owing to the South African war, and \$1.00 is the anticipation; but the wish is father to the thought.

Barley.—4,000 bushels on offer sold at 46c. to 48c. per bushel; feed barley, 35c. per bushel. Oats.—Easier; selling at 30c. to 31c. per bushel. Eye.—One load sold at 55c. per bushel. Hay.—Owing to the large supply for the past week, the price is a little easier, at from \$11.00 to \$13.00 per ton.

Straw.—A little firmer, at \$9.00 to \$10.00 per ton. Seeds.—In good demand. Red clover, \$5.00; alsike, \$6.50 to \$7.00; alsike, No. 2, \$3.50 to \$4.00; white clover, \$7.00 to \$8.00; timothy, \$1.00 to \$1.25; timothy, failed, \$1.50 to \$1.65. These quotations are for bushel lots in good clean condition.

Poultry.—There is a good supply, and quotations are a little easier. Chickens, per pair, 40c. to 50c.; turkeys, per lb., 11c. to 14c.; ducks, per pair, 50c. to 80c.; geese, per lb., 7c. to 8c. Apples.—Per barrel, \$1.00 to \$2.00. Potatoes.—Per bag, 45c. to 55c. The finest on the market to-day were grown by John Harris, Danforth Avenue Farm. Butter.—Still holder in the advance; choice dairy rolls, 18c. to 20c. per lb.; creamery, at 22c. to 23c. per lb. Choice, fresh gathered eggs, 17c. to 18c. per dozen. Cheese.—A little easier, at from 11c. per lb. quoted. October 26th, 1890.

Toronto Market Notes.

Messrs. A. Maybee and George Beal have just returned from their trip to the Northwest. They visited a great number of cattle ranches and report a large number fit for exportation. Mr. John Sheridan, the well known buyer of horses and cattle throughout Ontario, is being pressed by his friends to stand nomination as the Liberal candidate for East York.

MISCELLANEOUS.

Sheep and Dogs.

To the Editor FARMER'S ADVOCATE: SIR,—In the October 2nd number of the ADVOCATE appears a letter from the Orillia Packet, dealing with the "Sheep Industry and the Dog Nuisance."

From my little experience, I believe the sheep industry to be most profitable if it were not for the "dog nuisance." It does seem to me that a more stringent law in regard to dogs should be passed. By section 540, chapter 223, of the Revised Statutes of Ontario, municipal councils may pass by-laws for restraining and regulating the running at large of dogs; and for impounding and killing dogs running at large contrary to the by-law. If township councils would pass a by-law that the owner of every dog in the township shall be liable to a fine for harboring a dog which has no tag on (which tag might be supplied by the township at a nominal cost over and above the dog tax), and if it were lawful for any person to kill any dog found unattended on the

highway or elsewhere, except on the owner's premises, I think the nuisance would soon be abated. Then, the tax should be at least one dollar on each dog, and five dollars on each bitch. The most danger to sheep is from dogs owned by parties who have no need whatever of a dog, and in many cases have none too much bread for their families, let alone for one or more dogs; so the said dogs are compelled to forage for themselves, and the temptation to a feed of mutton is very great. Our township councilmen in some cases are too anxious to secure the votes of the owners of these hungry dogs, to do their duty in this matter; but if the farmers would unite, and urge the point, by-laws like the above might be passed. I hope that you will continue to agitate this question until the innocent sheep shall have equal rights.

Wentworth Co.

A. B. C.

Grain Competition for Farmers' Boys and Girls.

The following points are to be observed by those who send large heads of grain in the competition for the prizes offered by me. The prizes are as follows:—

Table showing prize amounts for Oats and Wheat, with columns for First prize through Twelfth prize and a Total column.

The whole of each lot of 100 heads should be selected from one variety grown in one field, and only from a crop which has given a large yield per acre.

I shall want every competitor to furnish from the same crop 10 (ten) heads with the smallest number of seeds per head which he or she can find. But the number of seeds in the small heads will not be considered in making the awards.

Each lot of 100 large heads of grain is to be put in a small cotton bag, securely tied, and addressed: Professor Robertson, Department of Agriculture, Ottawa, Ont. They will be carried free by mail.

Each lot of ten small heads is to be put in a separate package, either of cotton or stout paper, and addressed in the same way.

A slip of paper is to be put inside EACH bag or package, giving:—

- 1. The name and address of the collector.
2. The name and address of the farmer by whom the grain was grown, and
3. The name of the variety of grain; also, if the information can be obtained:
4. The number of bushels per acre of the crop from which the heads were selected.
5. The date of ripening of the grain.
6. The class of soil on which it was grown.
7. Whether the field was manured.
8. What was the crop on the field in 1889.

The lots of grain, with the information, may be sent until the 1st of December. I would like to be able to make the awards in order to send the prizes to the winners before Christmas-time.

JAS. W. ROBERTSON,
Commissioner of Agriculture and Dairying,
Dept. of Agriculture, Ottawa, Ont.,
October 19th, 1890.

No. 1 Hard Flour for Fighters.

F. W. Thompson, manager of the Ogilvie Milling Company, Winnipeg, wires J. F. MacLaren, Ogilvie's Toronto agent:—"Great Britain intends to feed her soldiers well. Order received for 5,000 barrels of Ogilvie's Hungarian flour for the Transvaal. This is a tribute to Canada."

Rules for Computing Interest.

The following will be found to be excellent rules for finding the interest on any principal for any number of days. When the principal contains cents, point off four places from the right of the result to express the interest in dollars and cents. When the principal contains dollars only, point off two places:

- Four per cent.—Multiply the principal by the number of days to run, and divide by 90.
Five per cent.—Multiply by number of days, and divide by 72.
Six per cent.—Multiply by number of days, and divide by 60.
Seven per cent.—Multiply by number of days, and divide by 52.
Eight per cent.—Multiply by number of days, and divide by 45.
Nine per cent.—Multiply by number of days, and divide by 40.
Ten per cent.—Multiply by number of days, and divide by 36.
Twelve per cent.—Multiply by number of days, and divide by 30.
Fifteen per cent.—Multiply by number of days, and divide by 24.
Eighteen per cent.—Multiply by number of days, and divide by 20.
Twenty per cent.—Multiply by number of days, and divide by 18.
Twenty-four per cent.—Multiply by number of days, and divide by 15.—Business.



The Poisoners.

A STORY OF THE DAYS OF THE GRAND MONARCH

I.

The fires which had wrapped the Place de Greve in a crimson mantle, and sent Lavoisin and Lavignoreux to their last account, had been burned out for many days. Not even the ashes were left to tell the tale of the awful end of these two old hags whose poison vials had put to sleep so many scores of inconvenient husbands, unloved wives, and pestering mistresses. But if the stake was now cool and inert, waiting silently and patiently for new victims to devour, Paris had not yet forgotten the sensational story of those poison sellers. Had not their customers included some of the greatest in the land? Did not their trial bring to light in all its sickly terror the whole hideousness of this poisoning mania that was rampant throughout the length and breadth of fair France?

And as though to keep the horror of their names and their history still fresher in the public mind, Mlle. Moliere had caused them to be placed in a play, "La Devinresse," the joint work of Thomas Corneille and Devise.

Already for three nights the theatre in the Rue Mazarine had been crowded to excess to see this play. The well-timed idea of Moliere's widow was raining livres into the treasury with a merry jingle that made the Comedians du Roi belaud her enterprise and wisdom in unmeasured terms. On the third night of the production the King had come, with the president of the Chambre Ardente in his train—that same Chambre Ardente which His Majesty had endowed with such extraordinary powers for the detection and punishment of those guilty of the practice of slow poisoning.

"I like the play," Louis XIV graciously avowed to Mlle. Moliere in the course of the evening. "And who knows but what it may do something to stay this ghouliah mania which seems to run riot among my people?"

"Or it may wipe out the Troupe Royale," murmured the Councillor of State, who hated the players and envied the favors the King showered upon them. "These poisoners, as I know full well, are revengeful fiends; and they will not like your play, madame."

The King looked displeased at the remark. Louis was in mortal fear of himself being a victim of the mania. At the English court it was a favorite joke that the King of France would not eat fish because it was poison.

"Perhaps, then, we ourselves are in danger of their revenge for daring to punish them," he cried. "You frighten madame, monsieur, and do yourself no credit by raising such fears."

M. le President turned a trifle pale, and paler still as Louis promptly turned his back upon him.

But Mlle. Moliere's nature was too light and frivolous to be impressed by the gloomy forebodings of the Councillor, and she returned to her dressing room so mightily pleased with the King's kindness that she speedily forgot all about them.

The next evening she walked from her house to the theatre leisurely and alone. The night was dark but fine, and the air braced and freshened her. At the threshold of the theatre, as she reached out to open the private door leading to the stage, a man suddenly stepped out of the shadow and thrust a note into her hand.

"Mlle. Moliere," he said, and made to hurry away, but the hilt of his sword caught in her cloak, and as someone within flung open the door the light fell for an instant full on his face. A pale, repulsive face, with a deep scar on the left cheek—that was how it struck her as he hastily snatched himself free and disappeared into the night.

In her dressing room she opened the letter and read: "If 'La Devinresse' be played for two more nights Lavoisin will be revenged. There are those who will see that her name is no longer reviled. The King burnt her at the stake, and now you place her on the stage to withstand the fires of the mob's derision. Beware! This is no light warning. In two nights you must have a new play, Mlle. Moliere, or—"

The actress blanched a moment and convulsively grasped the arm of her chair; then she shrugged her shoulders and laughed lightly and scornfully.

"Freycinet," she said a little later, after scribbling a note and inclosing with it the threatening missive, "take this at once, Freycinet, to the Chambre Ardente."

As the door closed upon the departing messenger a tiny sigh of relief escaped her, and she proceeded to make the toilet her part demanded.

II.

With that sigh her fears had vanished. She slept as soundly and as peacefully that night as she had ever slept. She trusted implicitly to the dark and tortuous machinery of the Chambre Ardente to protect her, and after she had dispatched the letter gave the matter not a moment's further thought.

Thus it was that she leaped to her feet with an exclamation of surprise the next afternoon when a servant announced a gentleman from the Chambre Ardente. The new play of Pradon's which she had been reading was tossed aside.

"His name?" she asked.

"M. Dupin."

"He is without?"

"Yes, madame."

"I will see him at once, certainly."

A moment later a tall, lean man, attired neatly in the soberest of colors, stepped into the room. He bowed and waited until the servant had retired. Mlle. Moliere spoke first.

"You have come from the Chambre, monsieur, about the letter I sent?"

"I have, madame."

"Am I being played with, think you, or is it a grave matter, M. Dupin?"

He smiled somewhat sarcastically.

"There is no hoax about it, I can assure you. It is meant earnestly enough; of that there can be no doubt. But how the revenge will be attempted we know not. It may be that a servant will be bribed to drop some deadly cordial into your food, or that a letter steeped in some powerful poison—a poison that will permeate the pores of the skin upon the merest touch—will be sent you; or, again, it may be that open and violent outrage will be attempted. Ah, you shudder, madame, but you know not of the horrors which are taking place day by day around us. The Chambre knows. This mania is spreading daily. No one is safe from subtle attack. Death is lingering at our elbows all day long, and in the most silent watches of the night."

He grew impassioned as he spoke, and his eyes ever and anon glistened with excitement. But suddenly he controlled himself, and was cool and inscrutable and smiling again.

"You terrify me—oh you terrify me!" the actress exclaimed, putting her hands to her eyes as if to shut out the frightful vision his words had conjured up.

"Pardon, madame, but I only wish to show you your danger, and to impress upon you the necessity to be watchful. However, I think you need have little or no fear. The Chambre has its hands upon your enemies, I believe, at this very moment."

She gave a little cry of delight.

"Of course," he went on, "the safest course to adopt would be to stop the play at once. Will you do that?"

"No; I will not do that," she replied slowly. "It is too great a success."

"Could you, then, identify the man who gave you the letter?"

"Yes—oh, yes; I can see his face, his horrible face now!"

"Well, then, you must help us in this way. After the play to-night go to the Place de Greve. You will be met there by one of our agents, who will conduct you to one of our secret houses in the Rue de Sainte-Croix. There we have several men under arrest, and you must see them. Had the man a scar under the left eye?"

"Yes, yes—a deep scar. I remember that distinctly."

"Many men have such scars, but still this may be the right one. You will come, then?"

"I will. I shall see you there, monsieur?"

"Yes. And, by the way, has any other agent of the Chambre called? You see we work secretly, and hardly know each other's plans and movements."

"No; no one else has been."

"Ah! then an revoir, madame. To-night after the play, in the Rue de Sainte-Croix."

And he made obeisance and went out.

III.

Mlle. Moliere was depressed and nervous that evening, despite her inherent inability to take most things seriously. She thought of the words of M. Dupin, and feared to eat, feared to go out, feared to stay at home, feared almost to look around, and yet kept continually glancing rapidly and timidly over her shoulder. The customary hour, however, found her, as usual, on her way to the theatre, thickly veiled and cloaked. She took quite a circuitous route, avoiding all the quiet streets and mixing as much as she could among the crowd.

At the corner of the Rue Mazarine, in her haste, she ran into a drunken man, who would have turned upon her and struck her but for the gallant intervention of a passing gentleman. A crowd collected all in a moment, as crowds will collect, and for one brief instant she caught sight, amid the throng, of a face that chilled her with fear. It was the scarred, reptile face of the deliverer of the threatening letter. She would have swooned but for the excitement buoying her up.

So the Chambre Ardente could not have the right man under arrest, after all. That was her first thought. Was he not uncaptured and walking abroad? What should she do? Perhaps, though, she argued as she sped along, she was mistaken in the face. There were plenty of scarred visages in Paris, as M. Dupin had said. She determined in the end, as women will determine—without a vast amount of consideration—to keep her appointment in the Place de Greve, but meanwhile, arrived at the theatre, she hastily scribbled a note and dispatched it to the Chambre.

It ran thus: "Have just seen in the Rue Mazarine the man who gave me the threatening letter—at least, I believe it was the man. I will, however, come to-night to the house in the Rue de Sainte-Croix, as I promised your agent, M. Dupin, this afternoon."

IV.

The play was over, and the audience had dispersed. The streets, softly lit and by a newly-risen moon, were still and deserted.

Mlle. Moliere, veiled and hooded again, walked swiftly in the direction of the Place de Greve. As she entered the square, recently so wild and lurid with tongues of hungry flame—hungry for human flesh—but now so peaceful and beautiful in the delicate light, she espied a figure approaching her.

"Mlle. Moliere?" he queried in a deep, low voice when he came near.

She nodded her head.

"Follow me," he added.

They traversed a labyrinth of streets, and no further word was spoken until, a quarter of an hour afterward, the man rapped gently at a house door in a queer little side street.

"This is the Rue de Sainte-Croix," he murmured.

The door was instantly opened. "Enter," he said, and madame went in, with her attendant at her heels.

The passage was pitch dark. She stood still affrighted.

"I was am I?" she cried.

"This way—this way. 'Tis all right," said a voice.

"Oh, is that you, M. Dupin?"

"Yes, 'tis I, madame."

"Thank Heaven! I began to fear I had been entrapped."

A hand took hers in the darkness, and conducted her several yards. Then a door was opened, and they entered a dimly lighted room, half laboratory, half library.

"Pray be seated, madame," said Dupin genially. "I think I've settled this affair. The Chambre Ardente knows what it is about. Ha, ha, ha! I should think so! Have some wine, first, madame, before you look on the scarred, ugly faces of the rogues I have manacled here. Besides, you must be exhausted after your walk, and possibly frightened, eh?"

He laughed pleasantly as he poured her out some wine. It struck her what a courtly, affable man he was.

Drink, he said.

She emptied the goblet at a draught, for, in truth, her nerves were all in a quiver, and replacing it on the table looked round at her host and laughed back at him with a well-assured confidence and gaiety. But as her glance fell upon him her laughter ceased. She gazed at him, first in wonderment, then aghast. M. Dupin was glaring at her fiercely.

"What is it? What is it?" she cried, shaking like a leaf.

"What mean you?"

It seemed another being, this vindictive figure scowling down at her. Hate and gloom played hide and seek in his eyes. He was transformed into a veritable ogre.

And suddenly, as she stared at him, petrified, he threw up his arms and burst into unrestrained, demoniac laughter.

"You've drunk my wine, Mlle. Moliere," he cried out in a moment in measured tones, his teeth clenched, but his voice calm. "Let me tell you it was poisoned."

The actress jumped to her feet in unheeded panic.

"Mon Dieu! Mon Dieu!" she screamed. "Monsieur, what can you mean? What have you done?"

"You will know all soon enough!" he replied with tantalizing precision. "The poison takes five hours to kill. There is time to repeat the story many, many times." He paused a second, and then a sudden excitement took hold of him. "I am Lavoisin's son," he cried, "not M. Dupin, not an agent of the Chambre Ardente—Lavoisin's son, the son of the woman you have put into your cursed play. I love my mother, madame. I saw her burn, frizzle before my eyes, and I laughed—ay, laughed—laughed with madness and rage to hear her old bones crackle, to see her old flesh bake. And since then three who sat in high places have somehow died—died quite naturally, though suddenly. Ha, ha, ha!—died through me, through my medicine, you understand? And now you will follow them. In five hours you will fall asleep never to waken, and no one can tell you have been poisoned. In five hours! And no one could help you even if you were not safe and sound here; for I only know the antidote which can destroy the poison's work."

He pulled a vial out of his pocket, and held it up in his hand, laughing again with a frenzied delight.

And, as he laughed, a hand came through the slightly open door, and, of a sudden, snatched the vial from his fingers.

