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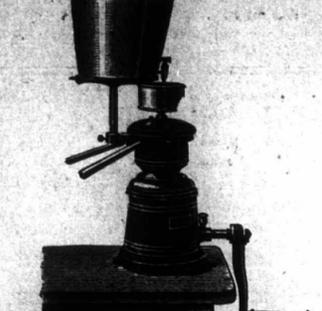
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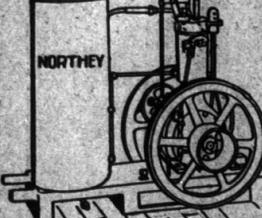
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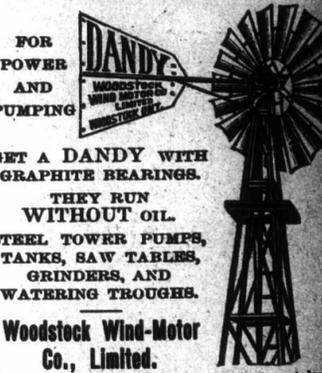
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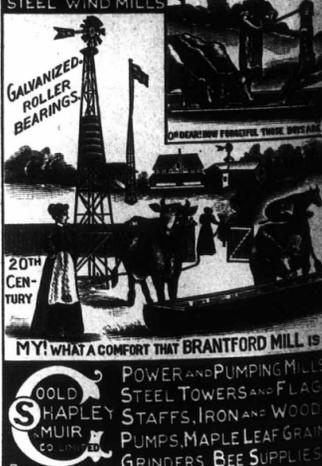
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FARMER'S ADVOCATE

AND HOME MAGAZINE

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

VOL. XXXIV.

LONDON, ONT., AND WINNIPEG, MAN., OCTOBER 16, 1899.

No. 488

A Thanksgiving Time.

In recognition of the beneficences of the past year, Thursday, October 19th, has been proclaimed by the Government of Canada as a day of national Thanksgiving, in which those engaged in the pursuit of agriculture have many and good reason to participate. The change from depression to prosperity has been so steady and so quiet, without artificial stimulus, or what is called booming, that people are apt to take it all as a matter of course, and forget to manifest a due spirit of thankfulness.

Referring to the general condition of affairs existing, the people of the Dominion should be profoundly grateful that peace and plenty prevail. Other countries have been visited with plague, bloodshed and disasters, many of them frightful and far-reaching, but Canada has been spared, though it is a matter to be deplored that the shadows of war have lately gathered in the South African portion of the British Empire. Our relations with other countries have been agreeable, probably the only approach to friction being in regard to the Alaskan boundary, where the acquisitive characteristics of our neighbors have come unpleasantly into play; but let us hope the principle of equity will mutually prevail. In the minds of men who desire the well-being of humanity and the progress of Christian civilization, such matters should be so adjusted as not to interfere with the relations of those great, dominant Anglo-Saxon and other communities now leading the world's van.

Another abundant harvest has been garnered. From the sounding shores of the Maritime Provinces across the land of the Habitans, from Ontario's fertile fields, and the matchless wheat-producing prairies of Manitoba and the West, and the rich valleys and fruit-laden slopes of the Pacific Coast, comes everywhere the message that there is enough and to spare of grains, fruits, animals and their products to feed our own increasing population and multitudes in other lands. Not only so, but the prevailing conditions of demand, and the facilities for improved transport from producer to consumer, are now such as to have enhanced the values of agricultural products, giving the farmer and stockman good prices and a much greater return for their labor and intelligence, which will more than compensate for the increasing price of all machinery and materials into the composition of which iron enters. To the breeder of pure-bred stock, it has been by far the most satisfactory season for many years.

It is a matter for devout thankfulness, that our people are beginning to realize—as sooner or later all must by the trend of circumstances—that in no department of industry is intelligence more essential to success and more certain of its reward than on the farm. He who would succeed, must study the divinely-ordered conditions, adjust his operations accordingly, get in harmony with the inviolable laws of nature—in other words, farm scientifically, whether he acknowledges it or not; or else he must fail and go under. It is inevitable that the fittest will survive. Hence, everywhere we find the Canadian farmer becoming a close observer, a student of agricultural literature, scrutinizing the investigations carried on by specialists at public institutions, such as our experiment farms, and a patron of agricultural colleges, schools of dairying and horticulture, and farmers' institutes. Here and there we find men who affect to despise these things, and yet may be doing fairly well. But why? Not because of ignorance, but because they are carried along unconsciously with the general current of progress, by very force of the example of other men about them. In the industrial world the great characteristic of the closing era of the 19th century has been the applying of mechanical forces, and concentration; so in the agricultural world it

has been the utilization of machinery and the application of scientific intelligence to physical effort.

Edwin Markham, a poet, whose name has recently sprang into notoriety by reason of the striking virility of his writings, after gazing upon a painting by the French artist, Millet, of an European peasant farmer, embodied his conception in a poem entitled "The man with the hoe," which opens with the following lines:—

"Bowed with the weight of centuries, he leans
Upon his hoe and gazes on the ground,
The emptiness of ages in his face,
And on his back the burden of the world.
Who made him dead to rapture and despair,
A thing that grieves not, and that never hopes,
Stolid and stunned, a brother to the ox?"

As an embodiment of the general and dominant type of the Canadian farmer, let us be profoundly thankful that the "Man with the hoe" is a hideous caricature—a dark and grotesque impossibility. In these bright, closing days of 1899, it comes to us as a vivid portrayal of what has been, a glance backward into the grim shadows of the past, where we see the passing of a figure that can have no place of standing amid the enlightenment of agriculture on this Western continent.

The Advantages of Underdrainage.

There are few farmers who have not learned to their cost that the early-sown grain gives the best returns. Almost every farm has some fields that are drier than others, and, of course, these are sown first, simply because they are the only ones that are dry enough to work when seeding operations commence. Where underdrainage has not been practiced, it is the higher and lighter fields that are earliest, but where some draining has been done, it may be a comparatively low field that can be gone unto first thing in spring without fear of "puddling" the soil. The fear may be felt by beginners in underdrainage that the removal of so much water as a good-working drain carries off will dry out the soil more than it should be, and thus make it as much too dry as it had been too wet. It should be borne in mind, however, that where a drain is laid deep in the ground the absorptive capacity of the soil is so greatly increased that much more water is held during a dry time than heretofore, while in a wet time the surplus water, that the plants are better without, is readily carried away, so that the conditions are improved at all seasons of the year. With an underdrain four feet deep, no summer rain can soak down to the tile, and on account of the drained land not becoming baked through excessive moisture, the rain largely soaks in instead of running off the surface.

Drained soil, too, is kept just moist enough in winter to be expanded by freezing, and with each expansion its capacity to hold more water is increased. Whenever a wet place in a field is thoroughly drained, the soil over and near the drain appears to have risen. Doubtless it is the fact that water no longer covers its surface that gives this appearance, though there is, perhaps, a real rise of an inch or possibly more through the expansion by freezing of compact subsoil and by the addition of vegetable matter in the soil, derived from the greater root growth that has been permitted to go on.

Where clover and other deep-rooted plants are growing, water is being continually pumped from the subsoil. This is done so effectively that often the heaviest rainfall on a field of full-grown clover, the day after a rain will find the soil free from undue moisture. On cultivated land, unless there were underdrains a rod apart, much of the land would be unfit for plowing for two or three days after such a rain as would not affect the plowing for a single day where there was a good growth of clover. A grass sod field can always be plowed earlier in spring than if it had lain naked through winter. Yet, while thus plowable at all times from spring to fall, the deeply underdrained soil cannot

suffer from lack of moisture. Its absorptive capacity extends so deep into the subsoil that as the roots near the surface exhaust the moisture, more water rises by capillary attraction, and as it comes to the warmer air outside, the temperature of each are equalized, forming dew on the surface of the ground, which is often seen on newly-plowed surfaces that were dry the night before. This watering the soil by means of dew is increased in its effect by cultivating crops early in the morning and late in the afternoon, in the one case to imprison the dew that has fallen during the night, and in the other to bring to the surface some soil that, being cooler, will condense more moisture from the air, and thus increase the dewfall. Thus a well-drained deep soil receives a greater amount of fertilizing dews than a shallower soil that is quickly warmed through. Summing up all the advantages of having wet land underdrained, a farmer is acting a wise part when he takes every opportunity that presents itself to drain all the parts of his farm that need it, as indicated by the delays in spring seeding, caused by surplus water. There is yet time this autumn to have a certain amount of this work attended to without injuring growing crops or causing inconvenience in any way. On wet fields the advantage will pay for the draining in the improved crops of two or three years.

An Example of the Development of Canada's Fruit Industry.

While some fruits, notably peaches, have not turned out as heavy a crop as usual in the Niagara, Ont., district, the past season has witnessed a steady increase in the general output. Even with peaches, many orchards in the district have produced an abundant crop, and the fortunate owners have done well, as the canning factories have paid about four cents per pound for good fruit, and the open markets have been better than usual. Few outsiders realize the immense quantities of all kinds of fruit that are now shipped from the strip of country between Hamilton and Niagara. From St. Catharines station alone during September about twenty to twenty-five carloads of mixed fruits have been despatched weekly. About 40% of this went to Montreal, 15% to Manitoba, and the balance chiefly to Ottawa, Kingston and other eastern points. Most of this fruit has been sent out under the auspices of the St. Catharines Cold Storage and Forwarding Co'y, and by co-operation in this way expenses of transportation have been much reduced to the shipper. The Jordan and Beamsville section has also sent out large quantities, much of which has gone by boat to Toronto. From Grimsby, in addition to large shipments to various points in Canada, a considerable quantity has again been directed to the British markets, Manchester, London, and Bristol being the points selected. Up to the end of September about 3,000 cases (25 pounds to the case), chiefly pears and apples, had been shipped. The Government arranged the forwarding of some 100 cases of peaches, which are packed in cotton batting, and chilled before packing. Before the season closes about 2,000 more cases of apples, pears, and quinces will be sent, and the Ontario Govt. has undertaken the despatching of some shipments of the better varieties of grapes. Full reports of sales have of course not been received. Most of the fruit, however, has arrived in good condition, and as far as is known the sales for all fruit arriving in good shape have been encouraging. West of Grimsby the output of fruit has been much heavier than usual. Around Winona and Stony Creek, pears, plums, and grapes are the principal crops grown. About forty or fifty carloads went forward to Manitoba, and heavy daily consignments to the Lower Provinces, and Ottawa and Montreal. On the whole prices have been fairly good, and decidedly better than during the big season of 1897.

THE FARMER'S ADVOCATE AND HOME MAGAZINE.

THE LEADING AGRICULTURAL JOURNAL IN
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JOHN WELD, MANAGER.

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Death of a Lincoln Sheep Breeder.

Mr. James Anderson, farmer and breeder of Lincoln sheep in the Township of Westminster, Middlesex County, Ont., passed away on October 2nd, in his 70th year, after some months' illness. He was a native of Ross-shire, Scotland, where he was born on November 22nd, 1829, being the son of William Anderson, a Dumfriesshire man. In his infancy the family moved to the Isle of Skye, where his father assumed the management of a large sheep farm, the flocks of which numbered some 8,000 head, for one Dr. Donald McAskil, on the famous estate of McLeod, of Dunvegan Castle. It was there that the son James acquired his fondness for sheep husbandry, in which to the last he maintained the keenest interest, being known as a breeder of Lincolns, though not on a large scale, which, for some years, he exhibited at the large exhibitions, also acting as a judge at local exhibitions, and superintendent of the sheep department at the Western Fair. The foundation of his flock of Lincolns was laid some thirteen years or more ago by purchases of stock from Mr. John Geary, including imported animals from some of the best flocks in England, subsequent additions from time to time being made from the flock and importations of William Oliver. The rearing of Lincolns will be continued by his son and successor, William Anderson. Deceased was one of the oldest readers of the FARMER'S ADVOCATE, being a warm personal friend of its founder, the late William Weld. A friend of education, he was a member of the local school board for some twenty-five years. Frank and outspoken, his kindness and fraternal disposition were proverbial, and his integrity was unimpeachable. He was a member of the Methodist Church and of the Masonic fraternity, and the high esteem in which he was held was evidenced by the immense concourse of people who attended his funeral on October 5th, at the Pond Mills Cemetery.



THE LATE JAMES ANDERSON.

STOCK.

Nova Scotia Provincial Exhibition.

The exhibition held at Halifax, Sept. 23 to 30, may fairly be said to have been a success. The weather on Tuesday and Wednesday of the second week was unfavorable, which no doubt considerably lessened the gate receipts, but the two following days being bright, brought large crowds of visitors, and the directors were fairly well satisfied with the results on the whole. The exhibition of live stock in all departments except that of horses was admirable, and remarkable improvement has been made in the last few years in the cattle shown, both in beef and dairy breeds. The breeders of the Maritime Provinces have displayed commendable enterprise and good judgment in the selection of sires to head their herds, and a goodly number of high-class animals have been imported during the last year, which added very much to the interest of the exhibition.

CATTLE.

The display of cattle was a large one, the dairy classes especially being well filled with numerous entries. Mr. J. C. Snell, London, Ont., judged the beef breeds, and Mr. F. S. Peer, Mt. Morris, N. Y., the dairy breeds.

SHORTHORNS

were represented by four herds, those of C. A. Archibald, Truro; C. W. Holmes, Amherst; E. & O. Chase, Cornwallis; and F. G. Bovyer, Georgetown, P. E. I. The first herd prize in the regular list was awarded to Mr. Archibald, his herd being headed by his 1st prize yearling bull, a son of imp. Clan Campbell, second prize going to Mr. Holmes. The 1st prize for young herd fell to Mr. Bovyer, and was headed by his 1st prize bull calf, Gloucester's Chieftain, by Silver Chief. The latter won sweepstakes for best bull any age, with his white Silver Chief, and Archibald the sweepstakes for best female, with his 1st prize cow, Blush. Archibald also won the special prize of \$30, offered by the Dominion Shorthorn Association for the best bull and four females, open to all, his herd in this case being headed by the roan four-year-old bull, Robert the Bruce; Bovyer's herd, headed by Silver Chief, being placed second. Others who won prizes in the well-filled class were: Geo. W. West, Aylesford, who had the 1st prize bull calf under 6 months, a right good one; E. & O. Chase, Cornwallis; Wm. O'Brien, Windsor; Geo. W. DeWolfe, Windsor; C. C. H. Eaton; and Albert Boswell, Pownal, P. E. I.

HEREFORDS

were well shown by W. W. Black, Amherst, whose high-class herd won the bulk of the prizes, including the sweepstakes for best bull, with Sir Horace, and both the herd prizes. Other exhibitors, who won scattering prizes, were A. S. Fillmore, Southampton, and W. E. Harding, Amherst.

POLLED ANGUS.

Messrs. H. Stairs, Canning, and H. K. Hogan, Upper Stewiacke, showed fine specimens, Mr. Stairs' sweepstakes aged bull being one of the very best in the Dominion.

GALLOWAYS

were shown by Senator Ferguson, of Charlottetown, whose excellent herd was much admired, and

DEVONS

by C. A. Archibald, Truro.

BEEF GRADES

shown were excellent, and numerous prizes were won by E. & O. Chase, W. W. Black, C. W. Holmes, Wm. O'Brien, and C. C. H. Eaton, who was awarded the 1st prize for herd of grades. They were of exceedingly fine quality.

The dairy breeds were remarkably well represented, every class being well filled, and the cattle brought out in excellent condition.

AYRSHIRES

made the strongest show of any class, there being over 120 head on exhibition, and the type and quality was, as a rule, of a very high order, the younger animals being quite equal to those shown at Toronto. Easton Bros., Charlottetown, P. E. I., had a clear 1st in the section for aged bulls in Dainty Lad, bred by D. Drummond, an inbred son of Silver King, who came out in splendid form, his smooth shoulders, fine withers, deep ribs and soft skin and hair being much admired. One is not surprised, after seeing Dainty Lad, at the excellence of his offspring, which attracted so much attention at Toronto Exhibition, in the herd of Mr. Stewart, of Menie, where he was used before going to the seagirt isle. Two-year-old bulls were headed by the meritorious Matchless 2nd, the champion of last year, owned by F. S. Black, Amherst, and he was the strongest rival for the sweepstakes on this occasion of the imported yearling bull, Howie's Stamp of Hillhouse, exhibited by C. A. Archibald, Truro, which won 1st prize in his class and headed the 1st prize herd. This is an exceptionally fine young bull, being of typical Ayrshire character and dairy conformation, and as full of quality as an egg is of meat. Mr. Black scored 1st in bull calves under a year, and M. F. Bergman had the 1st prize calf under 6 months.

In the section for cows over 4 years, Mr. Archibald's Myrnie, which being dry at St. John, and there placed second, came out at Halifax within a day of calving and swinging a large and shapely udder. She was here an outstanding 1st, and is one of the handsomest and most useful cows of the breed

in the Dominion. She won the female championship hands down. Black had the 2nd prize cow in Oxford Queen, a very worthy one, and Archibald the 3rd. In three-year-old cows, Black's Ethel won 1st honors; M. H. Parlee, Sussex, N. B., 2nd with imp. Bessie of Auchenbrain; and Black 3rd. Two-year-old heifers were a strong class, and Parlee got to the front with his imported Pandora of Monkland, a very handsome type, full of quality, and Black had a close 2nd in imp. Emma of Nethercraig, a heifer of fine form and quality. In a capital class of yearling heifers, Archibald was fortunate in getting 1st and 2nd places for Gurta of Truro and his imported heifer. Parlee won 3rd prize in this section. The sweepstakes for best bull and for best female any age went to Archibald, as well as the 1st prize for herd, 2nd being awarded to Black, and 3rd to Parlee. For young herd of one bull and four females under 2 years, 1st went to Black, 2nd to Parlee, 3rd to Archibald.

JERSEYS

were shown principally by E. B. Elderkin, Amherst, and J. Rufus Starr, Port Williams. The latter won 1st prize for bull over 3 years, with imp. Golden Trooper, a bull of fine quality and character, with richly colored skin and strong indications of usefulness. W. J. Maxwell had the 1st prize two-year-old bull, a well-formed, deep-ribbed animal. The champion bull was found in Mr. Elderkin's imp. yearling, Bonnie View's Golden Lad. He is true to the highest type of the breed in quality, style and conformation, and is second to none in the Dominion. Elderkin scored 1st in cows over 4 years, with Rosabel by Millford Stoke Pogis, a cow of good form and quality, with strong constitution and a shapely udder. She was also awarded the sweepstakes as best female any age. Starr's Gipsy of Spruce Grove, formerly of Mrs. E. M. Jones' herd, shown eight months from calving, and in moderate condition, made a good 2nd, and shows excellent dairy qualities and fine breeding. The same exhibitor had the 3rd prize cow in Beauty of Delta, of Mrs. Jones' breeding, a pretty cow of much merit. Mr. Starr won 1st place for aged herd, and Mr. Elderkin 1st for young herd.

GUERNSEYS

made a grand showing here, there being over fifty head exhibited, representing a large percentage of excellent animals. The principal exhibitors were: E. R. Brow and MacMillan & Dawson, Charlottetown, P. E. I. Mr. Brow was successful in winning many of the best prizes, including 1st on aged bull, and 1st and sweepstakes with his fine imported cow, Adelta, a model of the breed, large, deep-ribbed, and rich in quality. McMillan & Dawson scored 1st with their peerless imported two-year-old bull, Royal Sovereign, by Masher, who was also rightly honored with the male championship of the breed. He is an exceptionally fine representative of the breed, showing ideal dairy form, rich color, and true breed type, and is probably the best of the breed in Canada at the present time.

HOLSTEINS

were well represented by selections from the herds of D. W. McKenzie, S. R. Dickie, Logan Bros., and others. The awards at St. John on these cattle were in several cases reversed, as they are very frequently at all the leading exhibitions, showing that there is need of a conference of judges or some means of fixing a standard of excellence to go by, so that there may be more general agreement in the rating of individual animals, and that the educative influence may, if possible, be more reliable. On this occasion the herd of Mr. Dickie scored highest in the prize list, having 1st prize and sweepstakes bull and cow, and the 1st herd prize. McKenzie's herd is of uniformly good quality, and his cows are evidently good producers, while the herd of Logan Bros. is of fine type and style, and is headed by the sweepstakes bull at the St. John Exhibition, one of the very best of the breed seen at any of the shows this season.

DAIRY GRADES

were shown in large numbers, and of fine type and quality. Mr. John Ferguson, Charlottetown, showed a very uniform herd of grade Ayrshires of excellent character, showing clearly the advantage of persistently using pure-bred sires of the best stamp. These were awarded the 1st herd prize. Mr. John McDonald, of the same place, showed a strong herd of mixed Jersey and Ayrshire grades, and S. R. Dickie a good herd of Holstein grades.