Then, like a flash, in the twinkling of an eye, three men dashed into the room. There was a fierce struggle for a moment or two. Strong men panted as in the throes of death. But it was soon over. Pounced on unawares, the poisoner was readily secured and gagged and carried forth.

Then the leader of the newcomers stepped up to Mlle. Moliere where she lay on the floor, prostrate and unconscious. He chafed her hands and threw water on her forehead.

"What is it—oh, what is it?" she murmured in a while.

"Where am I?"

"Drink this at once," he rejoined. "It is an antidote."

She put the bottle to her lips and gulped its contents down.

"You have had a narrow escape, madame," her rescuer went on, supporting her in his arms. "Lucky it is you wrote to the Chambre Ardente to-night and mentioned the Rue de Sainte-Croix. We were already on the track of the writer of the threatening letter, and we knew it was a trap when you mentioned our agent. Our agent, forsooth! But we let you keep the appointment you had made with him in order to effect a capture. We watched you come into the house, and then we quietly went to work. We have taken five of them—five, madame—all in the act of concocting vile poisons; and this Lavoisin is the worst devil of them all. But let me now conduct you home. To-night you have done the King some service."—*Alfred E. Snodgrass, in the Cornhill Magazine.*

THE QUIET HOUR.

Onward and Upward.

I wish to speak to-day to those who have given themselves up body and soul to the service of Christ. To those who wish to serve Him truly all the days of their life, and yet, who find as each day closes that their good resolutions have proved weak and brittle, and that they have fallen into the very pitfalls they were most determined to avoid.

Is your life "shining more and more unto the perfect day," or is it fitful and cloudy, with only occasional bursts of sunshine? If you are not making progress in the spiritual life—you hardly know why—and are growing dispirited and discouraged, would it not be wise to sift your own case thoroughly, and find out what is really the matter?

The trouble is usually caused by careless, hurried, or formal prayers. You "say your prayers" twice a day, of course; but is that quite the same as "evening and morning, and at noon, will I pray, and cry aloud: and He shall hear my voice." You see David's custom was not only to say his prayers, but to pray. More than that, he expected God to hear his voice. Have you any such expectation? Without it you need hardly be surprised if you do not receive an answer. To say one's prayers carefully, attentively, reverently, is a good thing in its way, but it may be a very different thing from praying.

The opening words of the Lord's Prayer, which are so often hurried over as though they had little or no meaning, should bring us to the foot of God's throne, and inspire us with the true spirit of prayer. Prayer is not saying words into the empty air, it is direct intercourse with a Person. To look up into God's face, to speak directly to Him, is the first thing to be done. We may "come boldly to the throne of grace," because we are not addressing a stranger, but our Father. Looking up to Him with reverent, adoring awe, for He is in heaven, as we also are in heart and mind, our petitions will have more earnestness and meaning in them. Although the praises of innumerable angels are sounding in His ears, we may be sure of patient, loving, undivided attention.

"He listens to the silent tear,
For all the anthems of the boundless sky."

Think how carefully the Prodigal Son prepared the speech which he intended to make; and yet, when he was actually in his father's presence, how little need there was for any speech. His father understood him and he saw more deeply than ever before into that father's loving heart. Prayer does not always need words; sometimes the highest adoration and communion with God is too great for language to express. But, whether your prayers be long or short, the first step is to put yourself consciously into the very presence of God.

Then there is another thing which these first words of the Lord's Prayer teach about the very essence of prayer. It must be unselfish. The first word, "Our," proves this, as well as the petitions which follow. To pray for yourself alone is impossible if you use the Lord's Prayer. As Joseph did solemnly protest, saying, "Ye shall not see my face, except your brother be with you"; so Christ, our brother, said, in effect, when He gave this prayer to the disciples.

In this, as in all else, we must follow Him. We are told that the names of the children of Israel "shall be upon Aaron's heart, when he goeth in before the Lord: and Aaron shall bear the judgment of the children of Israel upon his heart before the Lord continually." Is not that what our High Priest is doing always? "He ever liveth to make intercession for us." He bears our names upon His heart before the Lord continually, because He loves us with an everlasting love. This we must do, too, if we would "see His face." We are specially commanded to pray for enemies, and certainly must not be forgetful of friends.

Try to remember, all through the busy day, that you are still in the very presence of God. As often as possible lift up the soul afresh by a momentary glance into His face. How near He is! When things go wrong and we are worried, cross, or irritable, how the gentle touch of His loving hand makes the heart bound with joy—joy that the world knows nothing of.

Onward and upward! What a glad meaning there is in everything when "Our life is hid with Christ in God." Whether the days be filled with pleasure or pain, temptation, sorrow, or hope fulfilled, all things come from our Father's hand, all things draw us nearer to Him. Looking up fearlessly into our dear Lord's loving eyes, we take from His hand the gift He offers each day and hour, even though it be a cross. He gives it, that is enough.

HOPE.



Letter Competition.

The prizes for letters describing summer holiday amusements have been awarded as follows:
 First, Lottie Woodcock, Minnedosa, Man.
 Second, Adele Millichamp, Waskada, Man.
 Third, Nellie Graham, Pomeroy, Man.
 The last-named writer deserves special praise, as she is only nine years old.
 Madge Woodcock, Bessie Archibald, Eva English, and Luella Traves also receive honorable mention. C. D.

MY DEAR COUSIN DOROTHY,—
 As you are anxious to know how I spent my holidays, I will try and tell you. I had a month, and enjoyed it very much. I went to three picnics, our own church (English), Presbyterian, and Indian. It was great fun to see the Indians with their cheeks painted; one squaw had hers yellow, with red spots across them. The Indians also showed quite a lot of things, bread and buns, which were very good, carrots, potatoes, onions, turnips, grain of all kinds, baskets, preserves, clothes they had made, beadwork, and two very heavy stone pipes with great long, wide stems. There were, too, the scribblers and copy-books, drawings of horses, camels, etc., of the little Indians who go to school. One little girl of six had knitted a little pair of mitts, and another little one dressed a doll beautifully.

During the month I picked a lot of strawberries, which were very plentiful around here.

For a week I stayed with one of my sisters, and had such fun bathing in the lake, which is quite close to the house. I often went riding, and I think that is splendid fun. I did not get thrown off, as my horse was very quiet. I went to Ontario with my mother and spent several days with my aunt. I have a black and white cat, which I am very fond of, and a brown hen. I had a young crow, too, but he got so mischievous he would run out to the red currants and pick them off, and pick at the pumpkin and cucumber blossoms; so I had to give him away, because if I shut him up in his cage he would make such a noise. He was a great pet, so happy and tame that he would sit on my head, arms, shoulders, or anywhere. I have a flower garden, too, of my own, which is full of flowers.

One afternoon three of my little friends came; we went out and got some strawberries, and then picked flowers. I am afraid you will be weary if I write any more. Hoping I may get a prize, but I am afraid there is very little chance, I remain,

Yours truly, **LOTTIE WOODCOCK.**

Your letter is very interesting, Lottie, and well deserves a prize. Certainly your short holiday was well filled with interest and amusement. C. D.

DEAR COUSIN DOROTHY,—
 As I have never written to the Children's Corner before, I will write now and tell you about my trip to the Turtle Mountains during the summer holidays in July.

Miss Smythe, a young friend of mine who lives in the mountains, invited me to spend a week with her and her sister.

So on a bright summer morning I commenced my journey. It was nearly four o'clock when I reached the mountain, and the day was very hot.

The road on which I travelled led across a bridge, and on the middle of it I stopped my pony to watch the rippling water which flowed under. The sun was setting in the amber-tinted sky, and as the rays struck the river, it shone and glittered like gold. And from the trees which shaded the shore, ivy and flowers were hanging. But, of a sudden, a cloud passed over the sun, and I hastened on. It was nearly dark when I arrived there, and I was cordially greeted by all the family.

I had so liked the river that Miss Symthe and her sister promised that I should have a row on it, and pick some berries at the same time, next morning. So, accordingly, when morning came we set out with a nice lunch and some baskets. We had a pleasant row, and after eating our lunch, we commenced to pick our berries, and were so interested in our work we did not notice the change in the weather until a terrific crash of thunder broke the silence. The sky was black and fearful to look upon; lightning gleamed forth and a torrent of rain descended. We caught up our baskets and hastened to shelter; but before we reached home we were drenched through. It continued to rain the rest of the day, but we changed our clothes and drew our chairs before a cozy fire. My friend read one of Dickens' works aloud (Oliver Twist), and we were convulsed with laughter over some of the incidents of the story.

Before I went home I made a charming little

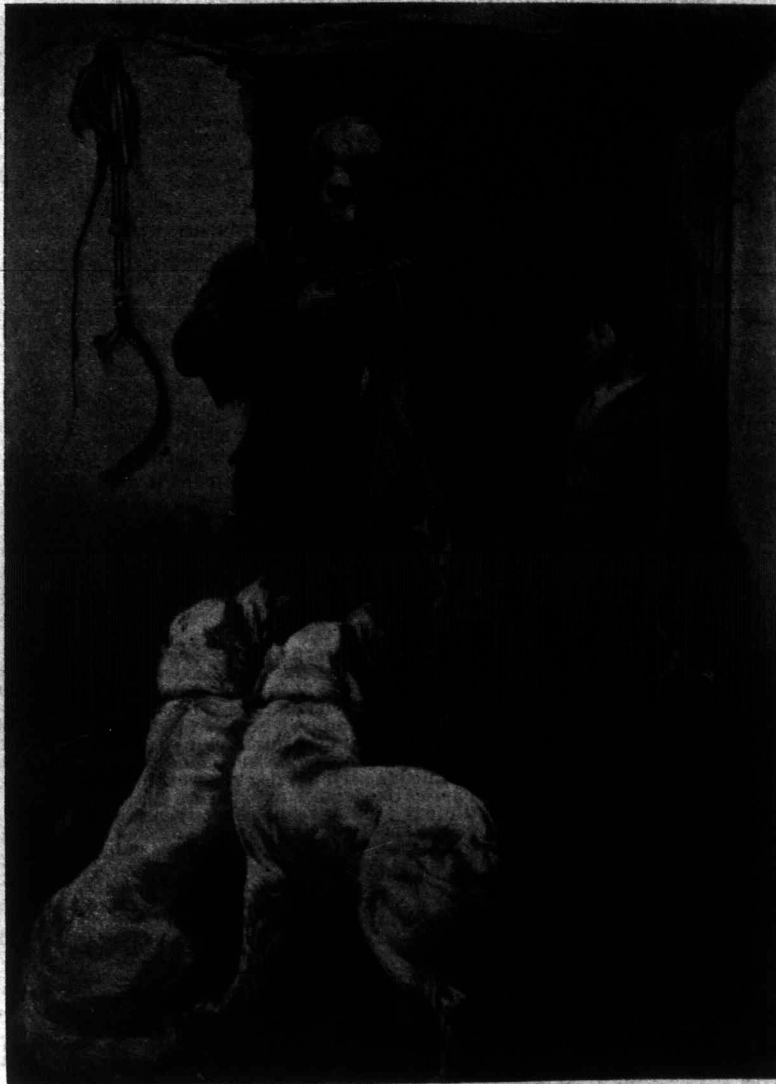
doll's house for my sister, as you described. The last day of the holidays our school gave a picnic, which turned out a fine success. I hope this letter will not be too long. Yours sincerely,

ADELE MILLICHAMP.

DEAR COUSIN DOROTHY,—

You asked for stories of holiday time, and promised a prize for the best, so I thought I would try one. There are three sisters of us, and three cousins came to see us, of our own age. We have a teeter, which is good fun for us; a swing, which is better; and six puppies, three kittens, and a baby. Isn't that a good start for fun?

After a good dinner, we played house with six dolls (which Santa Claus left us). We played for about two hours. Then we went to the windmill, which pumps water for the cows, and played there until the tank was full. Then we closed the windmill and went to the house. We had a good teeter and swing. Then we went to the garden and got everything that was good to eat. Then we had a lunch of pies, cakes, biscuits, watermelon, milk, and lemonade. After lunch we were ready for more fun. We rode down hill in the little wagon, and skipped the rope until we were tired. Then the cousins drove home, about seven miles. Now, Cousin Dorothy, do you not think that is enough real live fun for any girl to have in one afternoon?



"PREPARING FOR SPORT."

With best wishes to you and all your little friends, I will say good-bye. Yours truly,

NELLIE BLY (NELLIE GRAHAM).

You do, indeed, know how to have a good time, Nellie dear. I should like to have a romp with you myself. I hope you will like the book of fairy tales I am sending you. **COUSIN DOROTHY.**

"Preparing for Sport."

The name of this artist, Richard Ansdell, is hardly second to that of Sir Edwin Landseer himself, as an animal painter, and many of his groups have more variety, as they contain other figures of equal interest with the animals. This picture is lifelike, and makes one feel like shouldering gun, whistling to the dogs, and away! Note the earnest face of the sportsman—so carefully examining his gun—and the boy, who doubtless longs for the day when he will carry a big gun and "ping" away at the birds—bringing home a good "bag." As for the dogs, nothing could be more expressive;—eyes—tongue—ears—and the whole attitude—suggestive of suppressed excitement. One should look long at such a picture—so full of fine drawing and expression—for such works are an education.

MR. JUSTJOINED: "What on earth are you trying to do?"

MRS. JUSTJOINED: "I was reading about cooking by electricity, so I hung the chops on the electric bell, and I've been pushing the button for half an hour, but it doesn't seem to work."

A Snake Fight.

THE BLACK REPTILE'S VICTORY WAS FOLLOWED BY A FEAST.

[From Chambers' Journal.]

It was in Australia, and in the fall of the year. My friend and I were returning from a tour which had carried us far into the bush, as the forests of gum trees and scrub are there called. We were walking through a clearing, when the unmistakable rattle of a snake arrested us, and in a few minutes we saw the beginning of a fierce encounter between two deadly enemies—a blacksnake and a rattler. These two branches of the snake family are hereditary and implacable foes, though what was the origin of the feud Darwin saith not. Between them there can be neither fellowship, amity, compromise, nor even armed neutrality. War to the death is their unalterable law from generation to generation. The blacksnake is much smaller than the rattler, but he is a terribly formidable foe, and, as science is superior to mere size or strength, he generally comes out of the fray victorious. He seems to "scent the battle (or rather the rattle) from afar," and gives himself no rest until he gains a point of vantage from which he can make a sudden swoop upon the noisy foe. On this occasion we did not see the blacksnake until he leaped on the rattler's throat, nor could we afterward make out how he had got so near without being seen. That power of silent, stealthy, rapid movement gives the black fellow an immense advantage over the rattling enemy. It is that, indeed, on which his hope of victory mainly depends. Let the blacky by a sudden leap grasp the throat of the unwary rattler, and the chances are he will never let go again "until death them do part"; but if that first chance be lost, and the two meet in fair fight, after fair warning, the fangs of the rattler are pretty sure to gain him the victory.

In this instance no such misfortune was the blacky's. He made his spring and got his grip of the throat, and there he held on "like grim death." With a fury that was sometimes awful, the rattler wriggled and shook, and rolled and writhed. He leaped into the air, twisted and tossed himself about, banged his assailant down on the ground, rolled on him and over him, but all in vain. Blacky simply stuck. Nothing could move him, nothing tempt him or compel him to relax his hold for a single moment. To have done so would have been almost certain death to himself; but, through all the rearings, leapings, tossings, writhings and hissings of his victim, on he held, with a relentless tenacity that was equal only to his love of his own life and his hate of his foe's.

Thus for more than an hour and a half the life-and-death game was kept up without a minute's intermission, and without any sign of weakening on either side. Then we perceived that the rattler's strength seemed to be giving way, and all of a sudden he coiled himself up and lay still, as if to die. Whether it was from sheer exhaustion or only a ruse to deceive his enemy, a faint or a feint, we were not sure. We thought it was the former, but blacky evidently thought otherwise. He understood his enemy better than we did, and did not mean to be tricked. Down he lay by the side of the prostrate victim, but with his teeth firmly set in the now torn and crumpled throat.

Then, after a quiet interval, the one-sided truce having come to an end, or the ruse having failed, the rattler rose again and resumed the unequal struggle with the energy of desperation—a supreme struggle for life. Again he reared and rolled and coiled, and darted up and down, forward and backward, carrying his enemy with him in all his contortions, trying by every conceivable twist to get his fangs into the merciless foe; but all in vain. Then we began to see in the poor victim renewed signs of failing strength; but, notwithstanding increasing weakness, he struggled for a time continuously, then intermittently, until, more than two hours and a half after the first attack, the poor rattler gave up the contest and lay down to die. This time it was no ruse. The poor fellow was done for, and within ten or fifteen minutes after the mute surrender he yielded up the ghost. But even then blacky still stuck, and it was not until the corpse began to stiffen that he for the first time withdrew the nails which had been driven nearly three hours before into the sure place—the throat of the unhappy rattler.

Then, the tragedy being ended, the comedy began, and a comedy indeed it was, at any rate to the two spectators. On the part of the victor there was no sign of triumph, no dancing around the prostrate enemy; but with all possible staidness and straightforwardness the hero prepared for the celebration of his victory. He began by stretching and straightening out the lifeless body, smoothing out every crease and every wrinkle on its scaly surface, with what intent we could not even guess. He seemed to have assumed the role of undertaker, and to be preparing the corpse for decent burial, magnanimous toward a brave though defeated foe. Not a twist or wrinkle was left upon the carcass from

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A herdsman and a stableman and gardener are wanted. See advertisement in this issue.

DAVID REA'S SALE OF SHORTHORNS.