SHEEP.

The classification of sheep at this exhibition is a most remarkable one, and is so liberal and extended that it includes almost everything in the shape of a sheep. In addition to the regular classification of recognized breeds of registered sheep, there are classes for pure-bred white-face and pure-bred black-face unregistered sheep, for half-bred sheep from white-faced sires, and for half-bred sheep from dark-faced sires, a class for grade long-wools, and another for grade short-wools, and one for fat sheep. We are not sure that this is the end of it, but we know it makes a motley mixture, and is liable to lead to confusion and to abuse, a point which it was sought to guard this year by the appointment of a special officer to mark the sheep as they passed through the hands of the judge to prevent their return under a new name in some other class. There were some excellent sheep in the registered classes and also some in the unregistered and grade classes, but the show as a whole was not quite equal to that of last year.

LEICESTERS
 were well shown by Albert Boswell, Pownal,
 LINCOLNS
 by F. G. Bovyer, Georgetown, and
 COTSWOLDS
 by John Tweedy, Earncliffe, P. E. I.
 DORSETS
 by J. W. McDonald, Hopewell, and J. W. McLellan.
 SHROPSHIRE
 by A. Boswell and D. Ferguson, P. E. I., and Andrew McPherson, Rocklin, Pictou Co., who showed sheep of fine quality and character, bred mainly from the stock of Mr. John Campbell, Woodville, Ont. He secured 1st prize for ram lamb, 2nd for ewes, 1st for shearing ewes, 2nd for ewe lambs, 2nd for pen of five, and the special prize of the Shropshire Association for the best four lambs. Boswell won five 1st prizes in this class, including the 1st for pen of five.

SOUTHDOWNS
 were shown by D. R. McKay, Hopewell; J. H. Frazer and J. D. McKay, Fox Brook; and Peter Adams, Plainfield. D. R. McKay won all the 1st prizes, including that for best pen.

OXFORDS
 were well shown by F. S. Black, Amherst; H. Kelly, River Hebert; S. J. Moore, Shubenacadie; Jas. E. Baker, Barronsfield; E. S. Dunlap, Truro; and F. G. Bovyer, P. E. I., who won 1st on aged ram and aged ewes, and 2nd on pen. F. S. Black secured both premier pen prizes, the special 1st for yearling ewe, and a good share throughout the list. Mr. Moore was 1st for shearing ram, ram lamb, and ewe lambs, and Baker 1st for shearing ewes, 2nd for yearling ram, and third for ram lamb.

MERINOS
 were shown by D. Scott, St. Croix, and James McDonald, who won most of the prizes.

CHEVIOTS
 were shown by Peter Adams and D. Ballantyne, Woodburn, and John McDonald, Pictou.

FRUIT EXHIBIT.

[REVIEWED BY PROF. JOHN CRAIG.]

The soil and climatic conditions of the chief fruit-producing regions—the Annapolis, Cornwallis, and Gaspereaux valleys—are peculiar. With a winter temperature which rarely falls more than a few degrees below zero, one might expect to find a class of fruits similar to those grown in the Niagara district. This, however, is not the case. The absence of musk and water melons from the prize list and the small representation of outdoor grapes explains the cause, and points the lacking element, namely, summer heat. These fruits love high temperatures. There is an old adage which runs thus, "What's one man's meat is another man's poison." This is in a measure undoubtedly true of animals. It is also largely applicable to the plant, in so far as the climate enables the assimilation processes of the plant to progress.

The fruit display was said to be fully equal to that of any former year in regard to quantity, and to surpass it in quality. The individual plates were remarkable in many instances for their size; indeed there was a tendency on the part of exhibitors to sacrifice beauty of coloring and symmetry of form to specimens having great size, which often fail to show the typical characteristics of the variety. In an informal talk to the exhibitors after the work of judging was over, Prof. Craig called attention to the importance of selecting only absolutely sound specimens of each variety. Spots, bruise, worm holes or broken stems were to be treated as defects, and as such detracted considerably from the possible score of points accorded each variety.

Apples.—Here is where Nova Scotia shines. In the county collections, King's County easily carried off the honors, although the displays made by Annapolis, Hants, Yarmouth, Lunenburg, and Halifax were very creditable. The effect of climate on the development of the various apples was clearly illustrated. Late-keeping and slow-maturing varieties like Spy, Ben Davis, and Stark, were much undersized when grown at either end of the Province. Their full development would depend upon the character of the autumn. If long and open they might develop fully, otherwise they would probably be undersized and lacking in color. In this connection it seems needful to call attention to the advisability of placing chief reliance upon earlier maturing kinds, leaving these late sorts to regions having more summer heat, as for instance the Ozarks of Arkansas and Missouri. At present Ben Davis appears to be a paying apple in most parts of King's County, but it seems more than probable when the great Missouri, Arkansas, and New Jersey orchards come into bearing, the question of quality will receive some deserved consideration. Then the finest specimens only will receive satisfactory prices. Regions outside the natural home of Ben Davis may not expect to be strong competitors. A glance at the tables showed the apples Nova Scotia could grow to perfection. Among these must be mentioned Gravenstein, of which there are now three types, two of them commercially recognized—the ordinary form and Banks' Red Gravenstein. The latter is a sport from the well-known type, and

differs from it in being much more highly colored. It is also said to be somewhat firmer in texture. The fine coloring and high quality of Nova Scotia Gravensteins are becoming generally appreciated, and it would seem wise that the fruit-growers of the Province should direct their efforts towards the production of this truly magnificent apple. Very fine plates of Ribston Pippins were shown; on the whole, they exceeded in size anything the writer has ever seen in the way of Ribstons. They were also true to name, although the coloring was not quite up to the mark. Blenheim Pippins were represented in most of the collections of ten varieties by fine specimens. Nova Scotia Blenheims keep longer than those grown in Ontario. This is true of all the early winter apples. Hubbardston is justly a favorite apple with the valley growers. King (King of Tompkins Co.), though not as mature at this time as East Ontario Kings, were of fine form and handsome appearance. This apple probably ranks second in popularity and importance in King's County. Bishop Pippin (Bellefleur) has also found a congenial home in Nova Scotia. Among the later winter varieties we must not overlook Fallowater, Nonpareil (Roxbury Russet), Golden Russet, Pomme Grise, and the Spitzbergers. These were all worthy specimens of their kind. Of still later varieties, Ben Davis, Stark, and Mann may be mentioned, and with the limitations already mentioned in mind.

Plums.—Here there are surprises in store for the uninitiated. For instance, who would expect to find Abundance plums just passing out of season, and Burbanks, the largest I have seen, in a fine state of preservation without cold storage. In the West, Japanese plums ripen prematurely under the influence of hot suns, and are much attacked by fruit rot. The early varieties of Japanese plums appear to have found a congenial home in King's County, Nova Scotia. Domestic plums of the type of Lombard, Bradshaw, and Quackenboss were not creditable, but fine plates of Washington and Canada

Hamburgs were shown, perhaps as large as the writer has ever seen.

Cranberries.—Cranberry culture is one of the new fruit industries of the Province. A fair assortment of native varieties were shown from King's County and Cape Breton. The Cherry, Bell and Neville are the three leading types. Henry Shaw, of Waterville, is one of the largest growers.

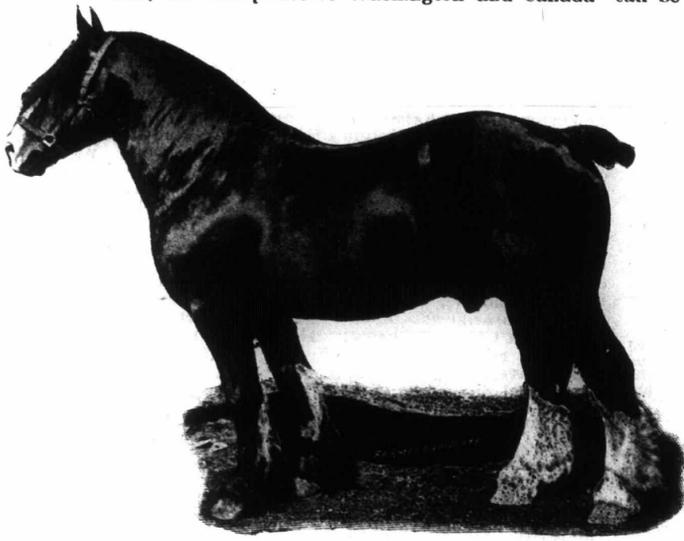
Canned fruit.—An unusual amount of space was devoted to canned and preserved fruits, jellies, pickles, and wines. Every class of canned and preserved fruits called out many competitors, and the work of selecting "firsts" and "seconds" most difficult. In passing, it is well to state that under the caption, "Fruits Preserved for Table Use," a prize list should always state whether this calls for the ordinary "Gem jar" article or the old-fashioned product made according to the well-known formula of "Pound of sugar to pound of fruit."

Flowers.—Halifax greenhouses are noted for the excellence of their foliage plants. In this respect, the exhibit was very fine—ferns, palms, Rex Begonias, and Crotons were well represented. The show of cut flowers, outside dahlias, was limited. Prominent among those who contributed to the fruit exhibit should be mentioned: Arthur Starr, Starr's Point; A. V. Parker, Berwick; Col. Spurr, Cornwallis; J. Harris, Cornwallis; Jas. Johnston, Wolfville; Ralph S. Eaton, Kentville. The management of the Hall was in the efficient hands of Commissioner Bigelow, aided by Secretary Parker and an able corps of assistants.

Pigs from Weaning Time On.

The old practice of weaning pigs at from five to six weeks old, or as soon as they are noticed to be able to help themselves at the trough, is going out of favor, since the hogs are being marketed at from six to eight months old. Economy of production can be secured only when the period of standing still or slow gaining is reduced to a minimum. It is the general practice of pig-raisers to begin to feed sweet milk, shorts, etc., when the pigs are about four weeks old, so that by the time they are eight weeks old they are eating well, and if the feed of the dam has been reduced she will have become almost, if not quite, dry about one week later, so that weaning is a natural consequence, and not liable to give the youngsters a set-back when separated from their dams. Shorts, bran and pea or corn chop, mixed with milk or the boiled pulp of pumpkins or roots, into a thin dough that will pour out easily, and fed warm, is good food to set them going. A pig at eight weeks old will do better on four feeds a day than less, but three is enough two weeks later. It is a mistake to give more feed than will be readily eaten up, but they should be satisfied when the meal is over. At night, after their slop feed, it is well to give them an allowance of corn to top off with before retiring. An occasional pint of oil meal mixed in with the slop acts well as a conditioner. Until near the finishing period, fresh grass, clover, tares or rape pasture is a suitable quarter for summer months, and in winter a rather free use of roots seems to prevent the animals going wrong in limb or digestive organs. During the last few years many have tried chopped oats, fed alone or

mixed with other grain, but the practice is seldom followed two seasons in succession without sifting out the hulls, which contain too much tough fiber for the single stomach of a pig to digest. Exercise, bulky, succulent, easily-digested food, and access to mother earth, should not be spared from the growing pigs till the finishing period approaches, when closer confinement and a more concentrated ration should be provided. A box of ashes mixed with salt and charcoal can always be seen in the corners of the pens on many pig-growing farms while the animals are confined, and an occasional feed of soft coal is considered good to keep them in health. There is usually very little cause for complaint of the health of the pigs on farms where experience, coupled with intelligence, are the guides to the treatment given. A dose of turpentine occasionally to keep them rid of worms, and dry sleeping quarters, are important and simple provisions that more than pay for themselves. With their ordinary care some get gains that others are slow to credit. Forty pounds may be considered good weight at eight weeks old, but they should weigh ninety pounds each at three months. From this time onward they should gain, if well fed, one and one-half pounds per day, so that when six months old about 200 would be reached, or as high as 250 if they are good animals and have been pushed by a skillful feeder. We have noticed that the sire of pigs has a great influence with their feeding qualities. An easy-feeding, quiet-dispositioned boar should be selected in all cases. It will not prove lost time to occasionally stand and watch the pigs eat, especially if one has a considerable number together, as then any that are off their feed will be noticed, as well as those that feed slowly. One can then give the required attention to the pigs needing it. From 15 to 20 in a bunch, and those about the same size, do better than larger lots. No fixed rules can be followed successfully in raising any sort of live stock, but the work must be guided by intelligence, stimulated by a keen interest in the matter.



IMPORTED SHIRE STALLION, BELSHAZZAR 13855.

The property of Messrs. Bowden & McDonell, Exeter, Ont. See "Gossip" page 589.

Egg were entered. A few plates of native plums of the Americana type were much under size and off color. Clearly this class of plums is not needed in Nova Scotia, except, perhaps, in the extreme east.

Peaches.—The early varieties of peaches only were in evidence. Alexanders were two weeks past their natural season in Nova Scotia; Mt. Rose a little overripe, of fair size; Hynes' Surprise just in season; Early Rivers past; with Crosby and Elberta not fully matured. Peach culture cannot be profitable except to those who have favorable situations and who attend closely to the selection of varieties and the details of cultivation.

Pears.—The exhibit of this fruit was not commensurate with its importance as a crop. This was, perhaps, due to the fact that prizes are confined to single plates, thus shutting out collections, which add so much to the general effect. In regard to varieties, as with the apples, so with the pears in large measure, the summer and autumn varieties of Ontario become respectively autumn and early winter in Nova Scotia. Clapp was a little past its season; Bartlett just mature. Fine specimens of Clairgeau, Louise Bonne, and Sheldon were shown. While Anjou, Howell, Duchess, and Winter Nelis were under size. Pear blight is practically unknown in Nova Scotia. Pear culture should be pushed with vigor.

Quinces.—This slow-maturing fruit succeeds better than one might expect. Well-grown plates of Orange and Rhea's Mammoth were shown by a number of exhibitors.

Grapes.—The coolness of the summer was unfavorable to the maturing of such grapes as are grown. The outdoor grape exhibit was microscopic in extent. A few plates of Moore's Early only were worthy of mention. It is evident that a lack of information prevails regarding early-ripening varieties such as Lady, Winchell, Moyer, Rogers 3, Cottage, and the like. Fine samples of hothouse

The Sheep Helped Him Out.

In the October number of *Longman's Magazine* H. Rider Haggard, the well-known novelist, who lately embarked in farming in England, gives the balance sheets of the year's working of the Ditchingham and Bedingham farms. A profit of £423 is shown, but from this Mr. Rider Haggard says there must be deducted rent on, say, 250 acres at £1 an acre and interest on £2,000 capital at 4 per cent., amounting to £80, plus management expenses—say £20, or in all £350. "This leaves a total of £72 15s. 4d., upon which the farmer would be supposed to exist, that being the living profit left after the satisfaction of outgoings and charges." Mr. Haggard is, however, grateful for the result, as he finds he has done better than some of his neighbors. He pays a tribute to the advice and experience of his agent, Mr. Robert Simpson. He adds: "But it is my belief that without the help of the little flock of ewes all this would have availed nothing. From the beginning I was a constant advocate of trying a few sheep, and ever since those sheep were bought, about three years ago, things have begun to look up. The reason is plain. Comparatively speaking, they cost little to keep, for they will eat anything down to thistles or ivy off the trees, and much of what they eat would be otherwise practically wasted. Then they are productive animals, and as old Tussler says, 'Good lamb is worth gold.' Lastly, their presence is of extraordinary benefit to the land, especially where young pastures are being built up into sound productive meadows."

Ottawa Exhibition.

(Continued from page 555.)

LINCOLNS

were principally shown by Gibson & Walker, Denfield. They won all the 1st and 2nd prizes wherever they made entries. A. Denis, St. Norbert, and A. Chartier, St. Paul l'Hermite, had a few head, and the former took a 2nd for an aged ram, and 3rd for a ram lamb.

SHROPSHIRE

were a very excellent lot all through, every section being well filled. The two principal exhibitors were John Campbell, Woodville, and the Follyfarm, Abington, Pa., but Sheriff Hagar (Plantagenet), A. M. Stewart (Vernon), and A. Chartier (St. Paul l'Hermite) had a few head present. John Campbell got a good share of the prizes, winning 1st for aged ram, ram lamb, 1st and 2nd for aged ewes, and the special offered by the American Shropshire Association for best flock of four lambs bred and owned by exhibitor, thus winning four out of the six prizes offered in Canada this fall, each time with different sheep. The grand sheep of the Follyfarm headed the sections for shearing rams, shearing ewes and ewe lambs, and won the flock prize. Sheriff Hagar secured 2nd for a ram lamb, 1st for year or over, bred and owned by exhibitor, and also 1st for Canadian-bred pen, limited to some of the eastern counties of Ontario. Stewart and Chartier were 2nd and 3rd, respectively, for these local pen prizes.

SOUTHDOWNS.

W. E. & G. L. Telfer, Paris, and R. Shaw & Sons, Glanford Station, had not only to meet here again, but found a 3rd competitor of some strength in Senator Drummond, Montreal, who had a nicely fitted flock forward. The honors were somewhat divided, but Telfer got the flock diploma, and 1st for shearing ram and shearing ewes. Shaw's principal honors were 1st for ram and ewe lambs, while Drummond's share included the red ribbons for aged ram and aged ewe.

OXFORD AND HAMPSHIRE DOWNS.

There is only one class at this show for Oxford, Suffolk and Hampshire Down sheep, and only one flock of Oxfords and one of Hampshires. Smith Evans, Gourcock, supplied the Oxfords, and John Kelly, Shakespeare, the Hampshires. The former won the larger share of the prizes, including that for flock. Kelly's entries in the ram lamb and aged ewe sections carried off the red ribbons.

DORSET-HORNED SHEEP.

M. N. Empey, Napanee, had the largest entry of this breed, and secured the bulk of the chief honors. Opposed to him were Jno. A. Richardson, South March, and Jas. Bowman, Guelph, the latter having only an aged and a shearing ram, both of which stood 2nd in their respective sections. Richardson won a 2nd and a 3rd prize.

MERINOS.

R. Shaw & Sons, Glanford Station, had very little opposition in this class. D. Cummings, Billings' Bridge, had five head entered, an aged ram, ram lamb, aged ewe, shearing ewe, and a ewe lamb. He won 3rd on an aged and a ram lamb, and 2nd on a ewe lamb.

FAT SHEEP.

The principal exhibitors of fat sheep were the Follyfarm, Abington, Pa.; J. Campbell, Woodville; Gibson & Walker, Ilderton; W. E. & G. L. Telfer, Paris; and Wm. Lecker, Dumbarton.

SWINE.

As in the other live stock departments, the swine pens contained an exhibit that greatly surpassed that of last year in numbers and quality. Every breed had three or more exhibitors, and in some cases the prizes were pretty well divided up.

BERKSHIRES.

There were representatives in this class from four herds, two of which contributed several animals apiece. George Green, Fairview, with his herd fresh from recent honors at Toronto and London, outdistanced his opponents in the showing, winning 1st in every section, and he also had the satisfaction of knowing that some of the other prizewinners in this class were bred by him. Reid & Co., Hintonburg, made a good 2nd all through. Jos. Featherston & Son, Streetsville, and A. J. Watson, Castlederg, won, respectively, 3rd on a yearling boar and 2nd on an aged boar, each of them having a single animal present.

YORKSHIRES.

J. E. Brethour's stock again showed up well here, the major part of the principal prizes falling to their share, included among which was the herd prize. J. Featherston & Sons' winnings comprised, among other prizes, 1st for boar under the year, and for a sow under 6 months. J. G. Clark, Ottawa, had a number of good pigs, and won 1st for boar under 6 months, 2nd for litter of pigs, besides a couple of minor prizes. A. W. Ross carried off 1st for litter and 2nd for an aged boar, and for one under 12 months old.

TAMWORTH.

A similar number of exhibitors (1) showed pigs in the Tamworth class. Reid & Co.'s (Hintonburg) stock were very

strong, and managed to secure a most creditable share of the winnings. Four 1st prizes and the diploma for herd went their way. H. George & Sons, Crampton, took a good portion of the prize money away, including two 1sts. The red ribbon for a litter of pigs was sent to J. A. Richardson, South March, as well as a green ribbon for a yearling boar. R. & W. Conroy, Deschenes Mills, did not exhibit largely, but won 1st for a sow under a year, 2nd for an aged and 3rd for a yearling sow.

CHESTER WHITES.

Here again there were four candidates for honors: H. George & Sons, Crampton; W. Butler & Sons, Dereham Centre; Reid & Co., Hintonburg; and Robt. Clark, Ottawa. The first named got 1st for the herd and litter prizes, with four red tickets besides. Wm. Butler & Sons' stock carried to their credit seven prizes, among which was the 1st for sows under 6 months. Reid & Co. came next in order in point of winnings, with Robt. Clark 4th, each of these two getting one red ribbon apiece.