On Wednesday, November 22nd, at his farm, four miles from Fergus, on the G. T. R. and C. P. R., fifteen miles from the City of Guelph, as will be seen from his advertisement in this issue, Mr. David Rea, having determined to retire from farming, will sell his entire herd of Shorthorn cattle without reserve. Mr. Rea has been breeding Shorthorns for over thirty years, and has for several years been a member of the Board of Directors of the Dominion Shorthorn Breeders' Association. The herd was founded on a selection from what is known as the Syme family of Scotch Shorthorns, imported by the Millers, of Markham and Pickering, from the herd of Mr. Robert Syme, Redkirk, Dumfries, Scotland; a thrifty, good feeding, and thick-fleshed class of cattle, which made their mark for many years as prizewinners at the Provincial Fairs in the hands of the original owners, and later in the herd of the Hunters, of Alma, whose famous Queen of the May family, a branch of the Syme tribe, made a sensational record in the showing in the eighties, winning the Prince of Wales' prize for the best herd on two occasions. There are two subsections of the Syme family in the Fergus herd, the Oxford Rose and the Samanthas, the former having the benefit of the blood of such noted bulls as George Miller's imported Prince of Wales =201=, three times a champion at Provincial Fairs, and of Messrs. Hunters' imp. Knight of Waraby =147=, himself a grand bull, and the sire of a long list of first prize winners and champions. The Samanthas have, in addition to these, a cross of Crickshank blood directly through the grand old champion and sire of champions, Bampton Hero =324=, while both of these branches, as well as the Hebes, another deep-milking family represented in the herd, and descended from imported Beauty, by Snowball, have in them top crosses from the fine Scotch-bred bull, Aberdeen Baron =622=, a son of the imported Crickshank bull, Baron Lennox, and of the imported cow, Rose of Aberdeen 3rd, by Gladstone, which Mr. Rea bought at \$400 at the dispersion sale of Mr. J. C. Snell's herd in 1886. This bull proved so successful and satisfactory as a sire, that he was retained at the head of the herd till he was nine years old, and the bulk of the best things in the sale are sired by him or are his grandsons and grand-daughters. The cows are large, smooth, thick-fleshed, and broody-looking, while the heifers are strong, straight and thrifty, several of them being now about three years old, and due to drop their first calves soon. The ten young bulls are blocky, straight and smooth, and most of them a good age for going into immediate service, and should find ready purchasers. The females of breeding age are mostly in calf to the high-class two-year-old bull, Hespero Hero =2518=, by Robert the Bruce, son of imported sire and dam, who was sold for \$350, to go to Nova Scotia, where he won second prize at the Provincial Exhibition this year, heading the first prize herd, and being beaten for the championship only by his half-brother from the same dam. The dam of Hespero Hero is descended, on the side of her dam, from the excellent imported cow, English Lady, by the famous Heir of Englishman. Mr. Rea will sell his farm implements, work horses, etc., in the forenoon of the day of sale, and will offer his fine farm of 300 acres, in one of the best farming districts in Canada. A full set of Dominion Shorthorn herd books will also be sold, and a choice lot of Light Brahma fowls. The terms of the sale are liberal, and those who know the man will have no apprehensions but that everything will be as represented. Catalogues will be sent on application to the owner.

Let every old subscriber to the FARMER'S ADVOCATE secure at least one new-subscriber for next year, and have his own subscription advanced one year or secure one of our valuable premiums. See our premium list in this issue. New subscribers get benefit of balance of this year free, including the elegant Xmas number, valued at 50 cents for single copy.

It is expected that a carload of thoroughbred stock will be shipped, under the auspices of the Dominion Live Stock Association, to Manitoba and the Northwest, early in November. Applications have already been received for considerable space, but there is still room for several animals. Full information as to rates, etc., will be given upon application to the secretary, Mr. A. P. Westervelt, Parliament Buildings, Toronto.

N. Dymont, Clappison, Ont., breeder of Ayrshire cattle, writes:—"As the shows are over, I report my stock doing well; the cows are milking well in spite of the dry summer. The young things are doing well, and will be in good shape for the winter. Have had good success at the fairs this fall, having won fifty-five prizes, thirty firsts, sixteen seconds, eight thirds, and one fourth. Among the prizes won are diplomas for bull, female any age, four firsts for best dairy cow any age or breed, two being silver medals. Have some good dairy bulls for sale at reasonable prices, or will exchange for fresh milch cows, if taken at once."

PLEASE MENTION FARMER'S ADVOCATE.

HOW TO GET A FIRST-CLASS COLLIE

Twelve
New
Subscribers



Twelve
New
Subscribers

TO ANY SUBSCRIBER sending us the names of 12 NEW yearly paid up Subscribers we offer a young COLLIE, six weeks old or over, eligible for registration, and bred by Mr. R. McEwen, Byron, Ont., whose stock has been so successful in the leading shows in Canada and the United States. (See page 36, January 15th issue.)

Bagster's NEW Comprehensive Teacher's Bible,

Containing the Old and New Testaments, according to the authorized version, together with new and revised helps to Bible study—a new Concordance and an indexed Bible Atlas, with SIXTEEN FULL-PAGE ILLUSTRATIONS, PRINTED IN GOLD AND COLOR.

HOW TO OBTAIN IT—
Would retail at from \$3 to \$4. We will send (carefully packed, post prepaid) this Bible to anyone sending us the names of TWO NEW SUBSCRIBERS to the FARMER'S ADVOCATE at \$1.00 each.

Our Self-Binder, HANDY, DURABLE and ATTRACTIVE.

Made to contain the 24 issues of the year. We will forward this Binder, post-paid, to anyone sending us the names of two NEW subscribers and \$2.00.

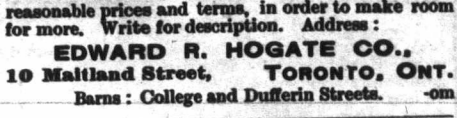
ADDRESS The WILLIAM WELD CO., Limited, London, Ont.

The following Stock Breeders' Associations will hold their annual meetings in Chicago:—
November 21, 7 p. m. American Polled Durham Breeders' Association, Saratoga Hotel;
November 21, 7.30 p. m. American Hereford Association, Sherman House; November 22, 7.30 p. m. American Shorthorn Association, Auditorium Hotel; November 23, 7.30 p. m. American Aberdeen-Angus Breeders' Association, Leland Hotel; November 23, 9 a. m. American Live Stock Association, Auditorium Hotel; November 23, 3 p. m. American Cotswold Record Association, Sherman House; November 23, 7.30 p. m. American Galloway Breeders' Association, Sherman House.

NOTICE.
Patent Dog and Poultry Food.—Spratt's Patent food and supplies for dogs and poultry is advertised in this issue. The firm also supplies crushed oyster shells for fowls, veterinary antiseptic soap for disinfectant purposes and the destruction of lice and other parasites on fowl or other stock. They have agents in several Canadian cities. See the advertisement.

English Shire and Clydesdale Stallions.

Last importation just arrived Aug. 5. Imported more stock in 1888-89 to this country than all other importers together; and I also handle no second-hand horses from the United States, but buy direct from the Old Country, and nothing but the best the market can afford. I have them on hand from 3 to 5 years old, weighing 1,800 upwards. These horses must be sold, and at reasonable prices and terms, in order to make room for more. Write for description. Address: **EDWARD R. HOGATE CO., 10 Maliland Street, TORONTO, ONT.** Barns: College and Dufferin Streets.



For Sale Clydesdale Stallion, Sargano (8977), Vol. XIII.

Sire Young Duke of Hamilton (4122); Gr. Sire Duke of Hamilton (2074); G. Gr. Sire Prince of Wales (673). Sargano has won first premiums in Scotland, and was a sure foal getter. He weighs 2,100 lbs., and is never beaten in Canada. He is being sold because his daughters in the district are at breeding age. Arran, Saugeen & Bruce Co. Breeders' Association, Farm seven miles from Pt. Elgin. Joseph Lyness, Manager and Salesman, Burgoyne, Ontario. Dugald Smith, Secretary, Port Elgin, Ont.

FOR SALE . . . IMPORTED AND CANADIAN-BRED Clydesdale Stallions



From One to Four Years Old. Also
SEVERAL THREE YEAR OLD FILLIES,
All registered and warranted sound. Inspection invited.
ROBT. DAVIES,
Thorncliffe Stock Farm, TORONTO.

John Miller & Sons, BROUGHAM P. O. and TELEGRAPH OFFICE,

OFFER FOR SALE . . .
4 Imported Clydesdale Stallions.
10 Scotch-bred Shorthorn Bulls.
10 Yearling Shropshire Rams, 3 of them imp.
20 First-class Ram Lambs.

PRICES REASONABLE.

Claremont Stn., Pickering Stn.,
C.P.R. G.T.R.

Correspondence Invited.

A Few Durham Heifers In Choice

Two bulls; two bull calves; all of choice breeding. Berkshire hogs; brood sows and sow pigs. Prices right.
A. J. C. SHAW & SONS,
THAMESVILLE, ONT.

BANKERS AND BROKERS.
GEO. SKALLER & CO.,
 CONSOL. STOCK EXCHANGE
 BUILDING.
 60-62 Broadway, New York.

LOTS OF MONEY

can be made through speculation with deposit of \$30.00 (thirty dollars) upward (3% margin upward) on the Stock Exchange.
 The greatest fortunes have been made through speculation in Stocks, Wheat or Cotton.
 If you are interested to know how speculations are conducted, notify us and we will send you information and market letter free of charge.
 Usual commission charged for executing orders.
 Government, Municipal and Railroad bonds quotations furnished on application for purchase, sale and exchange.

HERE IS A LIST OF THE PRINCIPAL MANUFACTURERS OF SPRATT'S PATENT, LIMITED:

Dog Cakes, Charcoal Dog Cakes, Greyhound Cakes, Plain Round Cakes, Oatmeal Cakes, Puppy Cakes, Fat Dog Cakes, Ood Liver Oil Cakes, Orphan Puppy Food, Expansated Puppy Meal, Plain Puppy Meal, Bone Meal for Puppies.
OF REMEDIES, ETC., THE FOLLOWING:
 Dog Soap (white), Antiseptic Soap (black), Tonic Tablets, Mange Cure, Scabies Cure, Purgative Tablets, Cough Tablets, Vermifuge, Puppy Vermifuge, Cooling Tablets, Locurium, Lintment for Sprains, etc., Hair Stimulant, Jaundice Tablets, Cure for Canker, Fit Cure, Distemper Tablets, Anti-Rickets Tablets, Eye Lotion Tablets, Diarrhoea Cure.
 Send for catalogue of dog and poultry foods and supplies of Spratt's Patent Ltd., 245 E. 56th St., N. Y.
 (San Francisco Branch, 1385 Valencia St.)
 Canadian Agents: F. Hughes & Co., Montreal; J. A. Summers, Toronto; John S. Pearce, London; M. F. Sagar, Halifax, N.S.; Whitehead & Turner, Quebec; W. H. Gillard & Co., Hamilton, Ont.

Shorthorns.

Six bulls from 3 to 12 months old; one choice 4-year-old stock bull; eight 2-year-old and yearling heifers and heifer calves of choice quality and breeding.



R. MITCHELL & SON,
 Burlington Jct. Station, Nelson P. O.

SCOTCH SHORTHORN BULLS AND HEIFERS

HERD ESTABLISHED IN 1872.
 Such sires as imported Royal George and imported Warlike have put us where we are. Imported Blue Ribbon now heads herd.
A. & D. BROWN,
 ELGIN COUNTY, IONA, ONTARIO.

SHORTHORNS

I have six young females for sale—three are in calf and three old enough to be bred. These heifers have four or more crosses of the finest Booth sires, on imported Marr and Gordon Castle foundation, a desirable and needed line of breeding.
D. ALEXANDER, Brigidon, Ont.

SHORTHORN CATTLE AND LINCOLN SHEEP.

Imp. The Baron at head of herd. Seven young bulls for sale—good ones. Also a few females. Stud name all imported from H. Dudding, Esq.; the same blood as the 1000-guinea ram.
J. T. GIBSON,
 DENFIELD, ONT.

Shorthorns and Shropshires.

I have a few promising young bulls on hand, and am booking orders for Shrop. ram lambs for fall delivery; well covered.
GEORGE RAIKES, BARRIE, ONT.

HAWTHORN HERD OF DEEP-MILKING SHORTHORNS.

We are offering 5 young bulls for sale, of first-class quality, and AI breeding.
Wm. Grainger & Son, Londeshoro, Ont.

SHORTHORNS.

Bulls from 6 to 15 months old. One choice 3-year-old stock bull, brother to the noted bull, Nominee. Also cows and heifers.
J. R. McCallum & Sons,
 IONA STATION, ONT.

Shorthorns & Berkshires

CHOICE calves of both sexes for sale; also two good stock boars, and a fine lot of young pigs.
Jno. Racey, Jr.,
 LENNOXVILLE, QUE.

PLEASE MENTION FARMER'S ADVOCATE.

NOTICES.

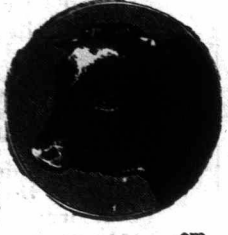
While visiting Oshawa, a few days ago, a member of FARMER'S ADVOCATE staff called upon the McLaughlin Carriage Co., and found that firm's business progressing in keeping with the increased activity of the times. The superiority of their workmanship, and shrewd business foresight and management has widened their market to such an extent as to tax the limit of their immense building capacity to its utmost. While visiting the leading fairs (just past), the exhibit of this firm attracted widespread attention, and though fairs are not usually good places to sell goods, they were successful in nearly closing their entire exhibit out at Ottawa, which was not small. In face of the possibilities, it is hard to realize to what extent such a firm's growth can attain within a short period, when they have already established a reputation for fair dealing, and live up to the Messrs. McLaughlin's motto, "One grade only, and that the best."
 The annual meeting of the American Cots-wold Record Association will be held at the Sherman House, Chicago, November 23rd, at 3 p. m.

Shires, Shorthorns, and Leicesters.

We have a few choice Prime Minister (imp.) bulls on hand. A limited number Leicesters, both sexes.
J. M. GARHOUSE, Highfield, Ont.
 Malton Station, G. T. R.

River Bow Stock Farm.

E. SNARY & SONS, CROTON, ONT.,
 Breeders of
 Shorthorn Cattle,
 Poland-China and
 Chester White Swine.
 We offer for sale seven good young bulls, from seven to twelve months old; eight heifers of choice quality and breeding. Sired by Chief Captain. Pigs of both sexes and all ages at moderate prices, quality considered.



JOHN DRYDEN,
 BROOKLIN, ONTARIO.

BREEDER OF
Scotch Shorthorns,
 —AND—
Choice Shropshire Sheep.

Scotch Shorthorns

FOR SALE.
 100 head to select from: 23 grand young bulls by Valkyrie = 2196=, and cows and heifers of all ages, of the most approved breeding, served by (imp.) Diamond Jubilee = 28861=, now at the head of our herd.
T. DOUGLAS & SONS,
 Strathroy Station and P. O.
 Farm 1 mile north of the town.

SPRINGHURST SHORTHORNS

The famous sire, Abbotsford = 19146=, and the crack young show bull, (imp.) Knuckle Duster (72793), head the herd, which is largely of Cruickshank blood. Twelve good young bulls (some topers), and a choice selection of females for sale. Address,
 Exeter Station, G. T. R.,
H. SMITH,
 half mile from farm.

SPRINGFIELD FARM

HERD OF
Shorthorns, Oxfords,
and Berkshires.
 Young bulls and Heifers on hand. Also a few choice Berkshires.
CHAS. RANKIN,
 Wyebridge, Ont.
 SIMCOE CO.

Shorthorns and Leicesters.

Herd Established 1855.
 A number of young bulls, cows and heifers for sale. Herd headed by imported Christopher 28359, and Duncan Stanley = 16364=. Grand milking cows in herd. Also a number of Leicesters of both sexes, from imported foundation.
JAMES DOUGLAS,
 CALEDONIA, ONT.

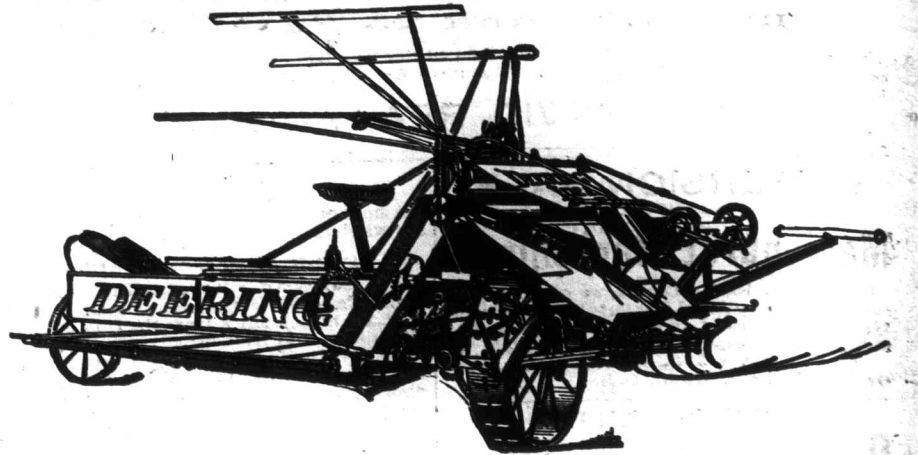
MOUNT ROSE STOCK FARM

Young Shorthorn bulls, heifers and cows for sale. Prices right.
J. W. Hartman
 & SONS,
 Elmhedge P.O., Ont.

BONNIE BURN STOCK FARM

Forty rods north of Stouffville Station, has for sale three excellent young Shorthorn Bulls, yearling and two-year-old Heifers in calf. Shropshire Lambs, both sexes; also Berkshires. At very moderate prices.
D. H. RUSSELL, Stouffville, Ont.