POLAND-CHINAS.

W. & H. Jones, Mt. Elgin, and Reid & Co., Hintonburg, were the principal exhibitors in this class. Jos. Featherston & Sons, Streetsville, having only one entry—a young boar under the year, which stood 2nd in his section. Messrs. Jones were the strongest; to them went the herd prize and six other 1st honors. Reid & Co. won for litter of pigs, and two other premier prizes.

DUROC-JERSEYS.

There were more exhibitors of these pigs here than were at Toronto. Tape Bros. were the only Western breeders who brought a full herd of Durocs to Ottawa. The new competitors were J. G. Clark, Ottawa; J. W. Slack, Merivale; and W. Hardman, Hurdman's Bridge; and Reid & Co., Hintonburg. The herd prize and most of the 1st prizes went to Tape Bros., who had a very creditable exhibit. The other three exhibitors had fewer pigs. J. W. Slack's entries carried off two 1sts, and other prizes. J. G. Clark, W. Hardman, Reid & Co., and Wm. Butler & Son shared in the prize money.

Our Scottish Letter.

LEICESTER AND SHROPSHIRE RAM SALES—SHORT-HORNS, CRYDESDALES, AND PONIES SELL WELL.

Some time has passed since I last wrote, and the month has been eventful for stockowners. It has been pretty clearly proved that stock, and not grain, must be the sheet anchor of the Scottish farmer in days to come, and we have had a run of splendid stock sales, alike in cattle, horses, and sheep. September is always a great month with flockmasters; the ram sales are then held, at which are purchased the sires of the stock that is to improve the breeds in days to come. The past season has furnished some curious surprises, not the least of which was the result at the great sale of Border Leicester rams at Kelso. For some reason, which calls for more minute inquiry than we are able to bestow, the flocks which had in the past been exceedingly formidable were on the present occasion thrown into the shade, and the preference was given to flocks which have in the past been largely recruited from these, but which appear to have maintained size better than the parent flock. The highest average at Kelso was made by a West country flock, that of Mr. Robert Wallace, Auchencrain, Manchinie, a gentleman who has also acquired fame alike as a breeder of Ayrshire cattle and a maker of Cheddar cheese. He got £110 for his shearing ram which stood first at the Highland, and his average for 30 was the splendid figure of £37 18s. 8d., an advance of about £5 per head on his last year's total. The next best figure was an average of £19 3s. 7d., made by the old-established East country flock of Mr. Thomas Clark, at Oldhamstocks Mains, near Cockburnspath. Although the highest price, £52, which he got for a ram, was less than half the highest price made by Mr. Wallace, he had an average of £19 2s. 7d. Then comes the notable fact that the "crack" flock of the breed, Lord Polwarth's, at Mertoun, only made an average of £18 15s. 8d., as compared with £45 12s. 6d. in 1898, and some of the rams were making less than £10 a piece, an almost unprecedented event in the history of the flock. Much speculation has been indulged in as to the cause of this, but, on the whole, it admits of comparatively easy explanation. In the past, Lord Polwarth has been in the habit of selling all the tops of his shearings each year, and keeping up the quality of his flock by buying back some of these afterwards, when they were older sheep. Unluckily, one or two such old sheep, which he hoped to purchase in 1897, either died or could not be got, and he was therefore not so well supplied with rams in the season of 1897-98 as he expected to have been. His lambs in 1898 were therefore, as a whole, not up to the usual standard of quality, and his experience leading him to avoid depending on the purchase of his old rams, he this year kept about half a dozen of his own shearings for service in the Mertoun flock. Of course the absence of the "cracks" led to a reduction in the prices, and at the same time prevented the outset of enthusiasm with which the "pick" of the Mertoun contingent were in the past greeted. It is noteworthy that while the Mertoun average was reduced, the flocks which had increased have drawn most largely on Mertoun blood in the past. One of these was Peelwell, from Haydon Bridge, Northumberland, and owned by Mr. Matthew Ridley. It had an average of £18 12s. 1d., as compared with £17 3s. last year, and one of the rams made £80. Longniddy (now Leaston) had an average of £18 9s. 2d., and one of the rams made £85. As a rule, the averages at Kelso were down; and this would be paralleled in the cattle world were the average for Shorthorns down and the average for all other classes of cattle up. Cheviots did very well at Hawick. Mr. Elliott's champion sheep at the Highland going up to £100, and his average being £19 9s. 10d. The price of the champion is possibly unprecedented for a Cheviot ram at auction. Black-faces have provided the sensation of the year, and trade for them was throughout first-class. Mr. Howatson's Glenbuck flock has been fairly "cock

o' the walk." He sold a shearing at Lanark for £120, and had an average of £31 4s. 9d. for 20; at Perth he sold one for £150, the highest price of the year, and had an average of £24 7s. 2d. for 20. The Messrs. Cadgow, Borland, had an average of £25 19s. 9d., at Lanark, and one of their rams made £110. At Perth they had an average of £11 1s., and sold one at £36.

Of greater interest to Canadian readers than either of these are the prices made for Shropshires. There are several good flocks of these in Forfarshire, and also in the Lothians, but the leading flock is certainly that of Mr. David Buttar, Corston, Coupar-Angus. On the last day of August he sold 60 shearing rams, at an average of £14 15s. 7d. He had buyers from all quarters, and well deserved a good trade. Last year, when he carried all before him at the national shows of both England and Scotland, he had an average of £18 15s. for 60, and in 1897, £15 6s. 5d. for a like number. Mr. Buttar's Shropshires are in great demand throughout the country, and no doubt some of his rams are in use in Canada. One drawback in his competition with Southern breeders is the fact that his lambing season in the North is necessarily later than theirs, and his shearings are possibly not so big as those reared in the South. They are, however, more hardy, and take a deal of beating on the score of quality.

Cattle sales have been numerous and pre-eminently satisfactory. When I last wrote, we were just on the eve of having a series of Shorthorn sales in the North, and these passed off most successfully. At Cushnie, on the borders of Banff and Aberdeenshire, Mr. Innes' herd of fifty-four head was dispersed, and made the good average of £20 10s. 8d. This was in no sense a fancy herd—simply a good all-round useful lot of sound cattle. At Inverquhomery, in Buchan, on the following day, the grand herd owned by Mr. James Bruce was brought to the hammer by Mr. Thornton, and the seventy-three head made the magnificent average of £40 12s. 1d. One of the cows, a Rosewood, sold for 155 gs. An analysis of the sale results shows that twenty-five animals of this Rosewood family made an average of £44 6s. 2d. each, and forty-nine animals of Mr. Bruce's other famous strain—the Augustas—made £38 9s. 10d. each; 105 gs. was the highest price paid for an Augusta, the buyer being Mr. Campbell, Kinellar, a name well and honorably known in Canada. The Inverquhomery cattle were animals of great scale and fleshiness, with more style than was found in the Cruickshank cattle. On the day following Inverquhomery, Mr. Fraser dispersed the herd owned by Mr. Munro, Mains of Murthly, Aberfeldy, when ninety-one head drew an average of £20 9s. 7d. each. These were excellent cattle—briefly to be described as Cruickshank on a Booth foundation.

During the past fortnight the Aberdeen-Angus men have had their turn—five capitals sales were held. The Aboyne herd of the Marquis of Huntley, out of which some first-class animals have come, was dispersed at the beginning of the fortnight, when an average of £26 15s. 10d. was obtained for thirty-two head. Mr. Grant's draft of seventy-one head from his Methlick herd, on the following day, made £27 2s. 10d., and a draft of forty-three head from the good sound herd of Mr. Wilson, Coynechie, on the following day, made £20 5s. 4d. The sales held during the week just ended, although far removed from the original habitat of the breed, have made much better prices. At Balliol College farm, near Newcastle-on-Tyne, Mr. Clement Stephenson sold a selection of fifty from his celebrated herd, when an average of £41 3s. 2d. was secured, and on the following day at Castlecraig, in Peeblesshire, the fine herd of Sir Thomas D. Gibson-Carmichael, Bart., M. P., was dispersed, when an average of £47 17s. 10d. was recorded for forty-nine animals. Sir Thomas was the first in Scotland to adopt the system recommended by Professor Bang for getting rid of tuberculosis, and all the cattle sold, except the calves, had been tested with tuberculin and passed by Principal Demar, of the Royal Dick College, Edinburgh. The sale was an unusually spirited one, and capital bidding was experienced from start to finish. Three of the cows sold for over £100 apiece. The fine Elopis 2nd 21754, an Erica, went to Mr. Perrins, of Ardroy, Ross-shire, at 107 gs. Burness 22035, of the Miss Burgess family, went to the same gentleman at 100 gs.; and Pride of Knocknowes 22945, of the Pride family, went to Mr. Hunter, Selaby, Hull, at 103 gs. I ought to have said that the highest price at Mr. Clement Stephenson's sale was 150 gs., paid for the bull "Best Man of Benton," own brother to a Smithfield champion, for exportation to Tasmania. Altogether we have had a capital trade for cattle, and we are all waiting to see what is to come out of the Northern Shorthorn sales a fortnight hence.

Horsemen are experiencing a period of revival also, and at Mr. Herbert Webster's sale of Clydesdales in Durham the other week, the splendid average of £110 8s. each was got for thirty-eight breeding Clydesdales. The fine big stallion, "Prince Thomas," made 850 gs., his buyers being Messrs. A. & W. Montgomery, and the champion mare, "Lady Victoria," went to Sir John Gilmour, Bart., at 400 gs., and other first-class prices were paid. The general horse trade is also exceedingly brisk, and at the Perth sale the other day work horses and young Clydesdales were meeting a magnificent trade, prices being well up as compared with last year's. Equally good trade has been experienced for Shetland ponies. The Marquis of Londonderry has had

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for many years a breeding stud on the Island of Bressay, in Shetland. The great bulk of the ponies bred there are used in his pits in Durham, but the pick of them have for many years swept all before them in the national showyards. His Lordship has now given up working several of the pits in which these ponies were used, and has therefore abandoned his breeding farm on the Island of Bressay. The whole stud was transported by steamer direct to Seaham Harbour for purposes of sale, and an extraordinary demand was experienced. There were buyers from all quarters, and trade was very lively. These miniature Clydesdales have been greatly improved under the supervision of His Lordship's factor, Mr. Robert Brydon, and some idea of the model nature of these beauties may be inferred from the fact that one of them, named Princess, stands only 34 inches high. One of the mares sold at 125 guineas, another at 80 guineas, and another at 60 guineas. A two-year-old filly made 60 guineas, and a yearling 26 guineas. Stallions made 70 guineas and 50 guineas each. The average price of 167 head was £23 16s. 5d. each. It looks as if it might almost pay better to breed Shetland ponies than horses. At another sale held at Bingham, Aberdeenshire, twenty-nine ponies, reared from an Exmoor foundation, made an average of £39 7s. 2d., and the stallion at the head of the stud, "Sir Christopher," has since been sold privately to the Prince of Wales for 200 guineas. If Scottish stock-breeders are not satisfied these times, they never will be. "SCOTLAND YET."
September 30th, 1890.

FARM.

Harvest the Turnip Crop in Good Time.

The weather conditions in many sections up to the present time point to an early winter, and it is of doubtful advantage to wait till the last moment before taking up the turnips in order to secure a little greater bulk of crop at the risk of a disagreeable "turniping" and loss by heating in the cellar as a result of the roots going together in mucky condition. The 20th of October is, usually speaking, late enough to commence, if one has a considerable acreage under this crop. In any case it is well to have the entire crop together by the end of the month. It is a very disagreeable and slow job digging roots out of snow, or hauling them to the barn when the wagon wheels sink half-way to the hubs in mud; and turnips put together in any other condition than dry or nearly so will surely give trouble in the cellar or pit.

The writer has tried each of the following ways of taking up the crop, viz., hand pulling and topping and tailing with a knife, topping with a hoe and harrowing out the roots, topping with a hoe and digging with the mattock, using a patented turnip harvester that cuts off the top and the roots and lifts them aside, and last of all, topping with a hoe and plowing out by using a share with an extension on the wing in the form of a hooked knife that runs under the roots and cuts them loose, while they are tipped out of their places in the row by two rods which take the place of the moldboard. This last method is the only one we would think of using now, after a thorough trial of each of the forenamed plans, as it is expeditious, clean, and the roots are rowed up, two into one, ready to be picked up into the wagons. The rodded moldboard allows the adhering earth to fall away when the turnips are turned over into the rows, so that in a very short time after they are taken up they are fit to draw. When topping the roots, two rows should be thrown together and allowed to wilt a couple of days before the plow is put to work. The roots should then be thrown into the empty rows, so that they can be rapidly picked up without the interference of the tops.

Root houses are generally located beneath barn floors that can be driven upon, making it easy to unload into different portions of the cellar without their having to be moved again (unless dumped on the floor and thrown over by hand), and where the former is the case, the roots should either be unloaded with a strong wide fork or else run over a screen so as to avoid much earth going in, as even though the roots come in fairly dry and clean, several loads dumped in the same place will carry in considerable soil, which will tend to generate heat. Where all the roots have to pass through side windows, considerable picking back can be saved by extending planks from the windows half-way across the cellar. It is much easier to allow the roots to roll than to throw them back by hand. Turnip harvesting is at best a laborious, unpleasant job, and it is well worth while making an effort to adopt plans that will hasten or lighten it in any way.

When turnips are housed dry and clean, the labor of caring for them is not at an end. The windows and all ventilators should be left open till danger of frost threatens, and even then the openings should be closed gradually, as turnips are more liable to heat than any other sort of roots. Some root houses have ventilated or slatted sides; that is, inch strips are nailed to the walls, and on these slats are nailed two inches apart, so that a free circulation of air can surround the body of roots. Be-

sides this, it is well to have at least one slatted ventilator running through the center of the house from end to end, and the ends of this should connect with the side ventilators. When turnips commence to heat, it is no little job to get them cooled down. It is, therefore, wise to use preventive measures. After the house has been practically closed up, it is a fairly reliable guide to watch the ceiling, which will become moist if heat is generating in any part of the cellar; and should drops of water appear, some ventilation should be admitted at once, as a precautionary measure at this time may save a lot of picking over or loss of roots.

It is not enough to guard against heating, as frost is quite as destructive to the roots, and when they are fed in that condition sickness and abortion are liable to follow, especially with ewes. The walls and ceiling should be made draft proof and covering or banking provided where there is danger of frost getting through, which is most liable to occur as the roots become used out past midwinter, when continued low temperature is liable to occur. A root crop is at best an expensive one and well worth saving when once it has been secured.

Bone Meal as a Fertilizer.

Owing to failing fertility on many farms, information on the value and use of the various standard fertilizers is eagerly sought. To many the use of bone meal is of doubtful advantage, as its action in the soil has been found so slow. It was this impression that led Mr. Wm. Murdock, manager of the London Asylum farm, to enquire into the results of experiments with bone meal on the Guelph Experimental Farm, and in answer to a letter addressed to that institution, the following letter has been received:



CLYDESDALE STALLION, SIR MARENGO (IMP.) (10462).

Won 1st prize at Western Fair, 1888.
THE PROPERTY OF E. R. HOGATE, TORONTO, ONT.

W. Murdock, Esq., London Asylum:

DEAR SIR,—I have been asked to reply to your query regarding bone meal. Bone meal is a very insoluble form of fertilizer; that is to say, the plant food which it contains is very slowly given up to the plants. In nearly all experiments which have been made, the increased yield in crops does not pay for the fertilizer during the first year. It is believed, however, that its influence extends over several years, but it is a difficult matter to determine just how great this influence is.

For five years bone meal has been compared with a number of other fertilizers at the College, with potatoes. I might mention a few results, the figures given in each case being the average of five years. Each year one plot was left without fertilizer, for comparison. Some of the results are as follows:

No fertilizer.....	121.69	bushels per acre.
Bone-meal.....	132.44	" "
Mineral superphosphate.....	141.61	" "
Animal.....	143.60	" "

You will see that the bone-meal plot gave not quite eleven bushels of potatoes per acre more than the plot without any fertilizer, and came about half-way between the no-fertilizer and animal-superphosphate plots.

Taking everything into consideration, the use of bone meal is of doubtful value on good average soil. If used, I would prefer to sow on the surface of the soil in the fall, and then rib the land up as for turnips, allowing it to lie in this form until spring.

G. E. DAY.

H. H. Hume, B. Agri., an associate of the O. A. C. Guelph, has been appointed Botanist and Horticulturist in the Florida College of Agriculture and Mechanical Arts. Mr. Hume was silver medalist at Guelph, and late assistant in Botany and Horticulture at the Iowa Agricultural College, Ames.

Services Appreciated.

At a meeting of the Advisory Board of the Ontario Agricultural College, Guelph, on September 28th, the following resolution was unanimously adopted:

"Moved by Mr. Jeffs and seconded by Mr. Donaldson, that this Advisory Board of the Agricultural College hereby express its appreciation of the work done at the Ontario Experimental Farm by Mr. Wm. Rennie, as farm manager during the past six years, and their pleasure at the marked improvement in all sections of the department under his charge; and wish for himself and his family, on his separation from the farm and college, continued good health and prosperity for many years to come.

"(Signed) JOHN I. HOBSON, Chairman.
"WM. DONALDSON.
"JOHN McMILLAN.
"DAVID DOWLING.
"EDWARD JEFFS.
"G. B. BRYCE."

Protecting Water Pipes from Frost.

To the Editor FARMER'S ADVOCATE:

SIR,—I see in the FARMER'S ADVOCATE of Oct. 2nd a question asked re frostproof covering for water pipe. I laid a one-inch water pipe from well to barn, a distance of 200 feet, seven years ago. I laid it in four-inch tiles (drain tiles). I thought the air space would help keep it from freezing, and the pipe would not rust out as quickly as if it was laid in the earth. I put it down 3 feet, and it has never frozen yet; while two of my neighbors, one on each side of me, put their pipes 3 feet down (they claim), and both of them have had their pipes frozen several times, and, of course, remained so two or three months, which is a great nuisance. My pipe runs into the cattle stables straight from the well at the house, so that by unjointing the pipe at the well we can draw the pipe out into the stable and shove it back again if anything should go wrong with it. The water is pumped by wind power into a large tank over the washing room, which gives it force to the stables, keeping tanks, etc., constantly filled.

Brant Stock Farm.

J. H. JULL.

DAIRY.

Cows Should Have a Holiday --- Continuous Housing in Cold Weather.

To the Editor FARMER'S ADVOCATE:

SIR,—Referring to the question, "How long in each year is it wise to milk a cow?" I would say that every man should use his own judgment. If a cow is in rather low condition, it would be well to dry her off a little early, both for the benefit of her offspring and that she may milk better after coming in fresh. On the other hand, if the cow is in extra high condition, she should be milked well up towards calving to avoid milk fever.

It is poor policy to let a cow dry early and feed her extra well so as to have an extra good cow after she comes in, and take the chance of losing her with milk fever (we lost our two best cows last year from this cause—one in September, the other in February). Our experience has been that, under ordinary conditions, a cow should milk well for ten months of the year. Spend two weeks drying her off and allow her to rest six weeks. Part of that time her teats should be examined, for fear of any sediment gathering in them.

As to whether cows should be kept tied all winter, or if they should be turned out a while every day, our practice for the last thirteen years has been, as soon as the first frosty nights come to tie in our cows at night and turn them out through the day, except a wet or cold day, and as soon as real cold weather comes, say the latter part of November, we do not turn them out again until spring, but have water before them where they can drink at will. Our reason for this is that we should not try how much hardship our cows will stand, but how comfortable we can make them, and, to get the best out of a milch cow, she wants to be kept at a temperature as near 60° Fah. as possible. If a cow is kept at that temperature and fed ensilage and other good food, she will cast her hair in the latter part of December or first part of January; and a cow with her new hair on and in a stall at a temperature of 60° Fah. and fed warm ensilage is not in a very fit state to be turned out on a cold day. We have kept our cows in for the last thirteen years and have found no bad results; but, on the other hand, find it a great deal less trouble, and believe it is better for the cattle.

Lanark Co., Ont.

JOSEPH YUILL.

Should Cows Have a Holiday?

There are many opinions held as to how many months of the year a persistent milker can be profitably milked. Some claim that cows that are not easily dried give just as much profit and produce as vigorous offspring when milked continuously as when they are allowed a period of rest or idleness from the active operations of giving milk twice a day. Others of keen discernment and wide practical experience can see advantage in moderation, and prefer to allow their cows to build up and nourish their fetus while being relieved from the duty of milk-giving for from four to six weeks, or even a longer period, previous to parturition.

In our June 15th issue we referred to the operations on the well-conducted farm of Messrs. Pirie Bros., Middlesex County, who now, in the following letter, send for the benefit of our readers generally a statement of the teaching of their experience on that question, and in regard to the continuous housing of dairy cows for a prolonged period:

To the Editor FARMER'S ADVOCATE:

SIR,—As to whether a cow should be allowed a rest, we would say, from our experience of the last two years with a herd of thirty cows, that it does not pay to milk them to within six or eight weeks of calving. We lost several valuable calves last spring that we could account for in no other way than that the cows were milked too long, thereby weakening the offspring and also leaving the cow in an impoverished condition to start in the spring. The extra feed it takes to keep up the flow of milk is also no small consideration. The amount of milk one gets in return does not pay for the extra feed. As to keeping cows housed from fall to spring, we believe it does cows no harm to turn them out in a sheltered yard for a half hour or so on nice afternoons; but of course when the weather is so cold and stormy that a cow is apt to get chilled, we think she is better left inside.

Middlesex Co., Ont.

PIRIE BROS.

[NOTE—We would gladly hear from other dairymen on these two important points, particularly in view of the fact that the winter season is again approaching.]

Milking Tests at Ottawa Fair.

J. W. Hart, Superintendent of the Kingston Dairy School, who conducted the milking tests at the Central Canada Exhibition, Ottawa, sends us the following account of the test: The prizes offered amounted to \$140, \$50 of this amount being given by the Exhibition Association, a like sum by the Holstein-Friesian Association of Canada, and \$40 by the Holstein-Friesian Association of America, provided the prizewinners were recorded in the Holstein-Friesian Herd Book. Ten cows were entered, including one Ayrshire, but the last mentioned was withdrawn before beginning the test, leaving the field to nine Holsteins. Clifford M. Keeler, Greenbank, entered Princess Lida 4th and Rideau Gretqui. His cows were handicapped by having had the milk left in the day previous to beginning the test on account of judging. C. J. Gilroy & Son, Glen Buell, entered Inka Sylvia 41006, Carmen Sylvia 39060, and Juanita Sylvia 44825. A. & G. Rice, Currie's Crossing, entered Paulina Mercedes Jewel and Daisy Texel 2nd 44831, a cow having seven days' official test of 437 pounds of milk and 18 pound 2.1 ounces of 80% butter as a three-year-old. Queen De Kol 2nd a four-year-old, that had dropped her last calf on July 29th, was entered by C. W. Clemons, St. George. Considering her age, and the fact that she was competing with cows fresh in milk, her performance was a most creditable one. Drummond, of Parry Sound, entered Lucknow Queen. This cow seemed to be more affected by the strange surroundings than any of her competitors. The cows were milked dry at 9 p. m. on Tuesday, Sept. 19th. On Wednesday and Thursday, the days of the test, they were milked three times daily—at 5.30 a. m., 1 p. m., and 9 p. m. In scoring, the solids not fat were estimated to be one-tenth as valuable as the fat. The particulars of the test are given in the following table:

Rank.	NAME OF COW.	Weight of Milk.		Lbs. Fat in 48 Hours.	Solids Not Fat in 48 Hours.	Total Solids in 48 Hours.	SCORE: Solids Not Fat + ten times Fat.
		Lbs.	Oz.				
1	Inka Sylvia.....	132	5	3.73	10.51	14.24	47.84
2	Juanita Sylvia.....	125	8	3.58	10.42	14.00	46.21
3	Carmen Sylvia.....	115	3	3.37	9.15	12.82	43.13
4	Queen De Kol 2nd.....	129	2	3.22	10.49	13.71	42.65
5	Princess Lida 4th.....	105	9	3.27	8.84	12.11	41.53
6	Daisy Texel 2nd.....	108	9	3.19	8.96	12.15	40.87
7	Rideau Gretqui.....	97	4	3.08	8.11	11.19	39.21
8	Paulina Mercedes Jewel.....	95	15	2.60	7.73	10.33	33.76
9	Lucknow Queen.....	86	14	1.97	7.28	9.25	26.98

Dairy Tests at Aylmer and Straffordville Fairs.

The FARMER'S ADVOCATE has on several occasions pointed out the wisdom of the smaller fairs, as well as the larger ones, conducting dairy tests for the educational value of the friendly rivalry between dairymen with their favorite big milkers. The following letter and reports from Mr. R. W. Stratton, of the Guelph Dairy School, who conducted the tests at Aylmer and Straffordville, indicate the capacity of the best cows in those neighborhoods when tested under the disadvantage of new surroundings and in the presence of unaccustomed crowds of spectators:

To the Editor FARMER'S ADVOCATE:

DEAR SIR,—I am sending you report of results of the milking contest held at Straffordville Fall Fair, Sept. 20th, and one at Aylmer Fair, Sept. 22nd.

At Straffordville the old scale of points was used, as they had advertised such, viz.: 20 points for constitution and conformation; 1 point for each pound of milk; 20 points for each pound of fat; 1 point for each 10 days in milk after the first 20 days (limit 200 days); 10 points shall be deducted from the total

score for each per cent. of fat below 3 per cent. of fat in the milk. At Aylmer I used the new scale of points, as follows: 10 points for constitution and conformation; 20 points for 1 pound of fat; 4 points for 1 pound of solids not fat; and 1 point for each 10 days' milking after 30 days, up to 300 days.

The letters opposite the names of cows at Straffordville were used because of more than one cow in the contest having the same name. The same is the case with the Aylmer report, with the letter "(S)" used to mark cows in the three-cow test that were also entered in the single contest.

The milking competition extended over six hours, on the day of the fair. Rations fed to competing cows were not considered. The cows were milked dry at 10 o'clock a. m. on the day of the fair, in the presence of the judge, and again at 4 o'clock p. m., when the milk produced at 4 o'clock p. m. was weighed, and the percentage of fat in the milk determined by the Babcock milk tester.

Notice the small amount of milk and percentage of fat given by the cow Lizzie at the Straffordville contest. On enquiry afterwards I learned that a calf had been sucking this cow all the time, and the cow had only been entered to fill up the test.

R. W. STRATTON.

STRAFFORDVILLE THREE-COW TEST.

Rank	NAME OF COW.	OWNER.	Lbs. Milk.	Per cent. Fat.	Constit'n & Conf'n.	Number Points for				TOTALS.	
						Lbs. Milk.	Lbs. Fat.	Lbs. S. N. F.	No. Days Milking.		- for less than 3% Fat.
1	Daisy (J).....	A. Jackson.....	5.	4.2	16	5.	4.20	1.86	18.8	—	45.86
	Bluey.....	".....	10.	3.9	17	10.	7.80	3.63	19.3	—	57.72
	Brown.....	".....	9.	4.2	17	9.	7.56	3.34	20.	—	56.90-160.48
2	Bobtail.....	T. H. Mason.....	7.	4.4	17	7.	6.16	2.50	2.1	—	31.76
	Lipsit.....	".....	6.75	3.5	17	6.75	4.72	2.32	6.8	—	37.59
	Susan.....	".....	7.25	4.5	17	7.25	6.52	2.57	16.4	—	49.74-122.09
3	Lizzie.....	E. A. Garnham.....	1.75	1.9	16	1.75	0.66	0.63	12.6	11	20.64
	Grace.....	".....	4.75	2.8	15	4.75	2.66	1.66	16.1	2	38.47
	Snowball.....	".....	4.75	4.3	15	4.75	4.08	1.81	20.	—	45.64-104.15

STRAFFORDVILLE SINGLE-COW TEST.

Rank	NAME OF COW.	OWNER.	Lbs. Milk.	Per cent. Fat.	Constit'n & Conf'n.	Number Points for				TOTALS.	
						Lbs. Milk.	Lbs. Fat.	Lbs. S. N. F.	No. Days Milking.		- for less than 3% Fat.
1	Black.....	E. Jackson.....	10.25	3.5	18	10.25	7.16	3.60	18.2	—	57.21
2	Jersey (M).....	S. Murphy.....	4.25	5.5	18	4.25	4.66	1.59	12.2	—	40.70
3	Jersey (S).....	B. Snell.....	4.50	4.4	16	4.50	3.96	1.60	11.3	—	40.36
	Daisy (S).....	D. Spiece.....	6.25	3.1	17	6.25	3.86	2.24	6.1	—	35.45
	Betsy.....	E. A. Garnham.....	2.75	2.2	13	2.75	0.20	1.01	20.	8	29.96

AYLMER THREE-COW TEST.

Rank	NAME OF COW.	OWNER.	Lbs. Milk.	Per cent. Fat.	Constit'n & Conf'n.	Number Points for				TOTALS.
						Lbs. Fat.	Lbs. S. N. F.	No. Days Milking.	- for less than 3% Fat.	
1	Black Teat.....	Wm. Pound.....	11.75	3.4	7.5	7.98	4.22	13.4	—	33.10
	Little (A).....	".....	10.62	3.8	8.	8.06	3.74	13.4	—	33.20
	White.....	".....	10.	3.5	7.	7.00	3.60	14.4	—	32.20-86.30
2	Beauty (S).....	C. M. Clark.....	11.25	3.9	8.5	8.76	3.78	8.2	—	29.24
	Filipail.....	".....	11.	4.0	16	11.20	4.98	27.9	—	60.08-89.32
3	Red (A) (S).....	P. Abbott.....	9.25	4.3	7.	7.94	3.39	11.3	—	29.63
	Black.....	".....	15	3.1	1.35	10.20	5.40	29.9	—	59.00-88.63
	Cherry.....	".....								
	Red (C).....	C. M. Clark.....	12.75	4.0	11.	10.20	4.40	26.5	—	55.10
	Rose.....	".....	5.62	4.6	8.	5.16	1.98	12.9	—	28.04-83.14

AYLMER SINGLE-COW TEST.

Rank	NAME OF COW.	OWNER.	Lbs. Milk.	Per cent. Fat.	Constit'n & Conf'n.	Number Points for				TOTALS.
						Lbs. Fat.	Lbs. S. N. F.	No. Days Milking.	- for less than 3% Fat.	
1	Daisy (B).....	R. Bingman.....	8.12	4.	9.	6.48	2.99	11.7	—	30.17
2	Red (A) (S).....	P. Abbott.....	9.25	4.3	7.	7.94	3.39	11.3	—	29.63
3	Beauty (S).....	C. M. Clark.....	11.25	3.9	8.5	8.76	3.78	8.2	—	29.24
	Daisy Me.....	D. McClelland.....	14.25	2.6	8.	7.40	4.99	0.	—	20.30

Six to Eight Weeks' Rest Preferred --- A Little Outdoor Exercise in Winter.

To the Editor FARMER'S ADVOCATE:

SIR,—We always try to give our cows six to eight weeks' rest between the two milking seasons. Sometimes we find a difficulty in getting them dried off as soon as we would like, and, in that case, would not have more than three or four weeks' rest, and in a few rare instances they are milked up to time of calving; but we try to avoid this as much as possible, as we think it has a weakening effect both on the cow and the offspring. Two months' rest puts a cow in a stronger and better condition for the next year's work, and also gives a stronger and healthier calf. As we raise nearly all of our calves, we want them strong and healthy, with good constitutions. We look after the health of our cattle as well as to the quantity of milk. We want quality first.

Now, with regard to keeping cows continuously tied up in the stable all through the winter, we do not believe in the system—think it very injurious to the general health of the cow, as well as the offspring, although we believe cows will give more milk for a few years if kept continuously in the stable through the winter. We believe in giving our cows a little outdoor airing and exercise two or three times a week, except in very cold, bad or stormy weather, when we keep them in all day, but in fine weather we let them out twice a week for one or two hours at a time. We think this keeps them in better health, although it may cause them to give a little less milk the days they are out, but we think they will produce stronger and better stock, and give more milk in the long-run by having a little outdoor exercise during the winter. This is our experience, and we think we have as healthy a lot of cows as can be found in Ontario.

E. D. TILLSON.

Annandale Farm, Oxford Co., Ont.

ENTOMOLOGY.

Ontario Entomological Society Meets.

The thirty-sixth annual meeting of the Entomological Society of Ontario was held in London on October 11th and 12th. Besides local members, there were present: President H. H. Lyman, M. A., Montreal; Prof. James Fletcher, LL. D., Dominion Entomologist; Prof. F. M. Webster, of Wooster, Ohio, State Entomologist; Rev. Dr. Fyles, Quebec; Prof. C. C. James, M. A., Toronto, Deputy Minister of Agriculture for Ontario; George E. Fisher, Provincial Inspector of San José Scale; Prof. William Lochhead, Guelph, Entomologist of Ontario Agricultural College; Mr. Arthur Gibson, Assistant Dominion Entomologist, Ottawa; and others.

The first session was devoted to discussion upon the San José scale, the subject being introduced by Prof. John Dearness, who traced the life history of the insect, and dealt with its invasions over various portions of Ontario, as they were familiar to him from his work on the San José Scale Commission, reports of which have already appeared in the columns of the FARMER'S ADVOCATE. Prof. Webster, who has had much to do with combating the insect in Ohio, and suppressing it on Catawba Island, claimed that as yet on this continent the insect has few natural enemies. It first appeared in 1894, was traceable to a nursery in Maryland. He has seen badly-infested elms and other forest trees and shrubs. On Catawba Island, fire, kerosene and whale-oil soap were tried. The last-named remedy was by far the most effective, and by it the insect is now under control, but one season's laxity on the part of orchardists would give it a great start again. In order to be effective, the work of treating infested trees must be done by experts, and with great thoroughness, since the insect is so inconspicuous, rapid-spreading and predatory. The work of combating it must not be left to fruit-growers themselves, but a qualified man must be given charge and be made responsible.

Prof. Lochhead characterized the insect as exceedingly destructive if left to itself. "There were," he said, "four important conclusions to be drawn from the work of the San José Scale Commission which visited the infested districts this summer. The first was that the scale cannot be exterminated from the orchards of Ontario; second, any radical methods, such as the destruction of every infested tree, should be discontinued; third, the scale in Ontario is not quite as destructive as the scale in Maryland; fourth, the scale can be held in check by a proper soap solution properly administered." He was inclined to believe that the climatic conditions in Ontario retarded to some extent the destructive capacity of the scale. The distribution among school children of twigs from infested trees would be one means of educating the people to recognize the scale, as well as to the danger of carelessly dealing with the pest. Prof. Lochhead has done considerable experimenting with fumigating infested trees with hydrocyanic acid gas, a deadly poison, which successfully destroys all insect life, but does the tree no injury. It is done inside of a tight canvas thrown over the tree.

Mr. Fisher spoke of the extent of infestations in Ontario as being confined to the districts of Niagara, St. Catharines, a portion of Kent County, where comparatively large areas are infested and have been dealt with, besides over ninety other points where the insect has made its appearance. He claimed it could withstand a temperature of forty degrees below zero, as it lives at St. Paul, Minn. It spreads very rapidly, especially in the direction of prevailing winds.

Prof. James was present, representing the Hon. Minister of Agriculture, who is very anxious to learn from qualified entomologists the best methods of effecting its extermination. He said the question was almost like a nightmare to the Department of Agriculture, who would spend this year \$25,000 combating it. He spoke very highly of Mr. Fisher's work as inspector.

Prof. Fletcher declared the scale to be the most pernicious insect fruit-growers ever had to contend with. It could be treated, however, if specialists who understood their work could be secured, and fruit-growers could be taught that they and the whole community were concerned. This was not a time for dillydallying over the matter. Prompt and stern measures should be taken. "Was Ontario," he asked, "going to allow a thing, known to be a great ill, to be brought in and spread over the country because a few people, who lost a few dollars in trees, are making a big howl?" Prof. Fletcher could not see that it was impossible to eradicate the insect, which was known to be a bad enemy and should not be trifled with. He complimented the Ontario Minister of Agriculture upon the steps taken to stamp out the scale.

At the end of a discussion upon this subject, it was unanimously resolved that "this Society has watched with keen interest, and wishes to express its hearty approval of, the measures adopted by the Hon. Minister of Agriculture for Ontario for

the suppression of the San José scale, and the wise and judicious manner in which he has endeavored to carry them out."

There were exhibited at the meeting specimens of the following trees and plants infested with San José scale: Apple, plum, peach, cherry, black currant, balsam poplar, wild vervain, maple, wild cherry, elm, motherwort, hop, basswood, willow, sumach, fleabane, ash, and some others, besides ripe apples, which showed the living scale in vigorous condition.

The evening meeting programme consisted of a technical address by the president, Mr. H. H. Lyman, that was very interesting to expert entomologists, as it dealt, among other things, with life histories and distinguishing characteristics of several newly-discovered species of insect life. There were also given addresses by Prof. Fletcher and Prof. Lochhead, on peculiar and destructive forms of insects in the field, forest, garden, and orchard.

At this session Prof. Webster read a valuable paper on "One hundred years of entomology in America," in which he pointed out the principal steps and enormous strides that have been taken during that time. The names of Dr. Wm. Saunders, Rev. Dr. Bethune, Prof. Jas. Fletcher, Major Laconte, Prof. Riley, and many others were mentioned as being closely associated with the conspicuous movements.

During the second day valuable papers were read by Prof. Lochhead, Mr. Gibson, Prof. Dearness, and others, which were much appreciated. Reports from the various divisions were read, which showed that much valuable research is being done by this quiet society that is far too little appreciated, particularly since we are aware that about one-tenth of all vegetable crops are yearly destroyed by insects. It is through these scientists that the habits of these insects are worked out, which leads to a means of combating their ravages.

The work of the geological section during the past year is of peculiar interest, as the report read by Mr. John Law, London, showed that several peat beds have been visited and found to be extensive, and of superior quality. The sulphur springs of

GARDEN AND ORCHARD.

Fall Planting of Fruit and Shade Trees.

This may well be practiced to a much greater extent than has been done in the past. Many of our fruit and ornamental trees, if planted in the fall, will make a much greater growth the first season than they will if planted in the spring, especially if the spring planting be done late or after growth begins. In very cold and unfavorable localities, I would not advise planting anything but the most hardy varieties of trees and small fruits in the fall. But in any district favorable to the growth of the apple, fall planting may be practiced to advantage.

The best time to plant is as soon as the frost has caused the leaves to drop, but it will answer to plant at any time after the leaves drop, until the operation is stopped by frost. If planting when there is a strong cold wind, great care must be taken to protect the roots of the trees from contact with it, or they may be injured in a very short time to such an extent that they will never fully recover. Mild weather is preferable at any time of the year for transplanting; that is, weather when you can work comfortably without coat or mittens. There is usually more time for planting in the fall than in the spring. Another advantage is that the roots, where pruned off before planting, have more time to callous over, which must take place before new roots are formed. It is a great advantage to have the trees dug as soon as the leaves drop, prune the roots properly, "heel-in," and then plant when convenient, either in fall or early spring. When trees are not dug until planting time in the spring, considerable time is lost to the growth of the tree. If you dig up one of these trees that have been left in the nursery until growth begins, and plant out and leave it until it has made several inches of new growth, then take it up, you will usually find that it has not yet made any new roots: the new growth has been produced from material previously stored up in the tree; while on the other hand, if the tree had been dug up in the fall, roots pruned, and either planted at once or "heeled-in," the wounds on the roots would callous over nicely before growth starts in the spring, and soon be ready to take plant food from the soil. This will enable the tree to make a much better growth the first season, as the new roots get well established before the dry, hot summer comes on.

Apples and pears can safely be planted in the fall—stone fruits perhaps better in the spring. Among small fruits, the currant, gooseberry, grape, red raspberry and blackberry are better planted in the autumn. All except the grape start root growth at a low temperature very early in the spring, hence the advantage of fall planting. They usually make one-third to one-half more growth the first season when planted in autumn.

Deciduous shade trees are, many of them, better planted in the fall. Especially is this true of European larch, cut-leaf and other birch, maples, and nearly all hardy varieties. When a tree has been planted in the fall, it should have a mound of earth around it to hold the tree in position and to protect the roots during winter. Small fruits should have a mulch of coarse manure or straw. Where this is not convenient, a mound of earth will answer, if heaped up around each plant.

Evergreens should not be planted in the autumn, as they hold their foliage during winter and this foliage continues to draw sap from the tree; therefore, it is not best to disturb the roots until spring. When evergreens have been recently transplanted in the nursery row so that a large ball of earth will adhere to the roots when dug, then they can be safely transplanted in the autumn. With fall planting, it is especially necessary to ram the soil in very firm among the roots to exclude the air and prevent the tree from swaying back and forth with the wind. They should be carefully looked over in the spring, and any that require it straightened up.

"HEELING-IN" TREES. Never hesitate to procure all kinds of deciduous trees in the fall. If obtained from a nursery, open out the bundles, trim the roots properly, and "heel-in" at once. Never allow the air to come in contact with the roots more than a few minutes at a time. Those that you wish to hold for spring planting should be "heeled-in" most carefully. Select an elevation where the water will not accumulate, dig a deep trench and place the trees at such an angle that the trunk may be covered up to the limbs. In this shape they have better protection from the cold of winter than they have if left in the nursery row. It is of the greatest importance to have the soil thoroughly worked in among the roots and tramped as firmly as possible. If trees are in good condition when thus "heeled-in," there is no fear but they will remain so through the winter, and be ready to plant as early as desirable in the spring.