...THE...
MACHINES
 That Made America FAMOUS.



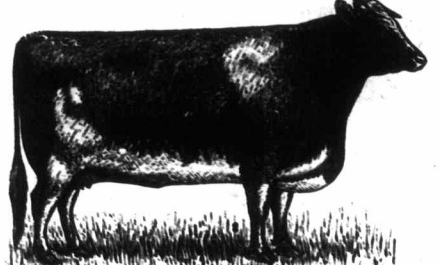
DEERING LIGHT DRAFT IDEALS
 Are made in the Largest Factory in America.
 The Largest Harvester Plant in the World.

It will pay you to investigate the merits of Deering Machines.

DEERING HARVESTER CO.,

Main Office & Factory :
CHICAGO, ILL.
 Permanent Branch Houses :
TORONTO, ONT.
LONDON, ONT.
MONTREAL, QUE.
WINNIPEG, MAN.

ARTHUR JOHNSTON
 Greenwood P. O. and Telegraph Office,



OFFERS FOR SALE, AT MODERATE PRICES,
13 IMPORTED AND HOME-BRED SHORTHORN BULLS
17 IMPORTED COWS AND HEIFERS
22 HOME-BRED COWS AND HEIFERS
 Many of them from imported cows, and by imported bulls. Catalogues on application.
 Claremont Station, C. P. R.,
 or Pickering Station, G. T. R.

W. D. FLATT,
 HAMILTON P. O. and TELEGRAPH OFFICE,



OFFERS FOR SALE
 . . . 7 Imported Bulls, . . .
 . . . 5 Canadian-bred Bulls, . . .
30 Canadian-bred Cows and Heifers;

ALSO A NUMBER OF
IMPORTED COWS AND HEIFERS.
 The noted imported bull, Golden Fame, is at the head of my herd. Prices consistent with quality. Correspondence and inspection invited. Visitors welcome. Catalogue on application.

SPRING GROVE STOCK FARM

Shorthorn Cattle and Lincoln Sheep. Herd prize and sweepstake at Toronto Industrial Exhibition, 1897 and 1898. Herd headed by Imported Blue Ribbon = 17095= and the famous Money-tuffel L. S. D. = 20521=. High-class Shorthorns of all ages for sale. Also prizewinning Lincolns.
 Apply
T. E. ROBSON, Ilderton, Ont.

25-Shorthorn Bulls-25

From 6 to 18 months. Also a limited number of females, among which are grand, thick-fleshed and choicely bred animals, mostly solid red colors. Speak quick, for they will not last long.
G. A. BRODIE,
 STOUFFVILLE STATION, BETHESDA, ONT.

I am prepared to offer at reasonable prices, for a short time, a few very choice young registered

Shorthorn Bulls and Heifers
 in good health and fine growing condition.
 Simcoe Co.,
SAMUEL DUNLOP,
 Coldwater Station, Eady, Ont.

F. BONNYCASTLE & SONS

CAMPBELLFORD P. O., ONT.,
 BREEDERS OF
Shorthorns, Cotswolds,
and Berkshires.
 Have for sale cows, heifers, and heifer calves; a choice lot of ram lambs, ewe lambs, and breeding ewes; 40 Large English Berkshires, of the long bacon type, from six weeks to nine months old.

Maple Lodge Stock Farm

ESTABLISHED 1854.
SHORTHORNS.—A grand lot of young bulls, got by the great Caithness and Abbotsford. Choice heifers in calf to imp. Knuckle Duster and Abbotsford—milking strains. **LEICESTERS.**—A splendid lot of ram lambs, ewes and ewe lambs for sale. Our flock has won first prize for pen—1895, '96, '97, '98, '99—at Toronto and London. Write us for prices.

ALEX. W. SMITH,
 MAPLE LODGE P. O., ONT.

CANCER CURED WITHOUT KNIFE OR FLAHER. FULL PARTICULARS FREE. F. STOTT & JURY, Bowmanville, Ont.

EUROPEAN ADVERTISEMENTS.

Hampshire Down Sheep.

SPLENDID GOOD GREAT MUTTON. WOOL. WEIGHT.

This highly valuable English breed of sheep is unrivalled in its

Rapid and Wonderfully Early Maturity,

possessing, too, a hardiness of constitution adapted to all climates, whilst in the quality of

MUTTON AND LARGE PROPORTION OF LEAN MEAT IT IS UNSURPASSED.

Full information of

JAMES E. RAWLENCE,

Secretary, Hampshire Down Sheep Breeders' Association,

SALISBURY, ENGLAND.

HENRY DUDDING, RIBY GROVE, GREAT GRIMSBY, LINCOLNSHIRE, has always for inspection and sale from the largest and most noted flock of pure Lincoln Longwool Sheep in the country, both Rams and Ewes of all ages. Representative specimens from this flock have secured for many years past at the Royal Shows champion and other prizes; whilst they have also at both the Paris Exhibitions, Vienna, Amsterdam, Chicago, Palermo, secured champion awards, and at all the leading shows in Australia, New Zealand, Canada, and the States, Riby sheep and their descendants have secured the highest honors. Wool is a leading feature in the flock, its quality being amply testified by the fact that wherever exhibited it has each time secured the premier prize, including that at Windsor in 1899. The record of its careful breeding and consistent success is world-wide, and the present members of the flock are fully equal to any that have preceded them during the past 130 years in which it has been in existence, descending from father to son without dispersal. The flock holds the record for the highest price ram of 1896 (L. C., 1,000 gs.), and for the highest recorded average for an auction sale of fifty-two rams (L. C., 238 lbs.) at the annual sale in July, 1898. A grand selection of yearling and other sheep on offer, sired by the most carefully selected sires obtainable, in which are contained all the best strains of the present day. Telegrams: "Dudding, Keelby."

The Danesfield Pedigree Stock

IMPORTERS desirous of securing selections of either Shire horses, Aberdeen-Angus cattle or Hampshire Down sheep should inspect the stud, herd and flock, property of Mr. R. W. Hudson, which are kept in the highest degree of purity that care and selection can produce at Danesfield, Marlow, Bucks, England. Specimens of horses, cattle and sheep have been largely exhibited at the principal English shows during 1899 with very prominent success. For full information, etc., apply:

MR. COLIN CAMPBELL,

ESTATE OFFICE,

DANESFIELD, MARLOW, BUCKS.

who will be happy to make arrangements for inspection, or to quote prices.

J. E. CASSWELL, Laughton, Folkingham, Lincolnshire, Lincolnsire,

breeder of Lincoln Long-wooled Sheep, Flock No. 46. The flock was in the possession of the present owner's great-grandfather in 1785, and has descended direct from father to son without a single dispersion sale. J. E. Casswell made the highest average for 20 rams, at the "Annual Lincoln Ram Sale," 1895 and 1897. The 1896 rams were all sold for exportation. Ram and ewe hogs and shearings for sale, also Shire horses, Shorthorns, and Dark Dorking fowls. Telegrams: "Casswell, Folkingham, Eng." Station: Billingboro, G. N. R.

W. W. Chapman,

Secretary of the National Sheep Breeders' Association, Secretary of the Kent or Romney Marsh Sheep Breeders' Association, and late Secretary of the Southdown Sheep Society.

Pedigree Live Stock Agent, Exporter and Shipper. All kinds of registered stock personally selected and exported on commission; quotations given, and all enquiries answered.

Address: FITZALAN HOUSE, ARUNDEL ST., STRAND, LONDON W. W. Cables—Sheepote, London.

FAMOUS ALL OVER THE WORLD. ALFRED MANSELL & CO., LIVESTOCK AGENTS AND EXPORTERS, SHREWSBURY.

BRITISH STOCK selected and shipped to all parts of the world. Write for prices to ALFRED MANSELL & CO., Secretaries of the Shropshire Sheep-Breeders' Association, Shrewsbury, England.

Oh, Yes! We sell Holstein Bulls. Sold 7 in May. Have 12 now on hand; oldest 9 months old; bred right and are right. Write for particulars. Male or female. State what you want. A. & G. RICE, Currie's Crossing, Ont., Oxford County.

GOSSIP.

One of R. A. Lister & Co.'s new Alexandra steam turbine driven cream separators has been working at the Government Experimental Farm dairy at Ottawa. It has given so much satisfaction that the Department have decided to purchase same.

On Saturday, the 14th of October, Messrs. Alfred Mansell & Co., live stock exporters, Shrewsbury, Eng., shipped per the SS. "Brittany," from Liverpool to Argentine, the fine 3-year-old Clydesdale stallion, Horatius 10357, the Glenkens premium horse of last season. Horatius was bred by Mr. John MacMockan, Knockneen, and got by the celebrated Macgregor 1457, out of Susie III. of Knockneen, by Prince of Wales 673.

Mr. George Hill, of Delaware, Ont., advises us regarding the statement in the report of the Western Fair swine department, to the effect that his Berkshires "did not get into the prize list." The reason was, that he had parted with most of his animals to another exhibitor before the show. Having an exhibit of Ayrshire cattle, as well as pigs, and being alone, he was unable to attend to both; hence, he disposed of the former. Several of the animals themselves, however, were in the prize list, taking enviable awards.

Messrs. H. Cargill & Son, Cargill, Ont., in ordering a change in their advertisement of Shorthorns, offer 10 imported bulls and 21 imported heifers, all Scotch-bred, as well as a number of home-bred ones of Scotch families. They add: "Our new importation of 50 Shorthorns arrived from quarantine October 21st, all well and in good shape, considering the long trip on the cars. The 10 bulls are a choice lot; all big, lusty fellows, of choice breeding and quality. The heifers are all in calf but two, and are a grand, even lot, of good size and best breeding procurable."

Capt. T. E. Robson, Ilderton, Ont., has added another good one to his herd of Shorthorns by the purchase, from Mr. Wm. McIntosh, of the red yearling heifer, Lady Fanny 8th by Golden Count - 2540 - dam Lady 7th by Lord Lovell's Heir - 20357 - granddam Lady Fanny (imp.) - 18388 - bred by Mr. Bruce, Fochabers, and got by Earl of Moray (4317), a first-prize winner at the Royal Northern at Aberdeen. The dam of Lady Fanny was by Knickerbocker, winner of ten first prizes, seven cups, and two medals, including the gold medal at the Highland Show at Sterling. Capt. Robson has recently sold to Mr. Joseph Lawrence, Clearwater, Manitoba, the grand two-year-old bull, George Bruce, by the Robert Bruce, winner of first prize in his class at the Toronto Exhibition, 1899.

John C. Nichol, breeder of Tamworth swine, Hubrey, Ont., writes: "I have been very successful at the shows with Tamworths this season, having won a large per cent. of the prizes offered wherever I exhibited, and also have made a large number of sales. I have sold to quite a number of my old customers, some of whom signify their satisfaction in the following manner: R. Leishman, Belgrave, says: 'My neighbors would like to get a Tamworth bought from you, and I have bought one from you just a picture.' R. Reid & Co., of Hintonburg, who have purchased my stock at four different times, write: 'Your breeding of stock did well enough at Ottawa Exhibition: Aged sow, 1st; yearling sow, 2nd; yearling boar, 1st; and boar under six months, 1st.' I have lately sold the stock boar, Amber Luther, to the Iowa State Agricultural College, but have a number of his stock for sale yet. I can supply customers with boars and sows of the very best breeding and quality. I have a number of very choice young pigs from Amber Luther now, and by Canadian Diamond II. (imp.), which should please the most fastidious.

A. W. Smith, Maple Lodge, Ont., writes: "We recently sold the second prize Leicester shearing ram at Toronto to Mr. James R. McDonald, Amherst, Ont. He is a very handsome sheep, good style, grandly covered back, and full leg of mutton, very essential points in any mutton sheep. He should do well for Mr. McDonald's choice flock of Leicesters. Mr. Rutherford also procured an excellent shearing ram; and to Mr. Herd, of Allan Park, we sold a slashing big shearing ram; he weighed well up to 300 lbs. Mr. Laidlaw, of Wilton Grove, got a nicely-proportioned shearing, one of four at a birth. Some would suppose he should have lots of lambs next spring. Dunnet Bros., Glasgow, also got a good one. Others went to Nova Scotia, Manitoba, Quebec, British Columbia, Michigan, Minnesota, Wisconsin, Ohio, Missouri, Nebraska, and York States. We have also shipped ram lambs and ewes far and wide, and have a very fine lot on hand for sale yet, several of which we must sell to make room for an importation we now have on the way from Scotland, of which we will give particulars later.

A JOINT SALE OF Ayrshire Bulls and PURE-BRED SWINE.

Messrs. R. Reid & Co., Maple Cliff Farm, Hintonburg, and J. G. Clark, Woodruff Farm, Ottawa, advertise in this issue a joint sale of stock by auction, November 28th, at Maple Cliff Farm, within one mile of Ottawa City. The electric cars run to within 5 minutes' walk of the farm. These herds were very successful in winning prizes at the Ottawa Exhibition. The stock to be sold will be of a good sort, and the owners write that there will be no reserve, as everything offered goes. Parties looking for such stock will do well to send for the catalogue.

HIGH PRICES FOR SHORTHORN BULLS. The result of the recent Shorthorn sales in Buenos Ayres prove that the best class of Shorthorn bulls are still eagerly sought for in South America. Some few weeks ago over 700 guineas was realized for a young bull bred at Sandringham, but with no great showy reputation, and it is now stated that 900 guineas and 800 guineas have been obtained for sires subsequently landed in that country. The highest priced bull was Merry Merlin, bred by Mr. Cameron Ross-shire and exported by Mr. D. Maclean. Merry Merlin stood only fourth in the 2-year-old class at the Maidstone Royal. The Royal champion, Bapton Emperor, a yearling, bred by Mr. J. Deane Willis, and exported by Mr. Miller, made the 800 guineas.

ANOTHER FINE WALL Built with Thorold Cement



Basement and Frame of Mr. J. A. James' Dairy Stock Barn, Nilestown, Ont. New portion, 72x60 feet. Walls, 12 feet high.

WHAT MR. JAMES SAYS ABOUT THOROLD CEMENT.

Nilestown, Ont., September 7th, 1899.

ESTATE OF JOHN BATTLE, THOROLD, ONTARIO:

Dear Sirs.—It is with pleasure that I testify to the good qualities of your Thorold Cement, having used it in building the concrete walls of my barn, size 72x60 feet. It turned out a splendid job, the walls being hard and dry, and I have no hesitation in recommending your Cement to those requiring its use. J. A. JAMES.

FOR FREE PAMPHLET WITH FULL PARTICULARS, ADDRESS

ESTATE OF JOHN BATTLE, THOROLD, ONTARIO.

OXFORD SHEEP -- Foundation stock composed of choice Canadian and first-prize imported stock; won 1st on ewe lamb (twelve in competition) at Ontario Fat Stock Show, 1898. Have a number of ewes, rams and lambs for sale. Also fine Bronze Turkeys and Collie Dogs. Express office, London. ANDREW ELLIOT, POND MILLS, ONT.

IN COTSWOLDS WE HAVE TO OFFER

100 RAM LAMBS

AND

50 EWE LAMBS,

Selected from Snell and Miller bred ewes, and by Snell-bred sires, from imported foundation. YOUNG BROS., Binkham, Ont. Erin Station, C. P. R.

GOTSWOLDS.

Females of all ages; also this season's crop of ram lambs; all from imported stock; extra well covered.

John I. Balsdon, BALSAM, ONT.

DORSET RAMS.

We won three first and two second prizes at the largest shows of Ontario and Quebec with three rams; will sell from \$10 to \$20, our prize two-shear ram included. Address, JAMES BOWMAN, Elm Park, Guelph, Ontario.

6 CHOICE REG. LEICESTER RAMS 6

Strong, even, well-covered sheep, especially selected from flock of 1898. Also ram and ewe lambs. Wanted, a Farm Hand (single) to take care of stock, etc. E. GAUNT & SON, LUCKNOW, ONT.

LEICESTERS.

Breeding stock for sale, of different ages.

C. & E. WOOD, FREEMAN, ONT.

Fairview Shropshires.

5 imported shearing rams; 10 imported shearing ewes; 10 Canadian-bred shearing rams; 16 Canadian-bred ewes. For sale at good value to purchasers.

JOHN CAMPBELL, Woodville, Ont.

SHROPSHIRE

Shall have a fine lot of choice early lambs for the fall trade. We import and breed only the best. J. P. PHIN, Hespeler, Ont.

Shropshires for Sale.

Shearing Rams and Ewes, and Ram and Ewe Lambs. W. E. WRIGHT, Glanworth, Ont.

SHROPSHIRE RAM LAMBS. Out of ewes from imported foundation, and sired by (imp.) Flashlight. Extra well covered and good size. W. S. CARPENTER, SIMCOE, ONT.

Shropshire Rams and Ewes

Newly imported from the greatest English breeders. Home-bred rams and ewes of best quality. Scotch Shorthorns and Clydesdale horses for sale at moderate prices, and in large numbers, by

ROBERT MILLER, STOUFFVILLE, ONT.

SHROPSHIRE

SEVENTEEN SHEARLING RAMS.

Also our two-shear stock ram, from John Miller & Son's flock, with twelve ram lambs. Have for sale two Shorthorn Bulls, one fourteen months and one five months. Prices moderate.

PUGH BROS., Whitevale P. O.

WHAT I OFFER NOW IS:

15 SHROPSHIRE EWES,

To be delivered after service by imp. rams.

30 Young YORKSHIRE PIGS

5 JERSEY FEMALES,

1 SHORTHORN BULL

18 months old.

RICHARD GIBSON, DELAWARE, ONT.

Shropshires, Tamworths,

AND

American Bronze Turkeys.

We keep on hand a full line of each to supply our numerous customers. Correspondence solicited.

W. S. HAWKSHAW & SON, Glanworth, Ont.

W. R. BOWMAN,

MT. FOREST, ONT.

YORKSHIRE BOARS, 200 LBS., \$15.00.

YORKSHIRE SOWS, IN FARROW, 12.00.

SIX-WEEKS PIGS, 5.00.

These are all of the most approved strains, being good growers and easy feeders.

SHROP. AND SUFFOLK shearing rams and ram lambs, \$10 to \$15. One JERSEY COW, one YEARLING HEIFER and HEIFER CALF for \$100. Registered in the A. J. C. C.

If You Are

In Want of the following first-class registered stock, viz.: Chester White boars fit for service, Shropshire ram or ewe lambs, or Dorset sheep, either sex, write for prices, etc., to R. H. HARDING, Mapleview Farm, THORNDALE, ONT.

PINE GROVE FARM HERD OF LARGE YORKSHIRES. Imported and Canadian-bred, from the Hasket family, which has taken more prizes at the leading fairs in Canada and the World's Fair at Chicago than any other family of Yorkshires in America. Young boars and sows fit for breeding for sale. Correspondence solicited, which will receive prompt attention. JOSEPH FEATHERSTON, Streetsville, Ont.

Yorkshires, Holsteins, & Cotswolds. Boars and sows not akin for sale, of the bacon type. Thoroughbred and high-grade Holsteins, also a three-sheared ram for sale. R. HONEY, WARKWORTH, ONT.

Large Yorkshires. Have a very fine lot to select from, of good length, and easy feeders. Pigs farrowed from March to September. Can furnish pairs not akin. Stock shipped to order. Satisfaction guaranteed. E. DOOL, HARTINGTON, ONT.

Berkshires and Yorkshires. Berkshire boars and sows 4 months old, 130 lbs. each, at \$12.00 each. Large size, strong bone, fine quality. Boars and sows 2 months, \$6.00 each, extra quality. Yorkshire boars and sows 5 months old, \$15.00, 150 lbs. each. Boars and sows 3 months old, \$8.00 each, extra quality. Satisfaction guaranteed. JAS. A. RUSSELL, Precious Corners, Ont.

OAK LODGE HERD OF Large Yorkshires. The oldest established and largest in America. Look up the record of this herd at the larger exhibitions—more prizes won than all others combined, sweepstakes over all breeds in class for bacon hogs two years in succession; winner of championship and gold medal at the Royal; also several prizewinning boars and sows personally selected from noted English herds. Oak Lodge Conqueror and Oak Lodge Challenge, two of the best boars in Canada, are in the herd. Stock from these boars are winners. Improve the quality of your pigs by securing some of the Oak Lodge blood. J. E. BRETHOUR, BURFORD, ONT.

A SNAP IN YORKSHIRES FOR NOVEMBER AND DECEMBER. Eight Yorkshire boars and 4 sows, 175 to 200 lbs., \$12.00. Boars and sows, 2 months, \$5.00. Boar, 12 months, a first prize winner, \$18.00. F. O. B. at Port Elgin Stn., G. T. R., and registered. WILLIAM HOWE, North Bruce, Ont.

SNELGROVE BERKSHIRES AND COTSWOLDS. We can supply singly, in pairs, or trios, not akin, or in larger numbers, registered Berkshire pigs and Cotswold sheep of the highest class. Young boars fit for service, sows old enough to breed. Young pigs 6 to 8 weeks old. Ram lambs and ewe lambs. Write for prices and particulars. SNELL & LYONS, SNELGROVE, ONT.

I am offering for the month of October a grand lot of Imp. YORKSHIRE BOARS ready for service. Sows ready to breed, and fall pigs not akin. Also LARGE ENGLISH BERKSHIRES and five choice SHORTHORN BULLS of the best breeding. Write H. J. DAVIS, BOX 290, WOODSTOCK, ONT.

Large English Berkshires. HERD headed by two imported boars—Nora B's Duke and Royal Star III., half-brother to Columbia's Duke, which recently sold for \$1,200. Choice pigs, all ages. Write for prices. H. BENNETT & SON, St. Williams, Ont.

GOSSIP.

Mr. D. A. Graham, Parkhill, Ont., offers for sale well-bred Berkshires, and high-class poultry of various good sorts, in this issue. Mr. Graham is moving onto another farm, and cannot house all his stock, hence the offerings, which should be taken advantage of.

Colwill Bros., Newcastle, Ont., write under date of October 17th:—"We are selling considerable stock, and getting inquiries every week. We have been very successful at all the fall fairs, having won the diploma at both Whitby and Bowmanville, for the best Tamworth boar and two sows. We had a clean sweep in all the young stock. We may not have as large a herd as some, but we have as good a lot of young Tamworths as can be found."

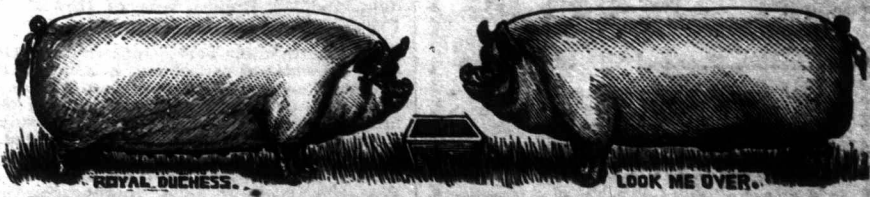
Mr. Arthur Johnston, of Greenwood, Ont., changes his advertisement in this issue, and informs this office that the Greenwood herd was never in better breeding form than at present. The young things, especially the yearlings, are a splendid lot, and though not in high flesh, they are looking exceedingly well. There are twenty-one yearlings, eight of which are imported, and four out of imported cows, and sired by imported bulls. The young bulls are an equally nice lot, but they are leaner than usual. The recently imported lot are still in quarantine. They are expected home on or about December 1st.

Mr. James Boden, Manager of Mr. Ogilvie's fine herd of Ayrshires, at Ann's, Que., writes:—"I have made another large sale of seven head, through Mr. Peer, to W. E. H. Massey, of Toronto. They were a fine lot, including two of our best show cows. Also to Alex Hume, of Monie, our imported two-year-old bull, Caspian. He was calved six weeks ago, and was the champion milk cow at Kilmarnock and Ayr shows, and was a great milkier; and this young bull's calves have every appearance of making the sort that is wanted. Mr. Benning, of Williamstown, has some beauties from him, and we have a good sample of them here. I have also bought four two-year-old heifers from Mr. Hume. They are daughters of White Chief of St. Ann's, which, I think, will give a good account of themselves yet."

THE COLLYNIE AND UPPERMILL SALE OF SHORTHORNS. At the annual joint sale of Shorthorns, the property of Messrs. Duthie and Marr, the highest price for a bull calf was 305 guineas. Two others sold for 300 guineas each, and Messrs. Cargill & Son, Cargill, Ont., secured Golden Drop Victor at 290 guineas. He is a red bull, calved December 26th, 1898, and was sired by Nonpareil Victor, dam Golden Drop 11th, by Emancipator. The average worked out as follows: Mr. Duthie's, of Collynie. Average. 20 Bull calves..... £123 18 0 5 Cows..... 60 5 4 1 Two-year-old heifer..... 52 10 0 2 Yearling heifers..... 74 0 6 10 Heifer calves..... 43 9 4 38 Head..... £ 89 17 2 Mr. Marr's, of Uppermill. 16 Bull calves..... £116 18 10 8 Cows..... 40 13 9 3 Two-year-old heifers..... 26 5 0 3 Yearling heifers..... 34 6 0 30 Head..... £ 79 5 6 These figures bear very favorable comparison with those realized at the corresponding sale last year, when Mr. Duthie's draft of 24 bull calves averaged 228 s. each, and Mr. Marr's draft of 19 made over £76 each. The top price on that occasion was, however, better than that of this year by 25 guineas, one of Mr. Marr's calves then making 330 guineas. Sires of Bull Calves. The following table shows the average prices of the bull calves got by the principal sires used in both herds:— Spicy Robin (8)..... £ 78 12 4 Spicy Monarch (5)..... 53 11 0 Ringleader (1)..... 105 0 0 Wanderer (6)..... 101 6 6 Royal Leader (1)..... 50 8 0 Golden Victor (1)..... 231 12 6 Pride of Morning (2)..... 317 12 6 Lord of Fame (5)..... 204 10 9 Nonpareil Victor (2)..... 172 4 0 Count Arthur (2)..... 81 18 0 Golden Fame (2)..... 61 19 0 Centaur (1)..... 168 0 0

Summer Hill Herd

HEADQUARTERS FOR THE IDEAL BACON HOG.



The largest herd of pedigreed Yorkshires of the large English type in Canada. Purity of breed, size, and general excellence is my motto. One hundred awards with one hundred and five exhibits at 7 shows in 1898. A choice selection of young boars and sows of all ages for sale; also boars fit for service, and pregnant sows. Fifty breeding sows, of which 25 (twenty-five) are imported; also three imported stock boars bred by such noted breeders as Sanders Spencer and Philo L. Mills. Am also using two Canadian-bred stock boars, first prize at Toronto in 1898-99. Express charges prepaid. All stock carefully shipped and guaranteed as described. Telephone, Millgrove, Ont. Telegraph 254 Bay St. E. Hamilton, Ont. D. C. FLATT, MILLGROVE, ONT.

10 Imported Shorthorn Bulls

ALL SCOTCH.

21 IMPORTED HEIFERS. ALL SCOTCH.



21 IMPORTED HEIFERS. ALL SCOTCH.

Heifers all in calf to imported bulls. The oldest home-bred bull we have was calved in April last. Also a number of first-class home-bred animals of either sex. Correspondence or a personal visit solicited. Catalogues on application.

H. CARGILL & SON, CARGILL, ONT. Cargill Station and Post Office on G. T. R., within half a mile of barns.

20 - Imported Scotch Shorthorns - 20

2 BULLS, 1 and 2 YEARS OLD; 14 HEIFERS, 2 YEARS OLD; 4 YEARLING HEIFERS.

THIS importation came out of quarantine on the 12th July, and representatives of many of the leading Scotch families are amongst them, including Minnie, Braith Burns, Secora, Myrales, Beauties, Lady Mays, Lustras, etc. The home-bred herd contains Indian Statesman - 23004 -, and 15 young bulls from 6 to 18 months old, and 50 cows and heifers of all ages. Registered Shropshires, yearling rams and ewes, ram lambs from imp. Flashlight. Any of the above will be sold at reasonable prices. Correspondence or a personal visit solicited. Catalogues on application.

Burlington Junction Station and Telegraph Office, G. T. R., within half a mile of farm. W. G. PETTIT & SON, FREEMAN, ONT.

PARKHILL BERKSHIRE HERD AND POULTRY YARDS

Offers great bargains in pigs and poultry this month. 20 breeding sows - right good ones. Poultry - Rocks, Wyandottes, Hamburgs, Pekin Ducks, Toulouse Geese and M. B. Turkeys. Write and get prices. D. A. GRAHAM, - PARKHILL, ONT.

LARGE ENGLISH BERKSHIRES.

Herd headed by five first-prize boars of large size and fine quality. Twenty-five young sows and ten boars for sale, bred from prizewinners. Pairs supplied not akin. GEORGE GREEN, - FAIRVIEW P. O., ONT. on Telegraph and Station: Stratford, G. T. R.

OXFORD HERD OF POLAND-CHINAS

The home winners of the imported boars, Conrad's Model and Klondike, assisted by Bacon Boy and Lennox. Has won 64 out of a possible 69 first prizes. Stock of all ages for sale. Write for prices or come and see. W. & H. JONES, OXFORD CO. - MT. ELGIN, ONT.

Springridge Poland-Chinas

Now offering the 2-year-old sire, Blackmoore, and a few of his young females, and booking orders for young stock from the royally-bred Goldbug, lately added to the herd. WM. J. DUCK, MORPETH, ONT.

DUROC - JERSEY SWINE

We have a fine lot of First-Class Stock of all ages and either sex. Address, -om TAPE BROS., Ridgetown, Ont.

Barred Plymouth Rocks

Cockerels and Pullets, large, strong-boned, robust, healthy birds, well-bred and bred from a pen of 24 selected hens, and my imported cock, "National Strain." For prices write W. C. SHEARER, BRIGHT, ONT.

AVON HERD OF CHESTER WHITES

Carries the blood of the most prolific, early-maturing families. I have bred to a specific type since its foundation, and to-day have animals in my breeding pens that should have been shown this fall. Young stock always on hand. Write me to-day. HENRY HERRON, AVON, ONT.

REGISTERED CHESTER WHITE PIGS.

Eight weeks old, at \$5.00 each. Prizewinning Shorthorn and Jersey bull calves. Prices reasonable. F. BIRDSALL & SON, - BIRDSALL, ONT.

OHIO IMPROVED CHESTER WHITES

From imported foundation. Write for what you want. T. E. BOWMAN, Berlin, Ont.

BORNHOLM HERD IMP. CHESTER WHITES.

Stock for sale at all times, all ages. Nothing but first-class stock shipped. Inspection invited. Correspondence answered. Daniel DeCoursey, Bornholm F. O., Ont.

Spring Brook Herd of Tamworths.

Great opportunity for choice stock. A number of choice young pigs sired by British King, first prize Toronto Industrial, 1899, and also by Royal winner, Whitacre Crystal. Pairs and trios not akin. Now is your time. Send for catalogue. Stock of all ages for sale. A. C. HALLMAN, NEW DUNDEE, ONT.

Goldspring Herd Tamworths.

First prize herd at Toronto, 1899, was bred at Goldspring. Young boars and sows out of Della and Blain's Sunshine, fit for service. Will quote special prices for the next six weeks. Young stock for sale at all times. NORMAN M. BLAIN, Goldspring Farm, St. George, Ont.

What a Farmer's Boy Can Do



He can qualify himself for a position as a first-class Locomotive, Steam, Electrical or Civil Engineer without leaving the farm until he is ready to enter his new occupation and

EARN A GOOD SALARY
Our system of teaching by mail will give any boy a technical education. Write for pamphlet and state what you wish to study.
International Correspondence Schools, Box 906, Scranton, Pa.

Chatham HERD OF Tamworths

2 two-year-old boars, 3 six-months-old boars, 10 six-months-old sows, 9 four-months-old sows, 11 four-months-old sows, 7 three-months-old sows, 6 three-months-old sows.
Four litters fit to wean October 1. Orders booked. Write for prices.
J. H. SIMONTON, Box 304, Chatham.

TAMWORTHS AND GOTSWOLDS.

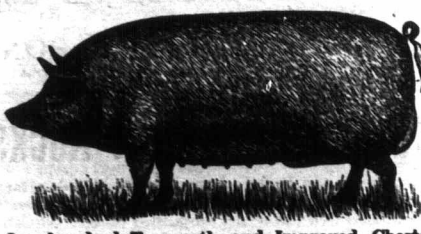
I have a few very choice things to offer this season, fit to show, by Spruce Grove Model and Dorchester Hero, both Toronto winners, and out of my sweepstakes sow. Also a choice bunch of splendid, strong, well-covered Gotswold Lambs.
R. O. MORROW, Hilton, Ont.

TAMWORTH BOARS

Fit for service. Young sows ready to breed. Fall pigs, in pairs not skin. Prices low, to reduce stock.
John Fulton, Jr., Brownsville, Ont.

Are You

Going to invest some money in TAMWORTH HOGS at present. If so, kindly write at once. Also mention my new Catalogue.
CHRIS. FAHNER, CREDITON, ONTARIO.



One hundred Tamworth and Improved Chester White Spring Pigs of a true bacon type, our herd having won the best prizes offered at the leading exhibitions throughout Ontario and Quebec for the past ten years. Stock for exhibition purposes a specialty. We pay express charges between stations, and guarantee safe arrival of all stock shipped. Pairs furnished not skin. Write for prices.
H. GEORGE & SONS, Crampton P.O., Ont.

Bargain Days in Tamworths and Yorkshires

For next 30 days we are going to sell our surplus stock of Tamworths and Yorkshires at very low prices to make room for young litters. They include half a dozen Tamworth Boars from 5 to 12 months old, most all prizewinners. Some grand sows. Also half a dozen Yorkshire Boars and Sows; all of excellent quality and breeding. Write us for prices and particulars at once. COLWILL BROS., Newcastle, Ont.

TAMWORTHS Of the Most Approved Type.

WE have a dozen vigorous sows to farrow this spring to O. A. C. 419, and can book orders for right good stock. Our stock was not only represented at the Illinois State Fair, but won the best prizes offered in '98. We also have a choice imported Berkshire sow three years old, and a twenty-months boar for sale.
P. R. HOOVER & SONS, GREEN RIVER, ONT.

TAMWORTH BOARS AND SOWS

From Elliott, Bell and Nourse foundation. A choice bunch of Shropshire Ram Lambs for fall delivery; extra well covered; imported foundation.
CHAS. LAWRENCE, Collingwood, Ont.

CHOICE TAMWORTH & YORKSHIRE SWINE

Of both sexes. Also five fair Toulouse geese; six pair of good Rouen and Pekin ducks; one pair Golden B. Poland (McNeil's).
John Hord & Son, Parkhill, Ont.

25 TAMWORTH BOARS and SOWS

Two months old at \$6.00 each, with registered pedigrees, from exhibition stock; and Bronze turkeys.
D. J. GIBSON, Bowmanville, Ont.

GOSSIP.

At a meeting a few days ago of the Council of Agriculture for the Province of Quebec, Mr. Aug. Dupuis, who is the Secretary of the Paris Exposition Commission, was re-elected President, and Mr. Robert Ness, of Howick, Vice-President.