W. W. HILBORN,
South-western Ontario Fruit Experiment Station.



COMPETITORS IN THE BUTTERMILK COMPETITION AT THE TORONTO INDUSTRIAL EXHIBITION.

London and oil springs of Petrolia were also visited, as well as mineral regions of Parry Sound district, where clear mica of superior quality was discovered, as well as much rich copper ore.

The following were the officers chosen:—

President, Rev. Dr. Fyles, Quebec; Vice-President, Prof. Lochhead, Guelph; Secretary, W. E. Saunders, London; Treasurer, J. A. Balkwill, London. District Directors: No. 1, W. H. Harrington, Ottawa; No. 2, J. D. Evans, Trenton; No. 3, D. G. Cox, Toronto; No. 4, James Johnston, Bartonville; No. 5, R. W. Rennie, London. Librarian and Curator, J. A. Moffat, London; Auditors, J. H. Bowman and W. H. Hamilton, London; Editor *Canadian Entomologist*, Rev. Dr. Bethune, London. Editing Committee: Dr. Jas. Fletcher, Ottawa; H. H. Lyman, Montreal; J. D. Evans, Trenton; W. H. Harrington, Ottawa; Prof. Lochhead, Guelph. Delegate to the Royal Society, Rev. Dr. Bethune. Delegate to the Western Fair Association, Rev. Dr. Bethune and Prof. Dearness. Committee on Field Days, Messrs. Balkwill, Bowman, Elliott, Law, Dr. Wolverton, Percival, Rennie, and Saunders. Library and Rooms Committee, Messrs. Balkwill, Dearness, Dr. Bethune, Saunders, and Moffat.

The reports of the officers were of a very gratifying nature. They showed the society to have 552 members, who were scattered throughout the world. The receipts for the past year amounted to \$2,284.22, including a Government grant of \$1,000, and a balance of \$739.25; while the disbursements totalled \$1,707.92, leaving \$576.30 on hand.

On motion of Dr. Bethune, the following honorary members were elected: Dr. L. O. Howard, Director of Entomology at Washington; Prof. F. M. Webster, of Wooster, State Entomologist of Ohio; Dr. J. B. Smith, Rutgers College, New Jersey; and Prof. H. F. Wickham, Iowa City, Iowa.

DESTROYING ANTS.—Make holes with a crowbar or convenient stick, from six inches to one foot deep and about fifteen inches apart, over the hill or portion of the lawn infested by the ants, and into each hole pour two or three teaspoonfuls of bisulphide of carbon, stamping the dirt into the hole as soon as the liquid is poured into it.

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1899 in the Farm Garden.

Every farm should have a good garden, and now is the time to prepare the soil for the garden of 1900. In our experience, the best location is a naturally-drained, friable loam, sloping gently to the south. This year our garden was put on last year's pea stubble, but, owing to excessive rains, was not planted as early as it should have been, but later weather was more favorable, and now we are well satisfied with the products thereof. Our tomatoes and onions were especially good, some of the former (the vine with its fruit) weighing 25 lbs.

Our method of cultivation was as follows: After the peas were removed in '98, the ground was heavily manured and plowed; the land was in sod previous to the pea crop, which, with the manure, left the ground in excellent shape and very clean. No artificial fertilizer of any kind was used. Where we intended to put the onions was manured a little heavier than the remainder. No cultivation was given after it was plowed, although, no doubt, it would have put the land in better condition. In the spring of '99 we set four rows of raspberry, blackberry and black currants at a distance of fifteen feet between the rows, and nearly all grew, although damaged by frost about two weeks after coming in leaf. Between the rows of bushes, cabbage, carrots, citrons, parsnips, beets, early radishes, tomatoes, onions, and sweet corn were planted in rows thirty inches apart and as straight as possible. The ground was kept clean by hand hoeing until large enough so that the horse hoe could be used, when it was kept well cultivated and entirely free from weeds. Cultivation before planting was done with the disk harrow, gang plow and smoothing harrow. Soil for onions should be as solid as it can be made, and the seed sown very shallow. Many people say they cannot grow onions, but the truth is they do not prepare the soil in the right way. Three principles must be strictly observed: rich soil, solid, and free from weeds, which, if carefully carried out, will produce onions in abundance and of the best quality. The location of the garden should be changed every two years at least.

Simcoe Co., Ont.

FIGARO.

Fall Hints for Flower Lovers.

To most successfully grow the summer-flowering annuals, a good deal of the work in the way of preparation of the soil and beds should be attended to in the autumn of the season before. Nearly all the annuals make a far stronger growth and produce much larger and more brilliantly colored bloom, and a great deal more of it, if planted in a rich soil. A few kinds must have very rich soil to give any degree of satisfaction. The labor of enriching beds intended for summer should not be left until spring. Quite often it is difficult to secure manure that is fine enough to incorporate freely with the soil. If such manure is used in the spring, it is dug under the surface of the soil, and very often remains in dry, hard chunks the summer through. The consequence is the plants are in no way benefited thereby, as they derive no strength therefrom. In fact, it is more of a hindrance to a proper growth, as these dry chunks hold the heat, and when the roots reach them they are dried and their growth checked. Get the finest manure you can obtain in the fall—cow manure if you can secure it—break it up as much as possible, and put a coat of from three inches to five inches on top of the bed, and then thoroughly dig it into the soil. When this has been done, put another such a coat on and leave it on top through the winter. The autumn rains will wash the greater part of the strength of this down with the soil, and then when spring comes this may be dug in also. The result of this will be a very rich soil, with no hard, dry lumps of coarse manure to hinder the growth of the plants.

It is now time gladiolus bulbs are dug and being given a thorough drying before being stored for winter. Unless you have a building in which to dry them where there is no danger of freezing, they should not be left in the ground after the middle of October. When dug then they should be put in some dry place, exposed to the winds, and be thoroughly dried. When there is danger of freezing, place them in any cool, dry place for winter. Of course, the place must be warm enough that they will not be frozen. Do not be too risky about leaving them out, as an unexpected freeze-up might come some night and the whole collection be lost. Should one wish to increase the collection, save the small bulblets that are found formed around the base of the old bulbs. These, if planted next spring, will grow to blooming size, and will produce the same kind of flower as the bulb from which they are taken.

Do not dig the dahlias immediately after the tops have been killed with the frost. Leave them in the ground for a few days to ripen up. When handling dahlia roots, great care should be exercised so as not to break the tubers from the main stalk or stem. These tubers do not, as many think, have "eyes" as do potatoes. The bud is at the end of the neck, attached to the skin, and if this neck becomes twisted or cracked, it will cause a slim, poor growth, and if the tuber is entirely severed, it is rendered useless. It is rather difficult to keep

dahlia tubers unless your cellar is dry. If they are allowed to be very damp they are sure to rot. A good way to keep them in small quantities is to cover them with dried soil or sand. Dahlia tubers will not stand the least bit of frost.

If it is the intention to plant any spring-flowering bulbs, such as crocus, tulips or hyacinths, do not put it off any longer. The more roots these bulbs can make in the fall, the larger and more beautiful will be the bloom the following spring. And when you have your bulbs planted, cover your bed with a coat of good stable manure to a thickness of from four inches to six inches. The rain will wash the strength down into the soil, and it is astonishing the difference it will cause in the size and beauty of bloom. This coat must be renewed early in the spring.

If you have had a bed of dianthus that has "spread itself" this season, do not dig it up thinking the plants are worthless. Instead, give the bed a good thick coating of straw, and the plants will come through the winter and next year give earlier and better bloom than ever. Then the time of their usefulness will be ended.

The evergreens, flowering shrubs, rose bushes and perennials should have a good coat of manure to act as a protection through the winter, and to be dug into the soil into the spring.

FLORIST.

Fall Planting.

BY JOHN B. PETTIT, WENTWORTH CO.

Although it is work that is not, as a rule, carried on at this time of the year, the planting of nearly every kind of hardy nursery stock, excepting evergreens, may be successfully accomplished in the fall. In fact, there are several points in favor of setting stock at this season.

(1) There is, as a rule, much more time that may be devoted to putting out a plantation in the fall than at any other time. True, there is plenty to do at this season of the year, but it is not so necessary that it be done *at once* as it is in the spring. At that time everything comes on with a rush. There is the seeding that *must* be attended to if we expect a harvest. Seeding, as we are all aware, must be looked after at the proper time if we expect a bountiful yield, or, for that matter, any yield at all. It so happens that *seeding* time and *planting* time generally come together, and as a result one or the other *must* be neglected for a time. If it be the sowing, the soil becomes baked and dry, and the grain is got in in rough shape, and on account of the dryness does not germinate until our neighbor's has produced a nice green carpet over the field. Or, if it be the planting that is neglected, the same condition of soil will apply, besides the fact that the young stock will have burst into leaf, and will consequently undergo a severe check in transplanting.

(2) If planting is carried on in the fall there is much less likelihood of heavy loss from drying. Of late years it has become quite a common occurrence to have an extended drought at planting time and immediately following it, and extremely dry weather and late spring planting has proved to be the cause of a very large percentage of failure. On the other hand, we are almost certain of having an abundant supply of late fall rains, and planting is more certain at that season.

(3) A great amount of time is gained, and a tree, when planted in the fall, would, the next fall, appear nearly a year older than it would had it been planted during the spring between. By becoming well established in the autumn before winter sets in, they are ready for an early and vigorous growth, and at the first opening of spring the roots, which have made a thorough union with the soil, commence to carry on their natural functions. They do not have to undergo that severe check of transplanting by which many roots are broken and lost, nor form a root union with hard, dry, lumpy soil in order to show some prospects of life.

(4) Should the stock have to be removed some distance from the nursery, it would be found that the roots will not become so dry in the cool, damp autumn weather as they would in the spring, when they oftentimes of necessity have to be exposed to scorching sun and drying winds.

(5) By ordering and securing your stock in the fall, instead of waiting until late spring, you have the opportunity of getting the *best* your nurseryman can produce. You, at any rate, do not have to take the leavings after a long packing season. One might better not plant nursery stock at all than to plant rubbish. Then, there might be a possibility of putting off your ordering so long that your nurseryman's stock is exhausted. By getting your supply when there is no great rush at the packing grounds, as there is always during the spring season, you are not so liable to secure stock not true to name, and we all know how disagreeable such a mistake proves to be.

(6) Another fact which may be considered, is that if the planter has to have hired help to set his stock, as a rule laborers are far more plentiful in the fall, and also wages are generally not so high as they are during the spring months, when *everybody* seems to have to do *everything* at once.

Our springs are of such short duration that much intended work is left undone. Every season that goes by we hear some men saying that they intended planting in the spring, but could not get at it until it was too late, and, as a consequence, the orchard was not set out. The planting of such stock can be more thoroughly and satisfactorily done in the fall.

POULTRY.

Fattening Young Poultry.

With poultry as with other classes of stock, it is a mistake to keep them after they have reached the age at which they should be marketed, as the food they require each day for their support gives the poultry-keeper no profit unless a gain in weight is going on at the same time. All the cockerels and late-hatched pullets should now be fattened for market, and these should be fattened so as to present nice plump yellow carcasses that will at once attract the buyer and command the highest price. If these are in good thrifty condition it will take about ten days to finish them off. Mr. L. E. Keyser, an experienced poultryman, gives to the *Reliable Poultry Journal* his method of feeding. He says: "I place the fowls in lots of about ten each in small coops, partially darkened, and let them go twelve to eighteen hours without food, after which I feed regularly four times a day, giving water and grit before each meal. The first feed consists of a mash of two parts bran, six parts corn meal or millfeed (corn and oats ground together), one part animal meal, and when I have it I add one part cottonseed or oil meal (linseed), with occasionally some cooked vegetables, table scraps, etc. The mash is slightly salted and peppered, and a small amount of molasses is stirred into the water before mixing. Sometimes I add a little beef tallow or green cut bone in place of the animal meal. This mash is fed at 6 a. m. At 9 a. m. I feed green cut clover, rape or chopped roots and vegetables with a little meal sprinkled over it, alternating each day with a feed of whole wheat, buckwheat or barley. At noon wheat and corn are fed, at 4 p. m. the mash is repeated, and at 6 p. m. a liberal feed of whole or cracked corn is given.

"My object is to make corn the principal diet, but to so feed that the fowls will not become cloyed upon it. No other grain will give the results in fattening poultry that corn will, and it is about as cheap as anything we can buy. A fowl fed largely on corn will always have yellow flesh, unless it be of the blue-veined, white-skinned variety. I do not feed all they will eat each time, as I like to keep them in a hungry condition, while inducing them to consume a large amount of food. The more food they will eat the greater will be the gain, and I have never had a Plymouth Rock that refused to take his rations after being placed in the fattening coop. They seem to have been born hungry and are constantly on the lookout for something to eat.

"As the coops are kept dark, they rest and digest their food between feeds, and their flesh grows tender and juicy, and usually they have an empty crop when feeding time comes again. The coops must be kept scrupulously clean, and the easiest way to do this is to cover the bottom with a liberal supply of straw, which should be replenished at least every other day. Where straw cannot be had, fine, dry soil will answer the purpose. Before placing fowls in the fattening coops they should be thoroughly dusted with insect powder.

"Where fowls are in first-class condition a week of this kind of feeding will often bring them to marketable condition, but where they have been on the range, from ten days to two weeks are required. They gain surprisingly fast, and the additional weight will more than pay for the food consumed, while the extra price obtained from having well-fattened stock will be clear profit. There are many people, and the number is growing, who are willing to pay a fair price for a superior article, and it is to this class of trade that the poultryman must look for his support. When dressed fowls sell at less than ten cents per pound they have gone below the cost of production, unless it be some old hens that have paid for themselves twice over in eggs. Well-fattened poultry will nearly always bring better than this figure, and if we take proper advantage of the market, and dispose of our stock before the flood of carelessly-raised poultry arrives, or hold it until after the glut is over, if they be late-hatched birds, we can still make a nice profit on market poultry."

Fattening Young Geese for Market.

The goslings should reach market proportions at from twelve to sixteen weeks old. Previous to the day of killing they should have had from ten days to two weeks of heavy feeding. Coax them to eat every possible quantity, three-fourths meal and one bran, and fifteen per cent in bulk of the best beef scraps, with an occasional feed of whole corn. If to be sold alive the weight counts, but the fattening will have to be done over, as a change of quarters worries the birds, quickly removing the fat and compelling the second fattening, which is always more difficult than the first. They are killed by bleeding in the roof of the mouth and a blow on the head, and are picked substantially the same as a duckling. About half the neck next to the head, also the wings above the first joint, are left unpicked, though the long flight feathers are pulled from the wing. They are marketed with heads on and undrawn, except in midwinter, when many of the western geese are headed, while some are drawn and some are not. When dry-picked in warm weather they should be cooled in cold water and much care taken that all the animal heat is expelled before packing for market. In winter a douse in cold water helps the looks and adds to the style of the carcass, but they should be thoroughly dried before packing.—George H. Pollard, in *Reliable Poultry Journal*.

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.]

A WORD TO "A SUBSCRIBER," CUMBERLAND COUNTY, N.S.

As a rule, questions that come to us without signatures find their way into the waste basket, but occasionally one reaches us that is of general interest. "A Subscriber," Cumberland County, N.S., has sent us such a question, which will receive our attention as soon as he lets us know who he is. It would be well to read our announcement at the head of the "Questions and Answers" department. We do not publish subscribers' names if they make a request of that nature.

Veterinary.

IMPOTENT BULL—BLACKLEG IN CALVES.

"My thoroughbred bull, four years old, is kept always in the stable in a stall, tied up; never overfed, only plenty of hay and water; always in good health and good order. He serves cows perfectly at all times, but it seems they can scarcely be got in calf. Is it a disease amongst the cows, or has the bull become diseased in the sexual organs and infects the cows during service? I have been informed that there is a growth on the inner portion of the bearing just at the entrance, which grows and forms a small lump which becomes inflamed, and have been told that removing this with a knife would stop cows from coming in season, but have not had any former experience. I have operated upon three of them now, not knowing the result yet, nor not having seen it done before. I have also been informed that searing the part with a hot iron after service will stop them coming in season. Will you kindly inform me what is the trouble, and what is the remedy, and have I done any good or harm in operating as stated?"

"I have met considerable loss in my calves a few days ago. I lost one fine thoroughbred Durham bull calf and three extra good grades with blackleg. There are some others losing in this locality. The animals were in good order, getting warm, fresh separated milk morning and evening as soon as separated, and plenty of good grass, but were not fat. What is the cause of this? I lost one by it last season. I took them all away and buried them in the woods. Is there any certain cure? I have just been informed by a man who says he cured them some years ago by cutting the flesh open and putting into the wound pieces of garlic and binding up the wound then. They take it very suddenly, and sometimes die in one day."

[The bull is in all probability not affected with any disease, but has become impotent from some cause. It is generally noticed that male animals that are kept in the stable without exercise, as your bull has been, become impotent. I would advise considerable and regular exercise, and if it be in high condition, restriction in the quantity of food. Two or three hours daily on a tread power is good practice for a stock bull that stands the rest of the time in the stall. If you can't exercise him in this way, have him lead around, or turn him out in a paddock. Indolence is very productive of impotency in all males. I do not think there is any disease in either your cows or the bull. I have frequently known similar cases which, when treated as suggested, become potent. As to the operations of which you speak, the idea that such can do any good is simply ridiculous. Still, I don't think that any particular harm will result, probably nothing worse than a slight soreness for a time. The growth that you talk of removing is what is called the clitoris; it is present in all female mammals, better marked in the mare than in the cow. It really has nothing to do with the actual process of regeneration. It has no direct connection with either the ovaries or the womb, and consequently, its presence or absence cannot influence conception. If your cows are very fat, I would also advise their reduction in flesh. If this usage will not be the means of rendering your bull potent, I would advise his preparation for the block.

As to blackleg in your calves, I may say that it is a form of anthrax—one of the worst and most deadly diseases to which cattle are subject. It attacks very suddenly and usually results fatally in a few hours. It is contagious, and mostly all animals and man are liable or susceptible to the contagion. This form of the disease does not in all cases prove fatal, but the percentage of recoveries is extremely small. The treatment you mention might act as well as any other. The only treatment is to open up the quarter and insert some irritant, and garlic will act as an irritant. But I wouldn't attempt treatment, as it is dangerous to the operator. The danger exists in the liability of getting the germs in a cut or sore on your hands. It is caused by a germ which is usually got on low-lying pastures, especially pastures that have been inundated in the spring and then a dry season follows.

These germs are very tenacious to life, and when animals dying from the disease are buried, the germs work up to the surface of the soil, get on the herbage, are eaten by cattle the next year and the disease produced. Therefore, all animals dying from the disease should be burned. I would advise the plowing of the field in which the calves have been pastured, and cropping for at least two years, the removal of the calves to pastures known to be all right, and particularly the burning of all carcasses.

O. A. C., Guelph, Ont.]

TWO SIMILAR CASES OF SICK FOWLS.

1. A. C. G., Wentworth Co., Ont.:—"What is the matter with our turkeys? The symptoms are: The head begins to swell below the eye in a ridge from the nostril along to the back of the mouth, and when opened, a thick clear fluid runs out, and when left, gets dry and crumbly, of a yellowish color. They get dumpish and do no good, though they do not seem to die from the disease. Let me know the name of the disease, also a cure, if any."

2. H. S. McD., Elgin Co., Ont.:—"Inside of the last few days the greater portion of my hens have become very drowsy, the roosters among my flock have ceased to crow, which is very unusual—and young fellows at that. They stand around with their heads drawn down. Their heads have begun to turn black, and a liquid comes out of their mouth, yellowish in color. Their appetite seems to be good; they will try to eat until they get so weak they stagger. My hens seemed to be doing very well until a few days ago, and I see no reason why a disease should attack them. They have roosted outside during the summer months. Please advise me of a remedy for this disease."

[1. It is difficult to state positively what disease your turkeys have, but judging from the description given, I am inclined to believe they have roup or perhaps canker. If the subscriber could express us a live bird or two we would be greatly obliged. I would recommend the use of Conkey's Roup Cure. It is sold by many seedsmen and by J. C. Daniels, 221 River street, Toronto. This is one of the best

of sulphur, lard and coal oil, and seem to have checked the disease where it first appeared, but new spots occasionally appear, and to-day the same disease appears on a younger bull, occupying the same stable. At the time of the outbreak the bulls were running at pasture in the day and stabled at night, fed a little chop grain night and morning, and were in good condition. Since the outbreak they have been kept in almost constantly, fed no grain except a little to conceal doses of sulphur, one ounce at a time, twice a week, and have been fed green food as far as possible, mostly turnips and green oat sheaves. Have I a case of mange, or what is the matter and what the best treatment?"