F. Martindale, York, Ont., in ordering a change in his advertisement, in which he offers his fine Shorthorn stock bull, son of imp. Kinnellar Sort, a yearling bull, and a bull calf of good families, writes:—"I have recently made the following sales: To James Paterson, Caledonia, a yearling bull, Santa Claus, of Shorthorn dairy type, a grandson of the noted dairy cow, Waterloo Daisy; to John Doughty, Nanticoke, bull calf, Sir Walter, dam Elsie Fife, a grand show cow, winning one first and two seconds this fall; to Henry King, Byng, bull calf, Oneida Duke 2nd, twin brother to Oneida Duke 1st, which I sold to James E. Broome, Forester's Falls; to Alexander Hannah, Byng, yearling bull, Baron Missie, dam Missie of Neidpath 10th. The Missies are one of the most fashionable families of Shorthorns in Britain. These were all sired by Kinnellar of York - 24504-. To Oscar Shirley, Houlton, Maine, bull calf, Lord Minto. He is a massive big calf, smooth, even, good quality, weighing, at eleven months, 1,095 pounds. Also to Mr. Shirley, yearling heifer, Waterloo Rose, by Kinnellar of York - 24504-, dam Waterloo Daisy. I have been very successful at the local shows, winning the herd prize at three fairs this fall."

John Campbell, Fairview Farm, Woodville, Ont., writes:—"As the season advances, it is becoming more apparent that real good Shropshires are not readily found by intending purchasers. The demand has overtaken the supply, and for years to come that situation is likely to continue. My trade this season is steady and satisfactory. Show rams and ewes sold early to Messrs. H. Hanson, Wisconsin; D. K. Hitchcock, Indiana, and W. O. Fritchman, Iowa, have been reported as making satisfactory winnings. Later sales of noted sheep were "The Best Type," a four-year-old son of "Newton Lord," which beat the English Royal champion, "Darlington," at Toronto, in 1897, went to Messrs. N. & J. McKellar, Belmont, Ont. The Gentleman, winner of first as a shearing at Toronto, 1898, and this year at Toronto and London, beating Dr. Davison's winner at several leading English shows, was sold to Messrs. J. H. Medcraft and M. H. Penhale, St. Thomas, Ont. An extra good imported yearling ram was purchased by Mr. George Hindmarsh, Alisa Craig, Ont. I expect to hear in the future of the get of these rams giving good reports of themselves. A second-prize winning shearing ram at the Shropshire show was shipped to Mr. Sidney Sprague, New York, and a field ram from Mr. E. Mansell's noted flock went to C. J. Poulton, Iowa. That ram was a most typical sire, and had combined in him the blood of England's most noted ewes for many years back. A beautiful specimen of a field ram from Mr. H. Williams' well-known flock, Shrewsbury, England, was sent out to Mr. E. A. Kipp, Chilliwack, B. C. Another good strong, masculine yearling ram, which promises to be a useful sire, bred by Mr. J. E. Farmer, Ludlow, England, was sold to the veteran stockman, Mr. Richard Gibson, Delaware, Ont. At Bancroft, Mich., a two-year-old son of "Newton Lord" won, with a grandson, bred by Mr. Smith Rodgers, Lennon, Mich., second. A shearing son of "Fair Star Dreamer," sold to Messrs. P. B. Reynolds & Son, was in for the laurels in the shearing section. Mr. Rogers exhibits several sons and daughters of "Newton Lord" successfully, but did not exhibit the choice imported ram I sold him at London exhibition in September.

BORDER LEICESTER SALES.
At the Aberdeen Border Leicester Club show and sale, the last week in September, Mr. Robert Taylor, Pitivie, carried off the first three prizes for shearing rams, and his 22 shearing rams made an average of £5 11s. 1d., the highest price of the lot and of the sale being £13 10s. The next highest price was £8, made by one of Mr. Hume's, Barrelwell.

OTTAWA PRIZE LIST.
James Bowman, Guelph, Ont., has written to say that his yearling Clydesdale filly, that won 3rd at the Toronto Industrial, won 1st in Ottawa, whereas the prize list published in our October 2nd issue places his filly 3rd. We distinctly remember Mr. Bowman's filly as she appeared in Toronto, and we hold a very high opinion of her. She is sired by McClinker (2223), and out of Queen of Sunnyside (7348). Mr. Bowman also states that his stock is in fine form, and he has a few good Dorset rams and Aberdeen-Angus cattle for sale.

THE NICHOLSON TRIO OF SHORTHORNS.
In the group of young Shorthorns, illustrated on another page of this issue, owned by Messrs. R. and S. Nicholson, Sylvan, Ont., the bull is the "Marr Missie" yearling Royal Standard, winner of first prize in a very strong class of bull calves at Toronto and London, 1898, and first at Ottawa in 1899, beating the first prize yearling at Toronto. He is a son of Judge (by imp. Royal Sallor), winner of first prize at Toronto as a yearling, and the championship at Winnipeg as a 2-year-old. The yearling heifers in the illustration are imp. Pineapple 12th and imp. Estelle 3rd, both rams, sired by Challenger (70122), the former out of Pineapple 7th, by Lord Ythan, the latter out of Evening Star, by the same sire. They are models of symmetry, early maturity and wealth of flesh, and would grace any herd in the land.

A SUCCESSFUL SALE OF CLYDESDALES.
At the public sale of Col. Robert Holloway's Durham Lawn Stud of Clydesdales, at Alexis, Ill., October 17th, thirteen entire horses averaged \$675, and the average on forty-nine, young and old, of both sexes, was \$500. Seven mares and fillies were purchased by the agent of Messrs. A. and W. Montgomery, Castle Douglas, Scotland, at prices ranging from \$300 to \$600. Mr. Robert Davies, Toronto, secured the 4-year-old mare, Lady Tarbreach Cedric, by Cedric, at \$425; the 5-year-old mare, Queen Esther, by Prince of Quality, at \$350; and the 5-year-old Princess Maud, by the same sire, at \$600. D & O. Sorby, Guelph, bought Prince Delectable, a two-year-old bay stallion, by Cedric, at \$850, the highest price in the sale for a stallion. The highest price for a mare was \$1,000, paid by C. E. Clark, St. Cloud, Minn., for Cherry Macara, by Macara.

Any Farm Building

Covered with Our
Sheet Steel
Pressed Brick

WILL PRESENT a splendid appearance, and be economically protected from all kinds of weather. The sheets can be very easily and quickly laid by any handy man; are absolutely lightning as well as fire proof; and make a durable covering highly valued all over the country.

If you're doing any "fixing up" this fall, write us for full particulars.

THE METALLIC ROOFING COMPANY, LIMITED

1185 King St. West, TORONTO.

DES MOINES INCUBATOR Co

The BEST and the CHEAPEST.

95 Per Cent. Hatches are often reported by those who use these incubators. One reason for this record is absolute uniformity of temperature in egg chamber; correct instructions for operating; has fireproof lamp. A great mistake it would be to purchase an Incubator or Brooder without first getting a copy of our 148-page catalogue. Send 3 cents for illustrated catalogue of Incubator, Brooder, Poultry and Poultry Supplies.

"THE POULTEER'S GUIDE" (new edition) 15 cents by mail.

O. ROLLAND,
373 St. Paul St., MONTREAL.
Sole Agent for the Dominion.

METAL EAR LABELS

Used by all Live Stock Record Associations.

Sheep size, per 100... \$1.50
Hog size, per 100... 2.00
Cattle size, per 100... 2.50
Punch and Pliers for attaching labels to ear, each \$1.00
Name on one side and any numbers wanted on reverse side. F. S. BURCH & CO.
178 Michigan St., Chicago, Ill.

HANDY STOCK LABELS, \$2 PER HUNDRED AND UP

according to the number of letters and figures required. Also handy punch and pliers to insert the same. The better support we get the cheaper we can make them. Good reference and honest dealing. Send for circular and price list.
R. W. James,
Farm Implement Forwarding Agency
119 King Street, BOWMANVILLE, Ont.

Dairying for Profit

Is not guaranteed without

The Woodward Water Basins

To make it Pay Your stock well watered.
Economy in time and labor.
You must Have Increased flow of milk.
You get it with the Woodward Basins.

Ontario Wind Engine and Pump Co. (Ltd.),
TORONTO, ONTARIO.

MILK FEVER CURE.

It is now KNOWN that the udder is the seat of milk fever. Schmidt's udder injections CURED 90 per cent. of the first 412 cases treated.

TREATMENT for 1 severe or 2 mild cases, with instrument (specially designed for the purpose) and full printed instructions by mail, \$3.00. Extra bottle for 1 severe or 2 mild cases, \$1. Extremely simple. No drenching.

JOHN SPENCER, V.S.,
Bowmanville, Ont.

OAK HILL HERD OF TAMWORTHS.

2 sows in farrow, 2 boars, 6 mos. old (prizewinners). Also young pigs, S. and W. Wyandottes, P. and R. ducks for sale. Prices reasonable. R. J. & A. LAURIE.
WOLVERTON, ONT.

TAMWORTHS.

One extra good yearling boar by Amber Luther. Boars and sows ready to mate, and fall pigs (pairs not skin).
J. C. NICHOLSON, HUBREY P. O., ONT.

Catalogue Printing our Specialty.

Many of the best Catalogues in Canada are produced by us. Latest type faces, designs, ornaments, and modern machinery.—Best in America. Up-to-date covers designed by special artists without extra charge.

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LONDON, ONTARIO.

SHEEP BREEDERS' ASSOCIATIONS.

American Shropshire Registry Association, the largest live stock organization in the world. Hon. John Dryden, President, Toronto, Canada. Address correspondence to MORTIMER LEVERING, Secretary, Lafayette, Indiana.

A MACHINE

to weave fence of coated hard steel spring wire at half price
\$25 buys wire for 100 Rods Fence. Catalogue Free. Address,
Carter Wire Fence Mfg. Co.,
Box 6, Mt. Sterling, O.

S. CROUCH, Box 12, Ridgeway, Ont., General Agent for Ontario. FRED SHIPP, Box 16, Brandon, Man., Agent for Manitoba and N.-W. Territories. No duty on wire.

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WALKERVILLE, ONTARIO

CHURCH Pews, PULPITS, ALTARS, BARS, SCHOOL DESKS.

WRITE FOR PRICES

THE Canada Business College

Reopens Sept. 5th.

Nearly 40 Years of Success.

This College offers young men and women the very highest advantages in a good Business or Shorthand Education. Send for handsome prospectus to
R. E. GALLAGHER, Principal,
Hamilton, Ontario.

IT PAYS TO ADVERTISE IN THE FARMER'S ADVOCATE

"BY VIRTUE and BY WORD."

Good Words

We would like everybody who has a range or ever expects to have one, to be in possession of a little booklet entitled "It Has Never Failed." It tells you what just 159 people have to say in praise of

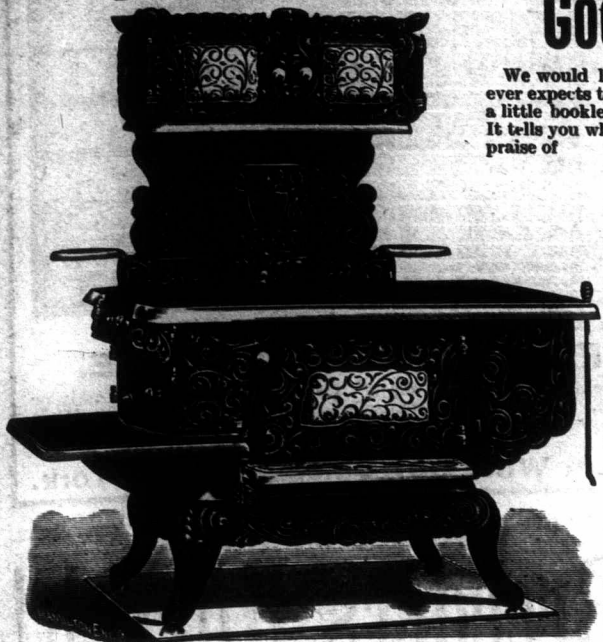
The ABERDEEN
(FOR COAL AND WOOD),

The VICTORIAN
(FOR WOOD ONLY).

It emphasizes the strong points in an honest and concise way—the unsolicited testimony of people who have tested the merits of these excellent ranges. Drop a card for a copy.

The
Copp Bros. Co., Ltd.
HAMILTON.

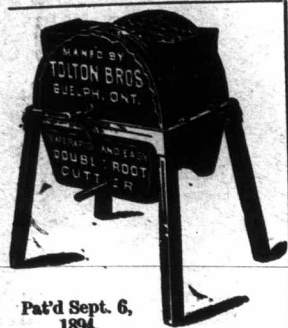
BRANCHES: TORONTO AND WINNIPEG.



Tolton's No. 1 Double Root Cutter.

Points of Merit:

1. To change from pulping to slicing is but the work of a moment.
2. There are two separate wheels, one for pulping and the other for slicing.
3. The united force of both wheels is always used in doing the work in either capacity.
4. The hopper is between the wheels, and does not choke.



Pat'd Sept. 6, 1894.

Fitted with ROLLER BEARINGS, STEEL SHAFTING and all that is latest and best in principle, material and construction.

TOLTON BROS., - GUELPH.

SEND FOR ILLUSTRATED PRICE LIST.

Breech-Loading Shotguns

SINGLE BARREL, ONLY \$4.00 EACH.

Breech-Loading Shotguns

DOUBLE BARREL, ONLY \$10.00 EACH.



OUR

\$10.00

GUN is, with-

out doubt,

one of the best guns w

have ever handled for the money.

Revolvers.

A splendid rubber-handle one, only \$1.50,

post-paid at \$1.75.

Axes

SOLID STEEL,

60c. EACH.

Crosscut Saws.

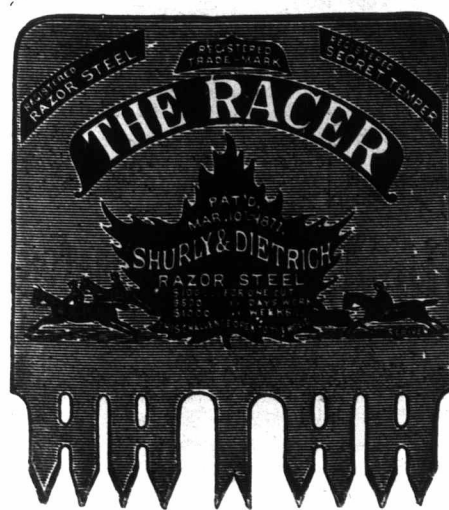
The Headlight, fully guaran-

teed, only 50c. per foot.



Wilkins & Co., 166 and 168 KING ST. E. TORONTO, ONT.

The Razor Steel, Secret Temper, Cross-Cut Saw



WE take pleasure in offering to the public a Saw manufactured of the finest quality of steel and a temper which toughens and refines the steel, gives a keener cutting edge and holds it longer than by any process known. A Saw to cut fast "must hold a keen cutting edge."

This secret process of temper is known and used only by ourselves.

These Saws are elliptic ground thin back, requiring less set than any Saws now made, perfect taper from tooth to back.

Now, we ask you, when you go to buy a Saw, to ask for the Maple Leaf, Razor Steel, Secret Temper Saw, and if you are told that some other Saw is as good ask your merchant to let you take them both home, and try them and keep the one you like best.

Silver steel is no longer a guarantee of quality, as some of the poorest steel made is now branded silver steel. We have the sole right for the "Razor Steel" brand.

It does not pay to buy a Saw for one dollar less, and lose 25 cts. per day in labor. Your saw must hold a keen edge to do a large day's work.

Thousands of these Saws are shipped to the United States and sold at a higher price than the best American Saws.

MANUFACTURED ONLY BY
SHURLY & DIETRICH,
GALT, ONTARIO.

EGGS FOR HATCHING: Brahmas, Games, Minorcas, Wyandottes, Dorkings, Hamburgs, Houdans, Polands, Leghorns, Ducks, Geese, and Turkeys. For prices write
WM. STEWART & SON, MENIE, ONT.

EGGS. It pays to get the best. We have them in L. and D. Brahmas, B. and W. Rocks, W. Wyandottes, Black Minorcas, and Indian Game, at \$1.25 per setting.
JACOB B. SNIDER, German Mills

GOSSIP.

Snell & Lyons, Snelgrove, Ont., make a change in their advertisement of Berkshires and Cotswolds in this issue. Their Berkshires made a good record in the prize list at the last Toronto Exhibition, and are the right sort, measuring up to the demand of the times. They are also strong in Cotswold ram lambs and ewe lambs. Write them for prices.

N. M. Blain, breeder of Tamworth swine, St. George, Ont., writes, October 18th: "Finished up the last of the fall shows this week. Have won 36 firsts, 23 seconds, and 5 thirds, with one exception, on home-bred stock, and never was in better shape than at the present to furnish customers with No 1 animals, of either sex, from 7 months down." Look up Mr. Blain's ad., and write for prices.

On Thursday last, the 19th inst., Messrs. Alfred Mansell & Co., live stock exporters, Shrewsbury, shipped from the port of London, per SS. "Star of Victoria," a valuable consignment of high-class Shropshire rams and ewes, on account of Mr. R. G. Wilson, of Melbourne, Australia, second in the flock of Mr. Butler, Mr. P. L. Mills, Mr. R. P. Cooper, and Mr. A. E. Mansell.