[Your bulls are affected with a form of ringworm technically called *tinea tonsurans*. Wash the parts thoroughly with warm soft water, soft soap, and strong ammonia. To one pailful of water put eight ounces of ammonia. Rub the parts dry, and at the same time remove all crusts with a brush and coarse cloth. Apply afterwards the following ointment: Iodine and iodide of potassium, of each six drams; alcohol, sufficient to dissolve the iodine and its salt; mix with eight ounces of vaseline. Apply the ointment once every three days until three or four applications have been given. The disease is infectious, therefore you should cleanse and disinfect the stalls occupied by the affected animals. Crude carbolic acid, eight ounces to a pail of water, makes a good disinfectant.

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

Miscellaneous.

GREEN MANURE FOR SUMMER-FALLOW.

A. A. D., Haldimand Co., Ont.:—"I have an oat stubble field that I wish to summer-fallow next year. I have no yard manure for it, and would like to have your advice as to what crop I should sow for green manure. I have thought of corn, peas, and clover. Kindly advise me of the best mode of treatment, and quantity of seed to sow per acre?"

[Of the three crops mentioned, clover holds a place away in the lead for plowing down, but the plants should by this time have made a good start from seed sown last spring or at least during the summer. In Haldimand County, however, especially if the field in question is of lightish soil, a crop of Crimson clover may be secured in time to plow down in August, which would be rather late to give the field its proper share of cultivation. Regarding corn for this purpose, we do not hold it in much favor, although we cannot speak from much experience with it as a green-manure crop. To sow it thickly would cost considerable for seed, and to sow it thinly one would require to wait till it had grown to an awkward size to turn under, before much substance would be secured for plowing down. During this time, however, cultivation that would be good for the field could be given. The fertility received from such a crop as corn is not an addition of material, but rather a transformation of insoluble fertility in the soil to plant food in a soluble form. Corn

develops from what it gets from the land in which it grows, and when it is plowed down, what it has taken is not only returned, but its decomposition in the soil dissolves more inert plant food, rendering it ready for the next crop that follows. While all this is true with clover, peas or tares, an addition of nitrogen—the most valuable fertilizer—is made from the air, so that a double advantage is secured from plowing down green crops of this nature. To seed with peas is rather expensive, as not less than 7 or 8 pecks should be sown per acre. Tares or vetches have the same power of appropriating atmospheric nitrogen, and serve well to plow down when just past the blossoming stage. They should be sown either broadcast or in drills, at the rate of 4 or 5 pecks per acre. Buckwheat is a favorite crop to plow down, as it produces a good bulk of vegetation in a short time, and seems to have a special mellowing effect on the soil into which it is plowed, although it does not abstract any atmospheric nitrogen. It should be sown about 5 pecks per acre. When corn, peas, tares or buckwheat are used, the land could be cultivated several times after plowing in the spring, before it would be necessary to sow the crop, as the first of June would be a good time to sow to get a satisfactory growth in time to plow down. It would help to improve the condition of the land if it were left over winter in ridges as for turnip drills, but in order to put it up well, the field should have been plowed early in the fall. If it is desired to try Crimson clover, it should be sown at the rate of 12 pounds per acre, about the first of May.]

AILING TURKEYS.

ANNIE L. LAWSON, Kent Co., Ont.:—"About two weeks ago one of my turkeys, nearly full-grown, suddenly became swollen about the head, its eyes became weak and watery, and almost blind; the sacks below the eyes felt as full of water, and the head appeared pale, yet its appetite was fairly good, but owing to the swellings it could not see to pick up its food. It still lives and eats some, but is otherwise about as when first attacked. Now I discover that several others are also affected. Please give me the benefit of your knowledge in my dilemma."

[See replies to "Two similar cases," in this issue.]



PAIR OF IMPORTED YORKSHIRE SOWS UNDER SIX MONTHS.

One to the right won 1st prize at Toronto Industrial, 1899. THE PROPERTY OF D. C. PLATT, MILLGROVE, ONT.

remedies we have tried. The parties who manufacture the above guarantee it, and if it fails they will refund the amount paid.

2. I believe the chickens have the same disease as the turkeys, and would recommend the same cure. Causes of the disease are: Cold and damp weather, especially when the weather previous has been warm and fine. The last few weeks have been very trying on poultry, and, unless well protected, have been followed by colds, distemper, and roup or canker. Nearly every poultry yard that I have visited during the last three weeks has had some bird more or less affected. Another cause is roosting in drafty buildings or in buildings where there is not sufficient roosting room, the result being the fowls crowd upon the perches, which causes them to sweat, and when they come out on a cold morning take more or less cold. It is also caused occasionally when fowls that have been roosting out all summer are brought into close-crowded winter quarters. The disease is very contagious, and all diseased fowls should be isolated from the others. I prefer to feed sick birds warm soft food, to which has been added a small amount of pepper. Parties who have cases of roup would confer a favor if they would express a live bird or two to the Bacteriological Department of this College, as the Bacteriologist wishes to investigate the disease.

W. R. GRAHAM, Manager.

Poultry Department, O. A. C., Guelph.]

RINGWORM.

SUBSCRIBER, N.-W.T.:—"Shorthorn bull, 1 1/2 years old, imported from Ontario, July 1st, was attacked with some bad skin disease about September 1st. First appearance was at and under the root of the tail, as if he were scalded, followed in a day or so by scurfy eruptions on the sides of the body about midribs and on the shoulders; later on, on the belly and on the neck. Those on the sides and shoulders are about two inches in diameter, while those lower down on the body and on the neck are of irregular shape, and quite sore when rubbed. There is very little itching at any time, but about the second or third day after appearing they become quite hot and tender. I applied an ointment

CHARACTERISTICS OF OXFORD DOWN SHEEP.

I. O. F., Lennox Co., Ont.:—"There are two or three farmers in this district who have a few Oxford Down sheep for sale. I am thinking of buying a few sheep of one of the Down breeds, but am a little doubtful about the breeding of these sheep. Their faces and ears are spotted with gray, and there is a little brown wool on top of their heads. They are recorded sheep. Should their faces be spotted or wool brown on top of their heads? What are the characteristics of the Oxford Down sheep, and how do they compare with the other Downs."

[The Oxfords are the largest of the Down breeds of sheep, and should have a heavy, thick fleece, not too curly. The highest standard requires a solid dark color of face and legs, a crown well covered with white wool, and a heavy foretop, but these are fancy points, and there are many good registered Oxfords that are a little off in color, having white spots on face and some black wool on crown, but they need not be discarded for this, if otherwise meritorious. These points may be overcome in their offspring, by the use of sires measuring up to the best type.]

COMPOSITION OF PEA STRAW.

WM. WELSH, Bruce Co., Ont.:—"Many farmers in our district leave their peas uncut long after they are ripe, until the threshers are ready to thresh them direct from the field. As many of these farmers place no value on the pea straw, they usually set fire to it as soon as the machine has moved away. I consider this a huge loss, as we have no better absorbent than pea straw, and the straw itself bears considerable nitrogen. Please publish the analysis of pea straw."

[Air-dried pea straw contains an average: water, 16.00 per cent.; fat, 2.10 per cent.; carbohydrates 27.93 per cent.; fiber, 30.98 per cent.; ash, 5.67 per cent. The percentage of nitrogen in the dry substance is 1.55 per cent., which, of course, is destroyed by burning.]

A. E. SHUTTLEWORTH, Chemist.
O. A. C., Guelph, Ont.]

SOD FIELD FOR RAPE NEXT YEAR.

PRINCE EDWARD:—"I have a field of light land in sod, that was pastured for several years. If plowed this fall, would it make a successful rape field for 1900?"

[The piece of land referred to, if plowed early this fall and well worked up next spring till June, should produce a heavy crop of rape if sown with good seed.]

MARKETS.

FARM GOSSIP.

Nova Scotia Apples.

While the crop of apples in this Province cannot be considered as a full crop, yet it is estimated by those best qualified to judge, that it will exceed by several thousand barrels that of 1898, which was about 400,000 barrels. The bulk of the Gravensteins have already been forwarded, and returns have been received for some of the first shipments. These have netted growers from \$1.90 to \$2.75 per barrel, which is a considerably higher price than was realized by those growers who sold at home. There have been several buyers in the Annapolis valley and they have paid from \$1.50 to \$2.00 per barrel for Gravensteins. This gives them a good margin of profit, which the growers should have secured for themselves.

Nova Scotia Gravensteins are justly famed for their excellence and will always command a good price in markets where they are known. The Gravenstein stands pre-eminent as a profitable market apple in this Province, yielding large crops of the finest fruit, and the trees coming into bearing at a comparatively early age. Other valuable sorts are Ribston Pippins, King of Tompkins, Baldwin, Blenheim, Fallawater, Rhode Island Greening, and Nonpareil.

Nova Scotia apples are shipped chiefly to London, where they are best known and particularly appreciated, but Liverpool also receives a large number, and from these two great centers they are sent out to other large cities of Great Britain. Boston is another important market, but the duty is so high as to render it unsatisfactory, except as an outlet for surplus fruit. F. C. SEARS.

Appreciated in Boston.

The United States Farmers' National Congress, recently held in Boston, Mass., was addressed by Prof. C. C. James, Deputy Minister of Agriculture for Ontario, who spoke on the "Teaching of the elements of agriculture in the common school," which he regarded as imperative. The paper was so highly appreciated that the Congress, for the first time, paid the speaker the distinction of passing him a rising vote of thanks. Prof. James W. Robertson, Canada's Agricultural Commissioner, captivated the audience by his address on the Canadian Department of Agriculture, winning enthusiastic applause, a hearty vote of thanks, and election to honorary membership.

Chatty Stock Letter from Chicago.

FROM OUR OWN CORRESPONDENT.

Following table shows current and comparative live stock prices:

	Extreme prices now.	Top Prices		
		ago.	1898	1897
Beef cattle.				
1500 lbs. up.	\$5 85 to 7 00	\$6 90	\$5 85	\$5 55
1350 to 1500 lbs.	5 35 to 6 90	6 75	5 80	5 35
1200 to 1350 lbs.	4 90 to 7 00	6 60	5 70	5 35
1050 to 1200 lbs.	4 60 to 6 45	6 25	5 70	5 25
900 to 1050 lbs.	4 45 to 6 15	6 00	5 60	5 10
Hogs.				
Mixed.	4 30 to 4 85	4 80	4 00	4 35
Heavy.	4 10 to 4 75	4 75	4 00	4 35
Light.	4 40 to 4 80	4 85	3 95	4 40
Pigs.	3 75 to 4 82	4 85	3 90	4 30
Sheep.				
Natives.	3 00 to 4 50	4 30	4 60	4 35
Western.	3 25 to 4 10	4 30	4 40	4 10
Lambs.	3 90 to 6 00	5 90	6 00	5 80

While Chicago received the largest September run of cattle and the largest month's receipts on record in September, 1892,

the number of "natives," including corn-fed westerns, received here last month was only 11,000 smaller than in September, 1892, being the second largest September receipts of natives since 1892.

Here is an interesting pointer, a "straw" which shows which way the wind is blowing: George H. Hutchins, writing from Carleton, N. M., says: "The season promises to be an active one in the shipment of beef cattle, as the high prices realized are bringing out stock that would otherwise have been held over. As a proof of this a man from below here, on the Rio Grande, shipped last week four cars of Hereford calves, one-third of which were heifers, to market. On being asked why he did it, he replied that he 'needed the money.' The calves were from three-quarters to standard."

A stockman back from an extended trip west says that the tendency in the corn belt is toward a marked shortage in marketable stock in the near future, as compared with other years. Farmers generally have the average amount of young stock on hand, but seem to have plenty of confidence in the future markets. Therefore they will get stock good and ready for market before letting it come forward. He says receipts of western sheep and lambs will be very large this month, after which will follow a very material let-up in supplies.

There is doubtless a shortage of matured hogs in many sections of the country. The receipts continue from week to week very light, and general reports indicate that it will be close to the end of the year before the big runs commence. This is the way hogs are being used just at present: The number of hogs slaughtered at Chicago last week was 126,800, against 121,700 the previous week and 146,300 a year ago. Armour packed 35,000; Anglo-American, 10,200; Boyd & Lunham, 5,800; Chicago, 3,600; Continental, 3,700; Hammond, 4,300; International, 5,200; Lipton, 3,700; Morris, 8,700; Swift, 28,700; Viles & Robbins, 8,500, and city butchers, 7,400.

The \$7.00 point was reached for Illinois cattle. That price was obtained by H. E. Rockwood, of Grand Ridge, being the highest this year, and, in fact, the highest for any month since 1892, and the highest October price since 1884, being \$1.10 higher than the top last October, \$1.60 higher than the top in October, 1897, and \$1.70 higher than the top in October, 1896. There were fourteen head in the lot, being dehorned Short-horns, averaging 1,648 lbs. Mr. Rockwood bought 90 feeding cattle here last February at \$4.60, averaging 1,050 lbs. This lot was the top of the 90 head, and it was certainly a fine lot. They were on full feed nearly eight months, being fed shelled corn, with two pounds of oil cake per head during the last sixty days. During Christmas heaves in December, 1891 and 1892, the day's cattle are the highest in fifteen years, being 40c. above the first Monday of last month and \$1.50 higher than the first Monday of last June.

W. B. Ross, a ranchman of eastern Colorado, who was at the yards, said: "The present prices of beef cannot be maintained. For two or three years the western cattlemen have not been selling any calves, and the result is that the ranges are full of marketable cattle. At present they are being forced for the Chicago market on green corn, and when the movement which has begun toward the market increases the price is bound to drop. The principal break, in my opinion, will come in February."

A Chicago man bought a black and white spotted "polkadot" mule, paying \$200 for it.

It is rather surprising that sheep prices are not higher, in view of the fact that beef has been selling so well, and that the consumptive demand is so large. Of course, the supplies at most all the market points have been very heavy for a month or more, and the temporary demand must have been well satisfied. Many people have switched off on mutton since beef has reached such an aristocratic notch, and this ought to make prices better. However, such is not the case. After the bulk of the range sheep have been marketed dealers anticipate an improvement in the trade. At present figures, though, the sheep-man is not faring badly. Prices are about the same as a year ago, and wool is very much higher and the demand for the fine class the strongest in many years.

Toronto Markets.

The market for cattle has been particularly dull for the past two weeks. Partially on account of poor quality of cattle offered, also due to the fact that 800 export cattle missed shipment owing to the wreck of the SS. Scotsman on Belle Isle, Newfoundland. There is a good demand for choice export cattle, which are scarce, and shippers find it difficult to secure sufficient of the best class of cattle to fill space contracted for. All good quality fat cattle were quickly bought up at higher prices to-day.

The receipts at the Western cattle market last week were as follows: Cattle, 2,536; sheep and lambs, 2,750; hogs, 6,186; calves, 27. Weigh scale fees, \$127.50.

Export Cattle.—The bulk sold at prices ranging from \$4.25 to \$4.85 for the run. Choice heavy export cattle sold at from \$4.80 to \$5.10 per cwt. Mr. O'Reilly bought 8 choice exporters, \$4.80 per cwt., average 1,200 lbs. each. An exceptional choice load of cattle, averaging 1,190 lbs. each, sold for \$4.15 per cwt. One load of cattle, the pick of the market, sold for \$5.15 per cwt., average 1,275 lbs. each.

Butchers' Cattle.—Choice butchers' cattle sold well. Those weighing 1,000 to 1,100 lbs. each sold at from \$1.12 to \$1.35 per cwt. Medium butchers' mixed, cows, heifers and steers, \$3.40 to \$3.65 per cwt. Common butchers' cattle sold from \$3.00 to \$3.40 per cwt. A lot of rough butchers' cattle have been lodged on this market for two weeks. This helps seriously to depress the value of the better class. The local butchers complain that they cannot buy the quality that their trade demands, and drovers say that the better class are hard to secure. Mr. D. Smith sold two choice cattle, 1,040 lbs. each, at \$4.60 per cwt. Mr. R. Brown bought 8 heifers, 925 lbs. average, at \$3.80 per cwt.

Bulls.—Heavy export bulls sold at \$4.12 to \$4.40; light at \$3.40 to \$3.65 per cwt. Stock bulls sold at \$2.25 per cwt. Feeding bulls for the byres sold at \$2.75 to \$3.00 per cwt. Stock bulls at \$2.12 per cwt.

Stockers for Buffalo sold at \$3.00 to \$3.40 per cwt., choice colors. Common white and black steers and heifers sold at \$2.25 to \$2.50 per cwt., from 500 lbs. to 600 lbs. average.

Feeders.—Heavy feeders sold at from \$3.50 to \$4.00 per cwt. A few picked lots wanted. Choice high-grade steers, in good condition, weighing from 1,100 lbs. to 1,200 lbs., for farmers' purposes, sold at \$3.80 to \$4.00 per cwt. Mr. James Morrison, of Oakville, bought one load of choice feeders at \$4.15 per cwt. The Gooderham byre will open on Saturday, 21st of October, 1899.

Sheep.—The supply limited. Prices firmer for choice, at \$3.25 to \$3.50 per cwt. Butchers' sheep firmer, at \$2.00 to \$3.00 per head. Bucks at \$2.50 to \$2.75 per cwt.

Lambs.—Good lambs were a little firmer in price, selling at \$3.75 to \$4.00 per cwt.; the general run was only average quality. Mr. Wesley Dun bought 300 lambs at \$3.75 to \$4.00 per cwt.

Calves.—Few calves were offered, with prices ranging from \$4.00 to \$10.00 each, or \$4.00 to \$4.50 per cwt. An extra choice veal fetched \$12.00.

Milk Cows.—Eight milk cows on offer, at from \$25.00 to \$45.00 per head. Only two reached the latter figure.

Hogs.—The drop of 25c. per cwt. in hogs to-day caused a good deal of hard feeling; many drovers complained that they lost money. A further drop is contemplated down to \$4.25 for choice. To-day the price is \$4.37 per cwt. for choice; thick, fat, and light at \$4.00 per cwt. Uncured car lots sold at \$4.25 per cwt. Essex and Kent hogs are worth \$4.00 to \$4.12 per cwt. Sows, 3c. per lb.; stags, 2c. per lb.

Dressed Hogs.—Packers are now cutting dressed hogs; dealers are asking for unlimited quantities, and are quoting for car lots on track \$5.75 for light, heavy at \$5.60 per cwt.; in farmers' loads choice stock brings about \$6.00 per cwt.; 300 hogs on offer.

GRAIN MARKET.

Wheat.—A general, active movement in all departments; it was reported that one load of Ontario red was sold to-day at

73c. per bushel; 100 bushels of white sold at 70c.; 100 bushels of red at 71c.; 2,000 bushels of goose at 74c. per bushel.

The following letter, which will explain itself, was written by Mr. G. H. Mitchell, of 15 Water street, Liverpool, Eng.: "I have the honor to inform you that a firm here uses a large quantity of wheat screenings, technically known as 'cockle.' The article is composed of broken wheat, small seeds, etc., which are removed from the wheat in the process of cleaning it for use by millers. The quality is determined by the quantity of wheat and seeds as against dirt and dust. If the price is right, and there is sufficient quantity to make it worth their while, they will send a representative over to purchase, or they will be glad to receive prices, F.O.B. Montreal."

Hay.—Scarce and firmer in price, at \$11.00 to \$13.50 per ton; baled at \$8.25 per ton.

Straw.—Scarce; in sheaf at \$8.00 to \$9.00 per ton; loose at \$4.00.

Seeds.—All kinds of seeds wanted: Clover, timothy, blue grass, flax, etc. We quote: Red clover, per bushel, \$4.00; alsike, choice, per bushel, \$7.00; alsike, good, per bushel, \$4.00. White clover, per bushel, \$3.00; timothy seed, per bushel, \$1.60 to \$1.65.

Hides.—The competition for hides is keen, consequently prices have an upward tendency: No. 1 green, 9c. per lb.; No. 1 cured, 9c. per lb.; calf skins, 9c. per lb.; lamb skins, fresh, 90c. each; pelts, fresh, 60c. each; wool, fleece, 8c. per lb.; wool, supers, 15c. per lb.

Eggs.—Steady movement; receipts large; dealers here are selling at 14c. to 15c. for small lots. Choice eggs sold to-day at 16c. to 20c. per dozen.

Butter.—There is an active demand for fine goods for the local trade and the market is firmer this week, at 18c. to 19c. for choice dairy tub, and 13c. to 15c. for medium. Creamery is steady, at 22c. to 23c. for tub, and 22c. to 23c. for prints.

Cheese.—Demand light; values unchanged, at 11c. per lb. **Poultry.**—Good supply of choice poultry. Chickens, 50c. to 65c. per pair; duck, 65c. to 75c. per pair; geese, 6c. to 8c. per lb.; turkeys, 8c. to 90c., 10c. to 12c. per lb.

TORONTO HORSE MARKET.

The sale of horses at Messrs. Grand's Repository on Tuesday last was well attended. Prices firm, or advancing on all classes of best-conditioned horses. A characteristic of the trade is the low quality of the offerings that have thus far been on sale, few of the arrivals being good enough for the export demand, although two buyers from Glasgow have been in constant attendance. Thus far they have only two loads ready for shipment, out of the large number offered, leaving a large surplus to be peddled out by local dealers. Sweden, a brown gelding, warranted quiet to ride and drive, fetched \$125.00. The Squire, seven years old, described as a magnificent jumper, and he certainly performed well over the trial posts, winner of the Montreal Hunt Cup last year up to any weight, realized \$127.00. A large number of first-class drivers, delivery horses, also a few heavy draft horses suitable for teaming, were in good demand by contractors and delivery agents.

Buffalo Markets.

Hops.—Receipts to-day about 15 cars; market steady, on the basis of about \$4.80 for all grades; a strictly choice load would sell at \$4.90. Pigs selling at about \$4.75 to \$4.80. The indications look fair for the coming week.

Mediums and heavies, fair to good. \$4.80 to \$4.85
Yorkers, fair to good. 4.75 to 4.85
Pigs, common to good. 4.60 to 4.80
Roughs. 4.10 to 4.20
Stags. 3.50 to 3.75

Sheep and Lambs.—The receipts of Canadian lambs, both yesterday and to-day, were very light—in fact, hardly enough to supply the demand—and prices have advanced 10 to 15 cents. Yesterday the strictly good to choice ewe and wether lambs sold at \$5.30 to \$5.40, and to-day the market is about steady at these prices. The coarse, bulky grades are selling at about \$5.00 to \$5.15, with the culls and throwouts on the basis of \$4.35 to \$4.60.

The market closes firm at following quotations:

CANADA LAMBS.

Strictly choice ewe and wether lambs, 80 lbs. and upwards, good skins. \$5.30 to \$5.40
Coarse, fat, bulky grades. 5.00 to 5.20
Culls and throwouts. 4.35 to 4.60

SHEEP.

Strictly choice yearlings and wethers. 4.50 to 4.75
Good, fat, handy-weight butchering grades. 4.00 to 4.25
Culls and common thin sheep. 2.50 to 3.00
Bucks, common to choice. 2.75 to 3.25

Cattle.—Fat cattle of all kinds are scarce. On last Monday the number of good cattle in the yards was the smallest in years. Finished cattle are in good demand, and will sell at high prices: the common and medium grades, however, are dull and lower, and selling draggy in all the markets of the country.

Stockers and Feeders in rather heavy supply; the good kinds, however, sold steady, with the common kinds lower. We sold a load of good native feeders, weighing 972 pounds, at \$4.65, which was the extreme top. We are at present receiving a good many Canada stockers, and we believe that we are giving good satisfaction.

Milk Cows and Springers were in light supply, about 8 cars all told, and the market was strong, with a good demand for good fresh cows and also good forward springers.

Veal Calves.—Offerings continue to be rather light and far short of the demand, and values here are the highest of any market in the country. The good fat veals weighing 120 to 200 lbs. are strong and in good demand on the basis of \$7.25 to \$7.50, with an occasional fancy calf bringing \$7.75, possibly \$8.00. The light, half-fat veals are bringing from \$6.00 to \$6.50. Grass calves are selling at \$3.00 to \$3.50 for the common, poor quality and bad colors, with the good color calves, good enough for feeding purposes, selling at 4 cents.

Prime to Fancy Steers \$ 6.75 to \$7.00
Good to choice. 5.75 to 6.00
Fat, plain, 1,150 to 1,300 lbs. 4.75 to 5.00
Prime to Fancy Heifers 5.00 to 5.25
Good to choice heifers. 4.50 to 4.75
Bulls, Prime to Fancy 4.25 to 4.75
Bulls, good fat butchering. 2.75 to 4.00
Good, well-bred stock bulls. 3.25 to 3.50
Springers, Fancy Heavy 50.00 to 55.00
Good to choice cows and calves. 50.00 to 55.00
Common to fair milkers and springers. 25.00 to 35.00
Calves, Extra Fancy 7.25 to 8.00
Good to choice. 7.25 to 7.50
Heavy fat veal calves, weighing from 250 to 350 pounds. 4.50 to 5.50

Canada Stockers and Feeders.
Good to choice, 400 to 500 lb. average. 4.25 to 4.40
good colors and good quality. 4.25 to 4.40
500 to 700 lb. average, do., good to choice. 4.25 to 4.40
750 to 900 lb. average, do., do. 4.40 to 4.60
Stock heifers, good to choice quality. 3.25 to 3.40
Stock bulls, well bred and good quality. 3.25 to 3.50
Poor quality and bad colors. 2.50 to 2.75

Buffalo, N. Y., Oct. 12th.

ERICK BROS.

Nova Scotia Notes.

Mr. A. N. Griffin, King's County, Nova Scotia, writes that he is much pleased with the FARMER'S ADVOCATE. He states that apples are a good crop, of fine quality, this year, one farmer refusing \$4,000 for his crop. For our agricultural society, I purchased, when at the Toronto Exhibition, from Mr. Wait, the two-year-old bull, Hillsburg Tom; from Mr. John Campbell, a shearing Shropshire ram; and from Mr. Gardhouse, a shearing Leicester ram.

MINNIE MAY'S DEPARTMENT.

MY DEAR NIECES,—

A good many girls who are just beginning to take up life seriously are a little troubled about how to become self-supporting. No doubt there are plenty of ways of earning one's living, so many paths are hewn out nowadays, each purporting to be the royal road to fortune. Of course, a great many of my nieces need never go away from home to make a livelihood. Their parents may be in circumstances comfortable enough to allow their daughters to remain at home without thinking of going out into the world to fight the battle of life. Many homes, again, are such that they cannot possibly "get along" without the girls. There may be a great many household duties to attend to—enough, perhaps, for two or three girls—or the mother may be delicate and unfit for much. These latter daughters are earning their own living just as much as those who go out into the great arena of the world. But we are talking more particularly about those who are in a position where they can go and have to go away from home to become self-supporting.

At the present day the cry is for *Specialists* in everything. Applicants for situations must be especially trained, no matter what kind of position is wanted. "Work is becoming more and more specialized every day, and women, particularly those no longer young, should bear this in mind, and by study and observation seek to bring themselves up to date."

Take housekeeping for example. Less than a quarter of a century ago, a thorough and complete training in home duties and responsibilities was a thing unknown, girls were supposed to attain such knowledge by instinct, or were compelled to acquire it in a manner calculated to make housekeeping distasteful to them, or else they were allowed to grow up in utter ignorance of how to boil a potato even; and only when they married did they realize their helplessness, and bitterly wish that they had learned something. A matron once said that if her better half had not been blessed with the patience of Job, and the digestion of an ostrich, he could not have survived the experiments of the first year of married life. Happily, such instances are becoming fewer, and housekeeping is now a science, and all its branches, hygiene, nursing, cookery, laundrywork, dressmaking, sewing, etc., are taught along regular lines. Now if a girl wishes to gain a livelihood by any one of these, each a science in itself, the wisest way would be to attend classes where her chosen branch is taught, and perfect herself in that particular science. In the teaching of these branches to others, too, a profitable career has been opened up for many an educated woman.

What an army of clerks there is in the world! Some people think that anyone who cannot find a position elsewhere can take a clerkship, but to-day there are very few vacancies for those who are merely accurate and painstaking. Special knowledge is required, and those who do not understand shorthand, typewriting, etc., must expect to earn next to nothing in the way of salary. The best means of qualifying for such a position would be by taking a course at one of our many good business colleges.

Many women nowadays are successful photographers. Perhaps some of them had a fancy for the Kodak as an amusement, and from that developed into full-fledged photographic artists. Some ladies confine their attention to taking pictures of children, brides in their wedding-gowns in the privacy of their own rooms, and to entire families in their homes. Some people prefer women for this. I have heard of two bright girls who advertise themselves as leaders of games, etc., for children's parties. They are tactful and witty, are able to sing and play, and must, I fancy, be in a sense kindergartners, so as to enter into sympathy with child-life.

I read an account lately, of a woman who made a fortune out of gingerbread. Through reverses, she had to do something, and offered to supply this delicacy to a lunch room. The proprietors had been unable to find any of this commodity to suit them, and this lady thought she would try it. So she set to work to make gingerbread, and tried a dozen recipes before she produced anything to satisfy herself. Then one came out light, moist, delicious, and next day a dozen similar cakes were sent to the firm. These met the want perfectly, orders followed, and as custom grew, demands spread from gingerbread to cakes of all sorts. She had to employ assistance; other restaurants asked for supplies, and so her business grew.

Among other positions which my nieces might ably fill, may be mentioned that of companion. Many an elderly or sickly lady is in want of the society of a bright, cheery, sympathetic girl, and would willingly give remuneration for such a companionship. Then there are lady doctors, lady dentists, lady lawyers, teachers, nurses, boarding-house keepers, printers, retouchers, etc. The making up of furs employs many girls too, and enables them to be self-supporting.

The main thing is—whatever you do, do well and do willingly. "Be patient, be courteous," was spoken long ago, and it holds good to-day. Study the wishes of those in authority; in fact, make yourself indispensable. Aim high, according to your ability, and strive to attain whatever purpose you are most fitted to pursue, being sure it is a true and honest one. Remember that "Life is not as idle ore," and you will become fired with a noble ambition. You will wish to live, not merely to exist. But let not ambition blind you to the path beneath your feet. Duty is a stern mistress: but

"He that, ever following her commands,
Shall find the topling crags of duty scaled,
Is close upon the shining table-land,
To which our God himself is moon and sun."

Your loving old Auntie,

MINNIE MAY.

Saint Cecilia—Patron of Music.

Nearly all the world loves music, so this well-known picture should be interesting. Perhaps not every one knows much about this Patron Saint of Music, although the name "St. Cecilia" is often given to musical clubs. This poor martyr died, it seems, in 230, and accounts of her are vague in the extreme. One very generally accepted story is that she was of noble Roman family, was converted to Christianity and refused to worship idols. With the barbarity of those early times, she was thrown into a cauldron of boiling water, where, however, she remained unhurt. She was then condemned to be beheaded, but the executioner found it impossible to obey orders.



SAINT CECILIA—PATRON OF MUSIC.

Poor St. Cecilia then saved all further trouble by dying a natural death three days after.

The great poet Dryden appears to have shared a belief that this celebrated Christian martyr invented the organ, because he thus writes:

"At length divine Cecilia came,
Inventress of the vocal frame."

And Pope wrote, we must remember, the "Ode on St. Cecilia's Day."

This picture represents the fair Cecilia with her sacred halo over her head and the angel children ministering to her and showering flowers upon her hands and the keyboard on which she plays.

Legends are legends, and one often reads different accounts of the same people and things, but whether or not we accept all that is related of this gentle saint, the *idea* of her is beautiful, and we can try to imagine how, in her sorrow, she beguiled the time with her sweet music, and how she was comforted by this heavenly vision and sustained to bear all the affliction thrust upon her as punishment for her steadfastness.

Our Library Table.

"WHEN A MAN'S SINGLE." J. M. Barrie.—There is a fascination in Barrie's style which is irresistible. The scenes stand out so naturally, yet so dramatically, that one can easily divine the reason of his success with his dramatized work. So few novels can stand the difference between the mere reading them *as* novels and the almost entire change of style produced by stage setting and dra-

matic dialogue. However, Barrie's novels can, as is amply proved by the overwhelming success of his "Little Minister." His "Window in Thrums" is a household word now, and, indeed, so are many others. The book we now review is, perhaps, less known than some others of Barrie's, and deals but little with Scottish life—although it opens and finishes with it. The story is of a clever young Scotchman, Rob Angus, whose thirst for knowledge is such that, although brought up as a saw-miller (at which calling he is first-class), he yet contrives to educate himself and get his newspaper articles accepted. He contemplates going to college, but Fate wills otherwise. His dying widow sister leaves her wee girl baby to his care, and to Rob this charge is sacred. He relinquishes all idea of college, and later on even the tempting offer of a good journalistic position, for people are beginning to hear of "the literary saw-miller." He simply accepts the fact that he is "not single" and must stop and care for his little niece, Davy. Tammas McQuahaff's humorous description of little Davy's name runs thus: "It was an accident at the christenin' Hendry cud hardly tak' courage to tell the minister. Weel, the minister—it was Mester Dishart—somehow had a notion 'at the liltin was a laddie, and when he reads the name on the paper, 'Margaret Dundas,' he looks at Hendry wi the bairny in's arms an' says he, stern-like, 'The child's a boy, is he not?' So, says he, all trem'lin, 'Yes, Mr. Dishart.' 'Then, says the minister, 'I cannot christen him Margaret, so I will call him David!' and David the liltin was baptized, sure enouch." Says Hendry, "I daured na conderdick the minister."

Faithful Rob Angus soon becomes "single," and the way of it is one of the most pathetic bits ever penned. One can see, with misty eyes, strong, brave Rob standing, dazed with grief, with Davy's little shoe in his hand. The next scene carries us into a new life. Rob Angus is now a journalist in Silchester. The description of the editorial department of a country newspaper is very edifying and amusing, the daily bickerings between the sub-editor and the foreman of the composing-room being especially good.

"But, but," cried Protheroe, all in a flutter, "It's town council meeting; it must be set, Mr. Penny." "Very well, Mister; then that special from Birmingham must be slaughtered." "No, no, Mr. Penny; why, that's a speech by Bright." Penny sneered at the sub-editor, and flung up his hands to imply that he washed his hands of the whole thing—as he had done every night for the last ten years, when there was pressure on his space.

In this quiet country town Rob Angus meets his fate—the usual one—and succumbs utterly to Mary Abinger, a young lady of position and birth very different to his own. Nothing daunted, he simply resolves to win her, and plunges away off to London with a few pounds in hand and a grim determination to do or die—especially the former! There is no formal description of Mary Abinger. She grows upon you gradually, and you know her as worthy of the deep, strong heart she has taken captive. "A face to stir the conscience of a good man, and make unworthy men keep their distance, for it spoke first of purity, which can never be present anywhere without being felt."

Of Rob's struggles in the big, cruel old city, one must read to thoroughly appreciate. There was one terrible month when he wrote from morning to night and did not make sixpence. "I will get on," cried Rob to himself, "I'm not going to be starved out of a big town like this." One night he dreamed that he saw all the editors in London being conveyed (in a row) to the hospital on stretchers. A gratified smile lit up his face as he slept, and his arm going out suddenly to tip one of the stretchers over, hit against a chair. Rob jumped out of bed and kicked the chair round the room. By and by, when his articles were occasionally accepted, he told his proofs that "the editors were capital fellows."

In spite of all set-backs, however, Rob does eventually get on, and not only in journalism, but in other ways. His innate good sense and refinement soon cause a great change. He begins to discover that he can enter a drawing-room without knocking down all the pretty things, and can wear his clothes like any other gentleman. His manly and simple adoration of Mary is beautiful, and the little weaknesses he is sometimes betrayed into only serve to show his honest devotion. How he "looked on in ecstasy while she searched for the pocket of her dress. The day before, Mrs. Meredith had not been able to find her pocket and Rob had thought it foolish of ladies not to wear their pockets where they could be more easily got at."

There are many other characters in this charming book—the old Scotch types being especially good—and there are some really useful hints on journalistic life. Altogether, there is an immense amount of character and wisdom in "When a Man's Single," which makes it a book one can read and re-read—each time with profit. FELIX.



Our Summer Holiday Competition is now closed. Next issue will contain the names of the prizewinners. I was glad to see some old friends among the competitors.

COUSIN DOROTHY.

Nobody Knows but Mother.

How many buttons are missing to-day? Nobody knows but mother. How many playthings are strewn in her way? Nobody knows but mother.

How many hats has she hunted to-day? Nobody knows but mother. Carelessly hiding themselves in the hay— Nobody knows but mother.

How many muddy shoes all in a row? Nobody knows but mother. How many stockings to darn, do you know? Nobody knows but mother.

How many lunches for Tommy and Sam? Nobody knows but mother. Cookies and apples and blackberry jam— Nobody knows but mother.

How many cares does a mother's heart know? Nobody knows but mother. How many joys from her mother love flow? Nobody knows but mother.

Nonsense Verses.

BY EVA MARCH TAPPAN.

In a pretty green pea-pod Lived four little peas. Who always said "Thank you," And "Yes, if you please."

But one pea was naughty. And cross, and a tease. And frightened the four Good little green peas.

They lay here one day. Those five little peas. When the naughty one said: "I'm going to sneeze!"

"Oh!" "Oh!" and "Oh!" "Oh!" Said four little peas. "It's dreadful to think of!" "Oh don't, if you please!"

But he said: "Yes, I will." That most wicked of peas; "I shall do what I wish to, And you needn't tease."

The pod never saw Such a very big sneeze; It split and out tumbled Five little green peas.

That day there was blowing A very strong breeze, And I never could learn What became of the peas.

Pat's Reply.

Pat Murphy, my footman, desires to suit. And is anxious on errands to go; He walked about till he wore in his boot A little round hole in the toe.

Next morning I saw him intently at work— (I scarcely could ask him for laughter)— In the heel he was boring a hole with a fork. "Why Pat," says I, "what are you after?"

"Faith, master," says he, "you the reason shall know. The truth I don't wish to conceal. 'Tis to let all the wet that comes in at the toe Run immediately out at the heel."

A Fly Protest.

One rainy day when Tommy was looking out of the window, he saw a fly buzzing against the pane. "I'll catch that fly," said he; and his little fat fingers went pattering over the glass until at last he chased the fly down into a corner, and caught it.

"Let me go," said the fly. "I won't," answered Tommy.

"Do let me go! You hurt me; you pinch my legs and break my wings." "I don't care if I do. You're only a fly—a fly's not worth anything."

"Yes, I am worth something, and I can do some wonderful things. I can do something you can't do." "I don't believe it," said Tommy. "What can you do?"

"I can walk up the wall." "Let me see you do it," and Tommy's fingers opened so that the fly could get off. The fly flew across the room, and walked up the wall, and then down again.

"My!" said Tommy. "What else can you do?" "I can walk across the ceiling," said the fly; and he did so.

"My!" said Tommy again, "How do you do that?" "I have little suckers on my feet that help me to hold on. I can walk anywhere, and fly, too; am smarter than a boy," said the fly.

"Well, you're not good for anything, and boys are," answered Tommy, stoutly. "Indeed, I am good for something. I helped to save you from getting sick when the days were hot. Flies eat up the poison in the air, and if we flies had not been around in the summer to keep the air pure, you and baby and mamma would have been very sick."

"Is that true?" asked Tommy, in great surprise. "Yes it is true; and now I will tell you something else. You are a bad, bad boy."

"I am not," cried Tommy, growing very red in the face. "I don't steal or say bad words or tell what is not true."

"Well, you are a bad boy, anyhow. It is bad to hurt flies. It is bad to pull off their legs and wings. It is bad to hurt anything that lives. Flies can feel, and it is bad to hurt them. Yesterday you pulled off my brother's wings."

"I never thought of that," answered Tommy, soberly. "I won't do it again. I'll never hurt a fly as long as I live, and be sure that I'll never hurt you."

"You won't get a chance," answered the fly, as he walked across the ceiling.

Puzzles.

The following prizes are offered every quarter, beginning with months of April, July and October: For answers to puzzles during each quarter—1st prize, \$1.50; 2nd, \$1.00; 3rd, 75c. For original puzzles—1st, \$1.00; 2nd, 75c; 3rd, 50c.

This column is open to all who comply with the following rules: Puzzles must be original—that is, must not be copied from other papers; they must be written on one side only of paper, and sender's name signed to each puzzle; answers must accompany all original puzzles (preferably on separate paper). It is not necessary to write out puzzles to which you send answers—the number of puzzle and date of issue is sufficient. Partial answers will receive credit. Work intended for first issue of any month should reach Pakenham not later than the 15th of the month previous; that for second issue not later than the 5th of that month. Leave envelope open, mark "Printer's Copy" in one corner, and letter will come for one cent. Address all work to Miss Ada Armand, Pakenham, Ont.

1—PHONIC CHARADE.

My first is a joint of the body; My second a common interjection; My third a combat; My whole means a novice.

M. N.

2—CANADIAN CITIES DISGUISED.