Wm. Howe, breeder of Improved Large White Yorkshires, North Bruce, Ont., writes: My stock of Yorkshires are now in good shape, and I have been very successful with them at the fall exhibitions, winning in all 15 firsts, 9 seconds, and 6 third prizes. At the three riding exhibitions of Bruce County, at Walkerton, Paisley, and Port Elgin, I was awarded 10 firsts out of the 13 first prizes offered for Yorkshires; also first for bacon hog over 6 months, and second for bacon hog under 6 months, at Port Elgin, open to all breeds, grades and crosses." See change of ad. in this issue.

THE GREAT HEREFORD SHOW AND SALE.
Telegraphic despatches from Kansas City, Mo., announce a very auspicious opening of the great show and sale of Hereford cattle in that city, October 24th, the prizes, which were very liberal, being well distributed among a number of exhibitors, the bulk of the best premiums going to F. A. Nave, Attica, Ind.; T. F. B. Sotham, Chillicothe, Mo.; Gudgeon & Simpson, Independence, Mo.; and Tom Clark, Beecher, Ill.

For the best pair, one male and one female, any age, the first prize went to Nave for the 3-year-old bull, Dale, and the 3-year-old Dolly V. Sotham winning second with Thickett and Benson, both 3-year-olds.
For cow and her produce, Gudgeon & Simpson were first, with Mischievous and her calf, Mischiefmaker, weighing 645 lbs. at 8 months. Tom Clark had the first heifer calf under 6 months, in Peerless Missie. The top price for a bull in the first day's sale was \$700, paid by George Leigh, Aurora, Ill. for imported Defiance, calving February, 1898. He was entered for sale by John Sparks, of Reno, Nev. On the second day of the sale, Mr. Sparks bought the yearling heifer, Armour Rose, at \$2,500, George Leigh bidding up to \$2,300, and Marshall Field, Chicago, to \$2,250.

At the Birmingham show and sale of Short-horn bulls, the highest price was paid by Mr. Dudding, who bought the first prize yearling, Fisherman, a roan, exhibited by Mr. G. Freeman, at 87 guineas. The second prize bull sold for 40 guineas, and the third prize winner for 61 guineas. Mr. Dudding paid 85 guineas for a roan 2-year-old bull entered by Mr. W. S. Carless, Worcester.

ABERDEEN-ANGUS SALES.
At a joint sale of Aberdeen-Angus cattle, held at Perth, Scotland, the last week in September, 32 head were sold at an average of \$19 2s., the highest price being \$26. The sale of a choice selection from the famous herd of Mr. Clement Stephenson, Newcastle-on-Tyne, was held the same week, at which 50 head averaged \$41 3s. 2d. The highest price of the day was 150 guineas, paid by Mr. Grubb, Tasmania, for the stock bull, Best Man of Benton. The highest priced female was the four-year-old cow, Pride of Albion II., which brought 85 guineas. The average for 40 females was \$41 14s. 2d. A yearling bull brought 40 guineas, and a bull calf 43 guineas. An average of \$47 17s. 10d., for 49 head, was made the following day at Castlerigg, where the dispersion sale of the herd of Sir Thomas Gibson-Carmichael was held, the highest price being 107 guineas for the Erica cow, Elapsis II.

BIRDSALL & SON'S SHORTHORNS, OXFORDS, AND CHESTERS.

In spending the day at the Peterboro Fair, we fell in with Messrs. Birdsall & Son, whose farm lies east of that place some 15 or more miles, near Birdsall Station, where a choice bunch of Shorthorn and Jersey cattle are kept, and also a fine flock of Oxford sheep, on which they were successful in winning many of the red tickets offered within the range of their competitions. In Shorthorns, the firm have lately added the very choice, thick-fleshed roan bull, Lord Clyde 26375, by 19th Crown Jewel 25097, and out of Jennie Clyde 26387, by Ottawa Chief, to head their herd. Upon a close inspection, we found him to be a very choice animal, full of Shorthorn character, of early-maturing type, which, from his strength of breeding, he can scarcely fail to transmit to his progeny. Also, added since our last visit, we found the 6-year-old cow, Flirt 2nd by Bramble Boy; a useful type of cow, with calf at foot. A couple of young bulls are among their special offerings in Shorthorns.

In Jersey cattle the firm is particularly strong in fresh, up-to-date stuff; and, without going into detail, we feel free to state that we have not seen a choicer lot of young things together, especially bulls, and when we state that, in the face of a good competition, they drew nearly everything in prizes they competed for, some idea of their exhibit can be imagined. Among their offerings in this class are two splendid straight yearling bulls by that beautiful sire, Regal St. Lambert.

The Oxfords were strengthened last season by a well-selected imported ram, selected by Mr. Henry Arkell, Arkell, Ont., and a choice bunch of well-covered lambs are on hand. Three Chester White sows are producing to the services of U. S. King, and their interest in pig-raising is in no way neglected. Watch their offerings.

Horse Owners! Use COMBAULT'S Caustic Balsam

A Safe Speedy and Positive Cure
The Safest, Best BLISTER ever used. Takes the place of all liniments for milk or severe action. Removes all Bunches or Blemishes from Horses and Cattle. SUPERSEDES ALL CAUTERY OR FIRING. Impossible to produce scurf or burn. Every bottle sold is warranted to give satisfaction. Price \$1.50 per bottle. Sold by druggists, or sent by express, charges paid, with full directions for its use. Send for descriptive circulars. **Wm. LAWRENCE-WILLIAMS CO., TORONTO, CAN.**

THE FAMOUS Ontario Business College
MOST WIDELY ATTENDED IN AMERICA.
31st year. SEND FOR CATALOGUE.
ADDRESS - Robinson & Johnson, F. C. A.
BELLEVILLE, ONT.

All Flow == No Ebb.
25% increase on our last year's attendance. A maximum daily roll-call of 216. That's where the tide of competency has carried into this year, and it means the largest business school in Canada to-day.
The demand for the competent bookkeeper, stenographer or telegrapher is steadily on the increase. We know it—our experience proves it. That demand will be greater than ever in 1900. Will you join us now and be able to do something then? A line to us will secure you more information. Send for it.
CENTRAL BUSINESS COLLEGE,
W. H. SHAW, Principal, on Toronto, Ont.

FOREST CITY Business Shorthand College LONDON, ONT.
Catalogue free. J. W. Westervelt, Principal.

NIMMO & HARRISON, Business and Shorthand College,
Cor. Yonge and College Streets, Toronto.
Enlarged premises and increased number of teachers. Industrial instruction. Open entire year, day and evening. Call or write for free prospectus.

WOODSTOCK Business College AND SHORTHAND SCHOOL.
Students enter any time. Increased teaching staff. The best that can be had is given. Write for particulars.
H. M. KENNEY, PRINCIPAL, WOODSTOCK.

Belleville Business College.
BELLEVILLE, ONTARIO.

WRITE TO-DAY TO THE CENTRAL Business College STRATFORD, ONTARIO.
For our new Catalogue if you want "the best" business education. Enter now.
W. J. ELLIOTT, Principal.

SAWS ANY WOOD IN ANY POSITION ON ANY GROUND 4 in. to 6 ft. through 1 MAN with a FOLD BEATS 2 MEN with a HAND SAWING MACHINE BEATS 2 MEN with a CROSS-CUT SAW 2 to 3 cords daily is the usual average for one man.
Our 1900 Model Machine saws faster, runs easier and will last longer than ever. Adjusted in a minute to cut a 12-year-old boy or the strongest man. Send for catalog showing latest IMPROVEMENTS. First order gets agency. Manufactured in Canada. **NO DUTY TO PAY.**
Folding Sawing Mach. Co. 55 N. Jefferson St. V, Chicago

Persianic Sheep Dip and Animal Wash.

A NON-POISONOUS LIQUID "DIP."

Kills Ticks. Kills Red Lice. Heals Wounds.

Greatly Improves quality of WOOL.

For Horses, Cattle, and Pigs.

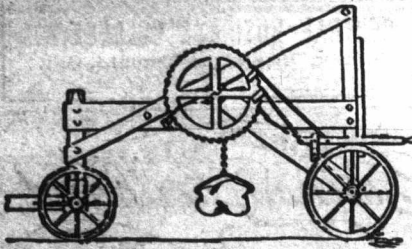
Removes all insects. Thoroughly cleanses the skin.

Leading "STOCKMEN" endorse it as the CHEAPEST and most EFFECTIVE "Dip" on the market.

SOLD BY ALL DRUGGISTS, 50 cents PER QT. CAN. Special rates in larger quantities.

MADE ONLY BY
The Pickhardt Renfrew Co.
LIMITED,
STOUFFVILLE, ONT.

LEMIRE Stone and Stump Lifter



THE PATENT FOR SALE

Has an 18,000-lb. Lifting Capacity, which is Unequaled.

It lifts stones and deposits them 5 feet high in fences. Clear your land for reapers and mowers at a small cost, and build durable fences of the stones and stumps. The lever lifts and holds the stone in position for removal. Stone can be laid just where you want it. One man can raise a stone one team cannot draw, and do it quick and easy. Agricultural societies and farmers' clubs are buying them for sections. Price moderate.

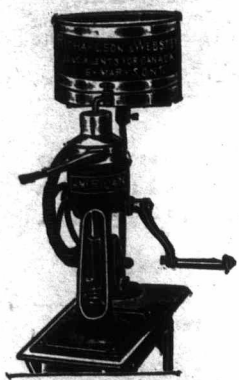
For particulars write—

COPP BROS., LIMITED,
HAMILTON, ONT.
A. LEMIRE, PROPRIETOR, Wotton, Que.
At all the leading exhibitions.

"With what we cannot know we cannot be concerned."

But we do know that the

AMERICAN CREAM SEPARATOR



Stands without rival on the market to-day.

The AMERICAN will be sent on trial, and we guarantee perfect satisfaction. Get prices and illustrated catalogue from

RICHARDSON & WEBSTER
ST. MARY'S, ONT.
Also manufacturers of Cheese-factory and Creamery Apparatus.

A QUICK, SHARP CUT hurts much less than a bruise, crush or tear. Done with the **DEHORNING KEYSTONE KNIFE** is the safest. Quick, sharp cut. Cuts from four sides at once. Cannot crush bruise or tear. Most humane method of dehorning known. Took highest award World's Fair. Write for free circulars before buying.
KEYSTONE DEHORNING CO., Picton, Ont.

MACHINE \$10
Write at once for Catalog
THE BOWEN CABLE STAY FENCE CO.,
Norwalk, Ohio.

GOSSIP.

Our readers should take note of the advertisement of Barred Plymouth Rocks, from the famous flock of W. C. Shearer, of Bright, Oxford County. He has infused new blood each year by the purchase of a grandly bred imported cock. This should be a fine opportunity for a farmer's son or daughter to secure a start with a pair or two of these profitable farm fowls.

A BIG SHIPMENT OF LINCOLN RAMS.

Messrs. J. H. and E. Patrick, Ilderton, Ont., on October 25th made one of the largest shipments of rams, of one breed, ever despatched from Canada by one firm. The consignment numbered 1,000 Lincoln rams, and occupied seven cars. They were billed to the ranching territories of the United States, in fulfillment of orders received from old and new customers.

SOME GOOD PRICES FOR SHORTHORNS.

The auction sale of Shorthorns, made by Forbes Bros., at Henry, Ill., October 11th, was eminently successful. Included in the sale were a number of Scotch-bred animals, imported last year by Mr. M. Forbes, ten females of which averaged \$653, and the Scotch-bred bulls averaged \$507. The highest price of the sale, \$1,000, was made by the imported 2-year-old bull, Fairhaven, which fell to the bid of Benjamin Whitsitt & Sons, Pre-emption, Ill., and the highest price for a female, \$350, was paid by J. F. Prather, Williamsville, Ill., for Golden Venus, a red 5-year-old cow. The same buyer secured the next highest priced cow, Imp. Rosemary 201st, a roan 2-year-old heifer, at \$225. Thirty-nine females sold for an average of \$295.50; eleven bulls for an average of \$306.35, and the average for the 50 head sold was \$298.

PIERRESMILL AND NEWTON SHORTHORN SALES.

At the joint sale of Shorthorn cattle, property of Mr. A. M. Gordon, Newton, held at Newton, October 12th, good prices were obtained. 42 head of Mr. Wilson's averaging \$213.91, and 14 head of Mr. Gordon's averaging \$261.95. The average for the 56 head sold was \$238.55. The highest price for a female was made by Mr. Gordon's yearling heifer, Cornelia, by Corner Stone, which went to Mr. P. L. Mills at 115 guineas. The same buyer secured the highest priced bull from the same herd, in Magic Stone, by Corner Stone, at 200 guineas, and Brilliant Star, by the same sire, at 180 guineas. Mr. Dudding bought the bull, Lucky Pride, of Mr. Wilson's herd, by Sittyton Pride, at 81 guineas, and Mr. Atkinson took Chief of the Clan at the same price, the highest made by the Pierresmill offering. On October 13th, Mr. McWilliams, Keith, sold 52 head at an average of \$43 8s. 10d., one cow making 102 guineas, a 2-year-old heifer 80 guineas, and a bull calf, by Pride of Fame, 80 guineas.

NOTICE.

Keeping Cows for Profit.—The De Laval Separator Company has prepared, and is issuing gratuitously, a comprehensive, neatly-prepared, and useful pamphlet of 32 pages, dealing with the subject of keeping cows for profit. It is tastily illustrated, and deals in a sensible way with practical dairying. Copies may be had, without cost, by sending to the Canadian Dairy Supply Co., Montreal.

Wisconsin Dairy Report.—The 29th annual report of the Wisconsin Dairymen's Association meeting, held early in the present year, has been issued in pamphlet form by the efficient Secretary, Mr. George W. Burchard. It contains an admirable stenographic report of the many practical subjects discussed, is printed on good paper, with large type, and contains a good index, being, in short, a model 260-page volume.

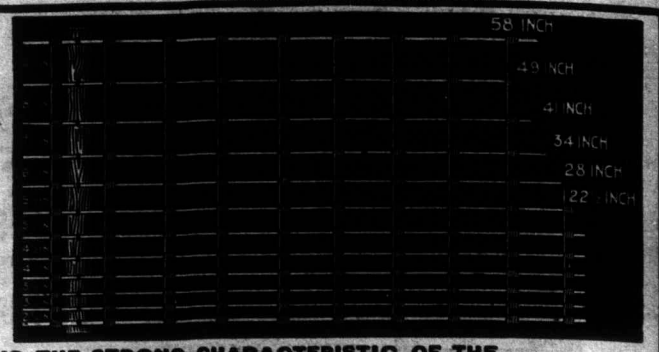
Minnesota Horticultural Society, which organized in 1886, and having a membership in 1898 of 837, offers a \$1,000 premium for a seedling apple tree as hardy and prolific as the Duchess, with fruit equal to the Wealthy in size, quality and appearance, and that will keep as well as the Malinda. Those interested, and desirous of further particulars, should address the Secretary, A. W. Latham, 207 Kasota Block, Minneapolis, Minn.

Ontario Veterinary College, Toronto.—The Ontario Veterinary College opened its halls for the admission of students on Wednesday, October 18th, and the first lecture was delivered by the Principal, Prof. A. Smith, F. R. C. V. S. The prospects for a prosperous session are exceedingly favorable, a large number of freshmen being present from the United States, as well as from Canada, and are still entering; and most of the undergraduates have already returned.

Yearbook.—The Statistical Yearbook of Canada for 1898, issued by the Department of Agriculture, is worthy of more attention by Canadian citizens than is usually given such works. Its twelve pages of brief history are in themselves valuable and interesting. The physical features, constitution and government, treaties, lands and land regulations, events of the year, etc., occupy some 88 pages, while the remaining 530 pages are filled with cold, but interesting facts that every Canadian should have access to. The compilation has been ably executed by Mr. George Johnston, F. S. S., assisted by Messrs. J. Wilkins and J. Skead.

To Los Angeles and Southern California.—Every Friday night, at 10.35 p. m., a through Tourist Car for Los Angeles and Southern California leaves the Chicago, Milwaukee & St. Paul Union Passenger Station, Chicago, via Omaha, Colorado Springs, and Salt Lake City, for all points in Colorado, Utah, Nevada, and California. In addition to the regular Pullman porter, each car is accompanied by an intelligent, competent, and courteous "courier," who will attend to the wants of passengers en route. This is an entirely new feature of tourist car service, and will be appreciated by families or by ladies travelling alone. Particular attention is given to the care of children, who usually get weary on a long journey. These tourist cars are sleeping cars supplied with all the accessories necessary to make the journey comfortable and pleasant, and the berth rate (each berth will accommodate two persons) is only \$6.00 from Chicago to California. Ask the nearest ticket agent for a tourist car folder, or address A. J. Taylor, Canadian Freight and Passenger Agent, 8 King Street East, Toronto, Ont.

Stays Up



AMERICAN FIELD AND HOG FENCE.

Once well stretched it stays in place and holds its shape. Cannot be broken by animals, or by expansion and contraction. Cannot rust, because of the heavy galvanizing. Made entirely of large wires. Sold by our agents everywhere. If you can't find an agent in your town write to
AMERICAN STEEL & WIRE CO., Chicago or New York.

Hurrah, Breeders, Hurrah!

WE HAVE AGAIN PROVED OUR CLAIMS. WE CAPTURED DIPLOMA AT THE TORONTO EXPOSITION AND LONDON FAIR, 1899. WE HAVE THE BEST AND CHEAPEST COOKER AND TANK HEATER IN THE MARKET, AND SELL THEM UNDER A GUARANTEE TO DO ALL WE CLAIM OR MONEY REFUNDED.

We Pay Duty and Freight.



YORKSHIRE SOW AT SIX MONTHS OLD.

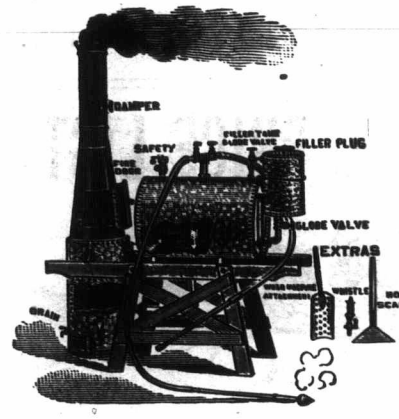
COOK OR STEAM YOUR STOCK'S FEED AND SAVE 1/3 TO 1/2 YOUR FEED. YOU WILL SAVE THE PRICE OF OUR COOKER ON A DROVE OF THIRTY HOGS OR TEN HEAD OF CATTLE.

Winner of First Prize—Toronto Industrial, Western Fair (London), and Provincial Winter Show (Brantford), 1898, in class under 9 months. Bred and owned by J. E. Brethour.

SPECIAL FEED COOKER BARGAIN

In order to introduce at least one of our Cookers into every locality, we are making a special low price on the IMPROVED RELIABLE FEED COOKER, TANK HEATER AND STEAM GENERATOR for October. Cooks a barrel of ground feed in 30 minutes, 25 bushels of ground corn in two hours, or heats a barrel of water hot enough to scald hogs in 30 minutes. Note what experienced users say of it:

Breeder Polled Durham cattle, Waterman, Ill., Ripley Hardware Co., Grafton, Ill.: (March 20, '99) Gentlemen.—After using your Cooker for over a year I can say that it is all right, and will do all you claim for it. I use it every day to warm milk for the calves, and heat water to wash cans and pails in, and by turning the steam in them they are thoroughly cleaned. Can boil water in a few minutes to scald hogs in. I cook feed and warm water for the hogs at a distance of 50 feet from cooker. I use 3-inch gas pipe to carry the steam where I want it. My cooker takes the place of two tank heaters, as I heat the water in two stock tanks with it; one of them is 150 feet from cooker, and it works all right, and did when the thermometer stood 22 degrees below zero. I am well pleased with the Cooker, and do not see how I could get along without it. S. M. HENDERSON. Oak Lodge Stock Farm, J. E. Brethour, Importer and Breeder of Improved Large White Yorkshire Hogs. The largest herd of this celebrated breed in America. Burford, Ont., Canada, Feb. 4, 1899.



Ripley Hardware Co., Grafton, Ill.: Gentlemen.—I am in receipt of your letter of Jan. 19th. I would have replied earlier, but I wished to thoroughly test the Cooker before making any statements. I have made a pretty thorough test of it, and I am satisfied that it does all you claim for it. My hogs have done much better since I started using your Cooker. I am feeding ground grain, which I scald and feed while warm. I am also using the Cooker as a means of heating my hog pens, by having steam pipes running through the pens. Last week, when the thermometer was several degrees below zero, the pens were quite comfortable, and I saved several litters of young pigs that I am sure would have perished with the cold. I take pleasure in recommending your Cooker. Yours truly, J. E. BRETHOUR.

P. S.—Size of hog-pen, 18x30 feet. I cook feed for 150 pure-bred Yorkshires. The Ripley Hardware Co., Grafton, Ill.: Wyoming, Ontario, Canada, March 27th, 1899. Gentlemen.—We have used your Feed Cooker every other day during the past three months, and are well pleased with it. It is just what we wanted, and it does all you claim for it. L. L. WEATHERILL. Ripley Hardware Co., Grafton, Ill.: Cartwright, Manitoba, June 8, 1899. Your letter of inquiry received regarding Feed Cooker. In reply would say it is all right; first-class in every particular. I would not be without it. I think every farmer that feeds stock should have one. I have cooked wheat for 150 head of cattle and 10 horses for the last two months. I am well pleased with it. Your Cooker has my best wishes for its success. Yours truly, JOHN WALLACE.

BREEDER LARGE YORKSHIRE HOGS.

Woodstock, Ont., Oct. 12th., 1899. The feed cooker purchased from you is giving the best of satisfaction, and I believe it will be a great benefit to feeders, as by its use it solves the question of cheap pork production, and greatly improves the feed at very little expense. Yours truly, H. J. DAVIS.

We have hundreds of others just as good as these. It is sold only under a positive guarantee. Write for 1899 new catalogue and special prices.
RIPLEY HARDWARE COMPANY, Box 100, Grafton, Ill. U. S. A.

Within the Capes of Virginia. CHAMPION EVAPORATOR

The greatest Trucking and Farming Center of the Atlantic Seaboard. Superb Climate and Transportation Facilities. Disinterested and impartial statement of facts. Forty-eight-page pamphlet brimful of information for parties seeking residence in the South, twelve cents in stamps.
MONITOR PUBLISHING CO.,
Richmond, Va.

For **MAPLE SYRUP** and **SUGAR**. Has a corrugated pan over firebox, doubling boiling capacity and saving fuel; small interchangeable syrup pans connected by siphons, easily handled for cleansing and storing; and a perfect automatic regulator, which ensures rapid and shallow evaporation, producing the best quality of syrup. The Champion is a perfect evaporator for
SORGHUM, CIDER AND FRUIT JELLIES.



THE ONTARIO VETERINARY COLLEGE (LIMITED),
TEMPERANCE ST., TORONTO, CANADA.
Affiliated with the University of Toronto.
Patrons: Governor-General of Canada, and Lieutenant-Governor of Ontario. Fee, \$65.00 per session. Apply to ANDREW SMITH, F.R.C.V.S., Principal. 18-2-y-om

THE G. H. GRIMM MFG. CO.,
84 WELLINGTON ST., MONTREAL.

THE
NATIONAL
Cream Separator

FOR USE IN FARM DAIRIES



THIS out shows the "National" No. 1 Hand Power Cream Separator, manufactured by The Raymond Manufacturing Company (Limited), Guelph, Ont. Since the introduction of this machine, it has taken so well that we have not been able to supply the steadily increasing demand. It has proved a decided success from the start. We have consequently been obliged to increase our manufacturing capacity, and have put in a number of the most improved machines obtainable, by which we are now in a position to more than double our former output. No expense is being spared to make the "National" a perfect machine, and we believe we have succeeded so far as to claim that it has no equal for:

- 1st. Closeness of Skimming, and smooth, even condition in which it leaves the cream under all circumstances.
- 2nd. Easy Cleaning. It takes only about half the time that other Separators require, on account of the few pieces there are to handle.
- 3rd. Ease of Running. Its simplicity of construction, having so few bearings, and those being anti-friction ball bearings, makes it such an easy-running machine that a boy or girl from ten to twelve years of age can operate it.

A trial of the "National" is all that we ask in order to ensure a sale to an intending purchaser. The sale of this machine for the Province of Ontario is in the hands of

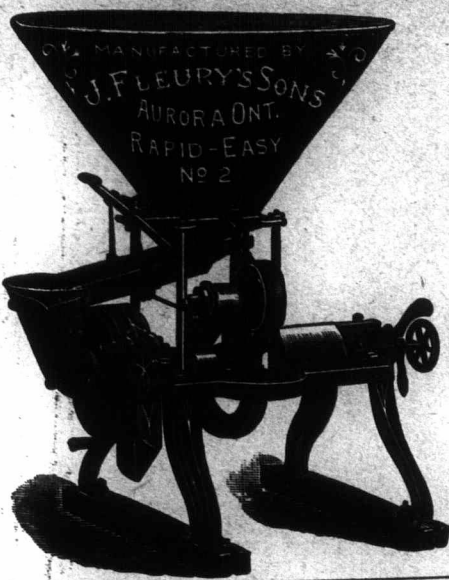
THE CREAMERY
SUPPLY CO.,
GUELPH, ONT.

whose exhibit at the Toronto Industrial show this year, including the "National" Separator, took first prize. For further particulars enquire of

"NATIONAL" NO. 1 HAND POWER.
Capacity, 330 to 360 lbs. per hour.

The Raymond Manufacturing Company of Guelph, Limited, Guelph, Ont.

"Rapid-Easy" Grinders.



MORE work—BETTER work—
with SAME POWER—than
any other Grinder.

Convincing Evidence as follows:

"The Rapid-Easy Grinder is giving COMPLETE SATISFACTION, and we are MORE THAN PLEASED. In TWO HOURS and FIFTEEN MINUTES we ground 84 bags of 210 BUSHELS of peas and oats mixed, and did FIRST-CLASS WORK."
"ROBERT MORRIS & Sons, Beeton, Sept. 22, 1899."

"The Rapid-Easy Grinder I bought from you last winter has proven VERY SATISFACTORY in grinding ALL KINDS of grain. I ground TWENTY BAGS in THIRTY MINUTES, doing SPLENDID WORK. It does all you claim for it."
"HENRY SWITZER, Bondhead, Sept. 20, 1899."

J. FLEURY'S SONS, Aurora, Ont.
Gold Medal for Plows, etc., at World's Fair, Chicago.
On application we will send a beautiful lithographic hanger showing this Grinder.

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COVER YOUR OWN UMBRELLA
Don't throw away your old one—make it new for \$1.00. Re-covering only takes one minute. No sewing. A clumsy man can do it as well as a clever woman.

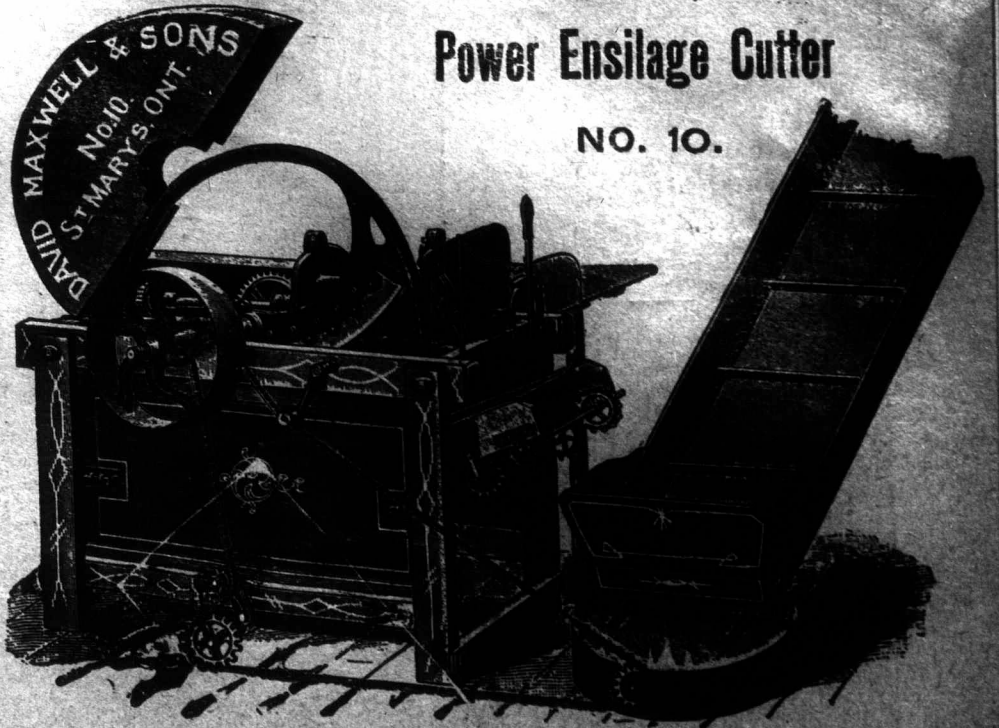
TEN DAYS' FREE TRIAL. Send us \$1 and we will mail you, prepaid, a Union Twilled Silk, 26-inch "Adjustable Roof" (28-inch, \$1.25; 30-inch, \$1.50). If the "Roof" is not all you expected or hoped for, return AT OUR EXPENSE and get your money back by return mail—no questions asked.

WHAT TO DO.—Take the measure (in inches) of your old umbrella; count the number of outside ribs; state if the center rod is of steel or wood. Full instructions for putting on the cover will be sent with all orders. Our special price list of different sizes and qualities mailed on request. Send for our FREE book, "Umbrella Economy," anyway. Your umbrella will wear out some day, and you will be glad that you know about it.
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The most modern—from new and improved patterns. Durable, Powerful, and Efficient. Send for Catalogue with full description.

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Improved Roller Bearings.
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Double-Barrelled, Breech-Loading Shotguns, \$12.50.

Send us \$12.50 for a really first-class double-barrelled, breech-loading shotgun, No. 12 gauge, weight from 7 to 8 lbs., best walnut stock, front action locks, rebounding hammers, pistol grip, rubber butt, extension rib, fine laminated steel or Damascus barrels. Length of barrels 30 or 32 inches.

PRICE, only \$12.50.

Same gun, very handsomely carved, \$1.00 extra. These guns are worth \$18.00 or \$20.00. Our price, only \$12.50 and \$13.50.

Terms—\$2.50 with the order, balance of the money on receipt of the gun.

WRITE AT ONCE, AS OUR STOCK IS LIMITED.

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CUTS BY ALL PROCESSES
LIVE STOCK A SPECIALITY

PLEASE MENTION FARMER'S ADVOCATE.

No instrument is more popular in Canada to-day than the

Bell Piano

And there is no better to be had.

The orchestral attachment renders possible the effect of sixteen different stringed instruments. It is used only in the "BELL." Send for free booklet, No. 10. It tells all about it.



Built to last a lifetime.

The BELL ORGAN & PIANO CO., Limited, GUELPH, ONTARIO.

GOVERNMENT ANALYSIS

LABORATORY OF INLAND REVENUE,
OFFICE OF OFFICIAL ANALYST,
Montreal, April 8, 1895.

"I hereby certify that I have drawn, by my own hand, ten samples of the ST. LAWRENCE SUGAR REFINING CO.'S EXTRA STANDARD GRANULATED SUGAR, indiscriminately taken from ten lots of about 150 barrels each. I have analyzed same and find them uniformly to contain:

99.99 to 100 per cent. of pure Cane Sugar, with no impurities whatever."

(Signed) JOHN BAKER EDWARDS, Ph. D., D.C.L.,
Prof. of Chemistry and Public Analyst, Montreal.



"Money Saved is Money Earned."

WHY NOT SAVE THE PRICE OF HEATING YOUR HOUSE BY USING UP YOUR ROUGH WOOD IN ONE OF OUR

Hilborn Wood Furnaces

This Furnace has been on the market for the past fifteen years, and has given the very best results. DURABILITY is attained by a proportionate arrangement of weights; EFFICIENCY by means of the immense radiating surface, and EASE OF MANAGEMENT by provision for easy cleaning. Send us a rough sketch of your house, and we will send you estimates and advice.

Winnipeg, Man. CLARE BROS. & CO., Preston, Ont.

Try to say this quickly
"When blue brew
Blue Ribbon Ceylon Tea"



FAMILY KNITTER!

Will do all knitting required in a family, homespun or factory yarn. SIMPLEST KNITTER ON THE MARKET.

We guarantee every machine to do good work. Agents wanted. Write for particulars.

PRICE, \$3.00.

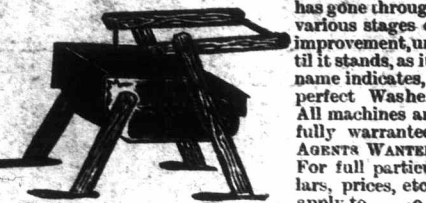
DUNDAS KNITTING MACHINE CO.,
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Conducted in all parts of the country. Pedigree stock a specialty. Write for terms. References: J. C. Snell, Edmonton; John I. Hobson, Guelph; Hon. M. H. Cochrane, Compton, P. Q.; or this office.

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has gone through various stages of improvement, until it stands, as its name indicates, a perfect Washer. All machines are fully warranted. AGENTS WANTED. For full particulars, prices, etc., apply to

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The undersigned is prepared to conduct pure-bred auction sales. 20 years' experience. References: John I. Hobson and Alfred Stone, Guelph; Jas. Hunter, Alma, and Mossom Boyd, Boboygeon. Thos. Ingram, Care Mercury Office, Guelph, Ont.

TEST OF Alpha De Laval and Reid's Improved Danish Cream Separators

Made at Nilestown Factory of Thames Dairy Co.

Date, 1890.	Machine	Amount skimmed per hour	Speed revolutions per minute.	Butter-fat left in skim milk at following temperatures.	Lbs. Milk per Lb. Butter.
January 25	Alpha	2900	6000	.80 .85 .90 .95	21.10
January 27	Reid's	2900	6200	.15 .14 .12 .10	28.45
January 30	Alpha	2000	6000	.05 .03 .02	
January 30	Reid's	2000	6200	.15 .10 .08	

On January 25 Buttermilk from Cream of Alpha churned at 50 tested .05 (no water added).

January 26th Buttermilk from Cream of Reid's Improved Danish churned at 48 tested .10 (no water added).

Mr. Richardson, St. Mary's, and Mr. John Brodie, Mapleton, were present when testing Reid's Improved Danish, January 27th.

On January 30th both Separators were running at the same time, and the skim milk from the Reid's was put through the Alpha. There were 3,700 lbs. of milk received, and after it had been skimmed by Reid's Improved at a temperature of 90 degrees the Alpha skimmed 303 lbs. of Cream from the skim milk which tested 8/10 of 1 per cent.

The Cream from each Separator was ripened by the use of a pasteurized starter, and contained .65% of acid at the time of churning when tested by Farrington's Alkaline Tablets.

(Signed) T. B. MILLAR,

Manager Thames Dairy Co.

Easy to Manipulate

Where the mowing has to be done on rough or stony land one wants a Mower that can be easily handled. The Levers and Foot Lift on

The Massey-Harris

No. 3 Brantford Mower



are so convenient to the driver's seat that any range of adjustment can be readily obtained with but slight pressure.

Massey-Harris Co., Limited,
TORONTO.