- 1—Modern, occidental, a cathedral. 2—To gain, to cut off, an embryo (phonetic). 3—A boy's nickname, supposing, an edge tool. 4—A boy's nickname, a man's name, a weight. 5—A piece of meat, sick, fashion. 6—A beauty, a town. 7—Currents of air, expressing an alternative.

M. N.

3—A BIRD HUNT.

- (1) What bird is a war vessel? (2) " " " kitchen utensil? (3) " " " jolly time? (4) " " " sorry fellow? (5) " " " cheat? (6) " " " to cower? (7) " " " an ear of wheat? (8) " " " destitute of light? (9) " " " a bent pipe for drawing liquor out of a cask? (10) " " " soldier trained to fight on foot or horse-back? (11) " " " an escriptoire?

ROLLY.

4—A CHAIN OF LAKES.

- (1) What lake is like a "circle"? (2) " " " a "plant"? (3) " " " "kind of cloth"? (4) " " " "dove"? (5) " " " "dreary"? (6) " " " "laborer"? (7) " " " "fleet animal"? (8) " " " "savage animal"? (9) " " " "cooks"?

L. B. FORCE.

5—DOUBLE ACROSTIC.

In "whirligig" going round; In "Arny 'Awkins" lost and found; In "tulip" growing in the ground Again.

In "Florence" full of beauty; In "Victoria" doing her duty, In "stovepipe" so sooty; In "Drake," who took booty From Spain.

From each word two letters take, And a great man's name you'll make. "MCGINTY."

6—RIDDLES.

- 1—Why is it dangerous to be at the clock at ten o'clock? 2—What crime is worse than killing a human being? 3—What is the difference between a girl who crochets and a lazy girl? 4—Why is the British Empire so small? 5—When is a woman a man?

"MCGINTY."

7—REBUS. A book and its author.



"Essex."

8—ANAGRAM.

Who wrote it? A RUDE BOER.

"Essex."

9—TRIPLE ACROSTIC.

In "The Public" so blind, In "The Authors" who grind, In "The Crazes" every kind, In "The prizes" we find For those of great mind.

In "Blowhards" that blow, In "Sailors" never slow, In "Lessons" we know, In "Single Men" who should now Have a wife or a frau.

'Tis easy for you, my cousins dear, Their pastimes here to find; And every boy, to me 'tis clear, Enjoys one game of the kind. "ARRY 'AWKINS."

10—HALF-SQUARE.

- 1—Airs. 2—An antidote. 3—Breathes heavily (trans.). 4—A grain. 5—A metal. 6—East part of a city (abbr.). 7—A consonant.

M. N.

11—SOME MEN.

Here are men with various things to do. Now see if you can guess a few.

- 1—This one transports us from place to place. 2—And this one always has a dirty face. 3—A mighty weapon one wields at will. 4—One, a tiny thing which is mightier still. 5—If going too fast, this one helps us stop. 6—And naughty boys call this a "Cop." 7—This one goes far for bone and dibber. 8—The sailor dubs this one a lubber. 9—One works with this, without which we'd freeze. 10—The business of this to amuse and please. 11—One gayly rides betwixt water and air. 12—His companion offers a tempting snare. 13—When this one travels six legs uses he. 14—And we want the last when we take our tea.

F. L. S.

12—DOUBLE ACROSTIC.

1, A foolish person; 2, a country in Asia; 3, to caper; 4, to unbend; 5, to propagate; 6, tapestry; 7, what we all should be; 8, unprofitable; 9, a kind of tree; 10, to teach; 11, to withdraw; 12, a sea weed; 13, a river in Spain; 14, a stream of water.

Primals and finals will each teach the farmers of Ontario many lessons.

13—NUMERICAL.

My 4, 8, 9, 14, 11, 15, 7 will name periods of time. My 6, 2, 1, 13, 17 are usually found on rivers. My 15, 12, 3, 16, 10 wearies. Whole every wide-awake farmer belongs to.

Answers to Sept. 15th Puzzles.

- 1—Haven-ave-v. 2—Palmistry, astrology, alchemy, phrenology. 3—(1) Cheetahs, (2) Bactrian camel, (3) gaura, (4) leopards, (5) zebu. (1) Flamingoes, (2) cassowary, (3) lyre-bird, (4) condors, (5) pelican, (6) wild turkey. 4—At-fired. 5—The heights by great men reached and kept, But they while their companions slept Were tolling upward through the night. —H. W. Longfellow. 6—A shadow. 7—Time. 8—London is a center of attraction. 9—Links-lynx. 10—Sandwich, Midland, Blyth, Wellington, Bath, Pakenham, Almonte (all mount), Waterloo, Ayr. 11— s a t s a t e s s a t a n i c t e n e t s i t c 12—(1) Haydn, (2) Handel, (3) Schubert, (4) Schumann, (5) Mozart, (6) Wagner, (7) Beethoven.

SOLVERS TO SEPT. 15TH PUZZLES.

"Dennis," "Sigma," "Arny 'Awkins," Sila M. Jackson, Lizzie Conner, "Maud," "Jack & Jill," J. McLean.

ADDITIONAL SOLVERS TO SEPT. 1ST PUZZLES.

"Pansy," J. McLean, C. S. Edwards, "Arny 'Awkins," "McGinty," Lizzie Conner, "Maud," Sila M. Jackson.

COUSINLY CHAT.

"Jack & Jill."—Welcome to two of Mother Goose's children, who bid fair to be valuable additions to our circle. We shall be very glad to receive your originals at any time.

"Pansy."—The anagram is formed by taking the letters that compose one or more words and forming another word or words; e. g., take the word "charades" and you can form the words "hard case" with the same letters. By comparing the answers and puzzles for a few times you will readily understand how it is done.

"Rolly."—If we did not consider your puzzles good enough we should not insert them in our column; nil desperandum, "Rolly."

Sila.—Although you have not won a prize this time, you have done remarkably well—almost as well as many of the old solvers. You have a very good chance of winning, if you continue to contribute regularly. A. A.

PRIZEWINNERS.

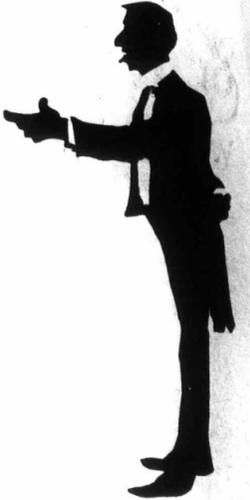
The prizes for original puzzles during July, August, and September are awarded as follows:

1st, \$1.00, to Henry Reeve ("Arny 'Awkins"), Toronto; 2nd, 75 cents, to L. B. Force, Beaconsfield, Ont.; 3rd, 50 cents, F. L. Sawyer, Toronto, Ont.

The prizes for solutions are awarded thus: 1st, \$1.50, to J. McLean, Kentville, Nova Scotia; 2nd, \$1.00, to M. R. Griffith, London, Ont.; 3rd, 75 cents, to W. D. Monkman, Bondhead, Ont.

UNCLE TOM.

It Pays to Read, if You Read the BEST.



AMERICA has no agricultural paper equal to the FARMER'S ADVOCATE AND HOME MAGAZINE for the Canadian farmer and his family. Old subscribers are its most appreciative readers, because they have proved its usefulness. It has stood the test of 33 years as a pioneer of agricultural progress and in fighting the battle of the farmer and the stockman.

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Good Value.

Mr. H. R. ROSS, B. S. A., of Hastings Co., Ont., in writing one of the editors of FARMER'S ADVOCATE, says: "I must congratulate you upon the excellence of this year's ADVOCATE. For good value I think it would be hard to beat."

Best of the Lot.

C. A. APPLEY, Libertyville, Ill.: "I think the FARMER'S ADVOCATE is the best paper of its kind that I have seen. I have taken nearly all of the leading papers on farm and stock-raising, and I think it is the best of the lot."

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D. ROGERS, P. E. I.: "The FARMER'S ADVOCATE is always a welcome guest at our home."

Leads them All.

PETER SMITH, Grey County, Ont.: "I see no agricultural paper that I like as well as the ADVOCATE. I think it leads them all."

No Dollar Invested in any other way will Pay as Big Returns.

In practical articles and letters, answers to questions on all branches of farm work, and in its wealth of beautiful illustrations, the ADVOCATE for 1900 will far surpass all its predecessors. It will help the reader to success on the farm, and we therefore confidently invite our present subscribers to secure for us as many new subscribers as possible, on which we will allow cash commissions or premiums, of which announcement will appear later. By subscribing now persons will secure the remainder of this year's issues and all of 1900 for \$1.00. We want first-class subscription agents to work either on salary or commission.

APPLY **WILLIAM WELD CO., LIMITED,**
LONDON, - CANADA.



DISPERSION SALE OF Scotch-bred Shorthorns

Wednesday, Nov. 22, AT MY FARM, 4 MILES FROM FERGUS, ONTARIO, ON G. T. R. AND C. P. R.

I will sell at auction my entire herd of Scotch-bred and Scotch-topped Shorthorns, consisting of **10 BULLS and 25 FEMALES.**

The whole will be sold without reserve, as I am retiring from farming. Catalogues will be sent on application. **DAVID REA, FERGUS, ONTARIO.**

NOTICES.

Feed Cooking.—Notice an important change in the announcement also where of the Rippley Hardware Co., of Grafton, Jersey Co., Ill. Stockmen requiring water heated, and food cooked for swine and other animals, should look carefully into the subject of cooking by steam, as described in pamphlets issued regarding the "Reliable Feed Cooker." The season for this work is at hand, and no means should be neglected whereby the comfort and gain of animals can be profitably promoted.

The St. Lambert Jerseys.—Breeders of Jersey cattle will find in the attractively illustrated little history written by Vallancey E. Fuller, an engrossing account of the St. Lambert family. It contains about 100 pages of data collected with great care, and put in the form of a permanent record that will prove of inestimable value. It is bound in paper, and concludes with a practical paper on "The treatment of cows at parturition." Copies may be obtained for 50 cents, from Fuller & Co., 999 Halsey street, Brooklyn, N. Y.

Wonderful.—One of our subscribers wrote his name and address on a postal card, and simply addressed it to "Julius Hines & Son, Baltimore, Md., Department 227, requesting one of their catalogues. By return mail he received an immense book that alone took 10,000 stamps to carry it, and contained over 100,000 illustrations, quoting lowest prices on 100,000 articles, embracing everything used in a home, everything necessary for an office, for a public building, for a barn, for a farm, containing wearing apparel for men, women and children; quoting lowest prices on everything to eat, chew and smoke; telling all about agricultural implements and vehicles; in fact, everything except locomotives, live animals, and boats. No home should be without one of these valuable books, as it will be the means of saving you many dollars on everything you buy during the course of a year. All for a postal—try it.

Progressive and Successful.—The fact that the Central Business College, Toronto, so well located in the Forum, has found it necessary to materially increase its hitherto spacious accommodation, by adding to its premises a large hall formerly occupied by the A. O. U. W. and other societies and the apartments so long held by the Dorcas Society of the Church of England, is quite sufficient evidence that this progressive school is enjoying a prosperous and successful term. On the staff are nine regular teachers, while the equipment, including over forty typewriting machines, is up-to-date in every particular. The work of this school is practical and thorough, and that business men look largely to this college for such clerical assistance as they require is probably best shown by the numerous applications on file at the college office, which, during the past three days, include the firms of John Catto & Son, Bertram Engine Co., Chemical Compound Co., The Mill-Bingham Co., and R. S. Williams & Son.

Romney Marsh Flock Book.—From Mr. W. W. Chapman, Arundel Street, Strand, London, Eng., we have received a copy of Vol. V. of the Kent, or Romney Marsh, Flock Book, a very handsomely printed and substantial little volume containing the registration of 51 flocks, 15 ewes and 1,743 rams. The introductory article contains the following reference: "The Kent, or Romney Marsh, sheep has an individual quality which few flocks possess, viz.: that it can, and does, thrive under almost any variation of feed and climate. This is well shown in the fact that it is, in either the lowlands of Kent and Sussex or the uplands, upon artificial food, the sheep of the district. Its thriftiness, quick-fattening qualities and freedom from foot rot, combined with great constitutional hardiness, are proofs of its value." The flock records, containing data regarding their foundation, etc., are a useful and interesting feature of this volume.

THE ARKELL OXFORDS.
Mr. Henry Arkell, of Arkell, Ont., who maintains a high-class flock of Oxford Down sheep, is out with a new advertisement in this issue. Mr. Arkell, who made his reputation as a successful breeder of Oxford Down sheep, by winning the bulk of the best prizes at the leading shows in Canada and the United States, has not exhibited lately, but has kept up the character of his herd by yearly importations of first-class stock, and has annually furnished show animals to exhibitors in the United States, which have been uniformly successful in winning wherever shown. Mr. Arkell reports an active demand for rams and ewes, and has filled orders in the last few months from most of the Provinces and many States. He has at present a good supply of young rams and ewes, which he can supply singly or in small lots or carloads, and his long experience, ripened judgment, and known integrity, commend him to all requiring stock of this kind, which is his specialty, though he also breeds a useful class of Shorthorn cattle of combined beef and milking type.

THE GLOBE FURNITURE COMPANY, LIMITED
WALKERVILLE, ONTARIO.
CHURCH PEWS,
PRINTS, ALTARS, BARS,
SCHOOL DESKS, ETC.
WRITE FOR PRICES

NOTICES.

"Grateful and Comforting."—With the cold season approaching, the thoughtful house-keeper will provide her domestic stores with material for making perhaps the most nutritious and delicious of beverages—Epps' Cocoa. Advertised elsewhere, this issue. Note carefully the announcement.

National Poultry Conference.—In July, at Reading, England, a national poultry conference was held, an official report of which has been sent us, from the Hon. Secretaries, Edward Brown, F. L. S., and Francis H. Wright, F. S. A. A. The conference extended over three days, during which time valuable papers were read, followed by spirited and practical discussions by persons chosen for their peculiar fitness for the task. "The science and practice of poultry-keeping" was taken up by Geo. A. Palmer, and discussed by thirteen members. "The parasitic diseases of poultry" was taken up by F. V. Theobald, and discussed by six members. "How can science assist in the production of eggs and poultry" was dealt with by M. Louis Vander Snickt, and discussed by seven members. "Exhibition poultry, and its influence on the poultry industry of the country" was the subject of a paper by O. E. Cresswell, which was followed by a discussion by eleven members. "Marketing problems and their solution" was dealt with in three papers, and discussed by eight members. "Education in poultry keeping" received attention in two papers, followed by live discussions. The report is filled with live matter, well edited, and bound in pamphlet form. We notice the name of Mrs. John Hoodless, of Hamilton, Ont., in the list of persons who aided in the discussions.

**All Flow ==
== No Ebb.**

25 1/3% 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. om Toronto, Ont.

DISPERSION SALE OF Maplehurst Berkshires.

Owing to my leaving Canada, we offer for quick sale our herd, consisting of over forty head of Bacon-type Berkshires of various ages. Prices will be found right. Address, **J. J. FERGUSON,** Box 373, Smith's Falls, Ont., or Agr. College, Mich., U. S.



English Shire and Clydesdale Stallions.

Last importation just arrived Aug. 5. Imported more stock in 1898-99 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 from 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 Maitland Street, TORONTO, ONT. Bams: College and Dufferin Streets. om

ESTABLISHED 1864.

HILLHURST FARM

HACKNEY HORSES,
Carriage type, Connaught blood.
SCOTCH SHORTHORNS,
Beef and milk. Scotch Hero (bred by W. Duthie) heads the herd.
Shropshire, Dorset Horn, and Hampshire Down Sheep.
M. H. COCHRANE,
om Hillhurst Station, Compton Co., P. Q.

GOSSIP.

SHIRE STALLION, BELSHAZZAR.

The newly-imported Shire stallion, Belshazzar 13855, was referred to in connection with our Western Fair report on page 552, October 2nd issue, as being one of the best Shires in England and the best Shire horse we have ever seen in a Canadian showing. He is sired by the noted Old Tyme, and out of Ives by St. Ives. On page 577 of this issue we present a portrait of him taken a few days after he landed off the boat from his native home and one day after he left the train that brought him to London exhibition. The firm of Bawdon & Melchior, of Exeter, Ont., whose property he is, are exporters and importers of all classes of horses. They have a number of good Clydes and Shires on hand at the present time.

A DISPERSION SALE OF SHORTHORNS.

Mr. David Rea, Fergus, Ont., announces in our advertising columns in this issue, that on Wednesday, November 22nd, he will sell his entire herd of 35 Shorthorns without reserve, as he is giving up farming. Mr. Rea has been a discriminating and successful breeder, having paid liberal prices for foundation stock and for sires to continue the improvement of his herd. The bulls most recently used have been Aberdeen Baron = 6462 =, a son of the imported Kinellar-bred cow, Rose of Aberdeen, which he bought at Mr. Snell's dispersion sale, at \$400, and Clipper King = 16293 =, bred by Hon. John Dryden, sired by imp. Sussex, and of the favorite Cruickshank Clipper family. There are ten young bulls and 25 females in the herd, of which further particulars will be given in our next issue.

CLYDESDALES



We have several imported Clyde mares 8 and 10 years old for sale at moderate prices. Some of them in foal to Grandeur An imported Hackney mare in foal to Square Shot. Also Ayrshire bull and heifer calves. Write for prices or come and see

D. & O. SORBY,
GUELPH, ONT.

DALGETY BROS.,

GLENCOE, ONT.,

"Largest Importers . . . in Canada."

A large selection of imp.

CLYDESDALE

stallions and mares, also Hackneys, including several prize-winners in Scotland. Ages ranging from 2 yrs. to 6; weighing up to 2,400 lbs. No exorbitant prices asked. Small profits and quick returns.

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 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. o

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.



MADE-TO-ORDER CLOTHING.

EXPRESSAGE PAID.

The kind of Suits and Overcoats that are made by the best city Merchant Tailors at from \$50 to \$75 are sold by us at from \$45.95 to \$50, and we pay expressage, and ship to you C. O. D. Our big new Clothing Book, with large cloth samples for Suits, Overcoats and Trousers, is yours for the asking. We guarantee to fit you, and to sell you High-Art Clothing at about one-quarter regular prices. Address this way:

JULIUS HINES & SON,
BALTIMORE, MD. Dept. 227.



THE FAMOUS Ontario Business College

MOST WIDELY ATTENDED IN AMERICA.
31st year. SEND FOR CATALOGUE.

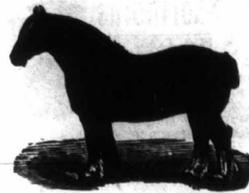
Address—**Robinson & Johnson, F. C. A.**
BELLEVILLE, ONT.

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,

om Thorncliffe Stock Farm, TORONTO.

HACKNEYS



We have on hand several Hackney Stallions, both imported and Canadian-bred; all of the best strains, and all prizewinners at our best shows. The right time to buy stallions is during the fall and not when spring comes along. At the latter time all entire horses have their routes laid out, and owners cannot afford to disappoint their patrons. Apply now and get reasonable quotations. Send for catalogue and particulars to **MORAG N. CROSSLEY,** Rosseau P. O., Dist. Parry Sound, Ont.

SHORTHORNS.

9 Bulls, 4 Yearlings,
4 Bull Calves, Stock
Bull (3 years) by imp.
Kinellar Sort = 18967 =.

F. MARTINDALE, York P. O., Ont.

FOUNDED 1866



ould Take It.

Buckingham, every farmer ought to take

ADVOCATE for

Dominion.

Hants Co., enclosed find

early subscriber

FARMER'S ADVOCATE the best farm-

Dominion."

ment.

Cumberland your journal

have made a

Quest.

E. I.: "The DATE is always

at our home."

m All.

Grey County, agricultural

as well as the

think it leads



Shorthorns and Leicesters.

Herd Established 1855.
A number of young bulls, cows and heifers for sale. Herd headed by imported Christopher 28859, and Duncan Stanley =16364=. Grand milking cows in herd. Also a number of Leicesters of both sexes, from imported foundation.
JAMES DOUGLAS,
-om- CALEDONIA, 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 rams all imported from H. Dudding, Esq.; the same blood as the 1000-guinea ram.
J. T. GIBSON,
-om- DENFIELD, ONT.

FITZGERALD BROS., Mt. St. Louis, P. O.,
Offer for sale six Shorthorn Bulls from 9 to 14 months old; also 2-year-old roan bull, St. Louis =24418=, a Morton-bred bull with exceptionally grand pedigree. Also a few females of all ages, bred to imp. bull, British Statesman (63729) =20833=, now at head of our herd. Hilledale Telegraph Office; Elmvale Station, G. T. R.



A Few Durham Heifers In Choice In Calif.
Two bulls; two bull calves; all of choice breeding. Berkshire boars; brood sows and sow pigs. Prices right.
A. J. C. SHAW & SONS,
-om- THAMESVILLE, ONT.

Scotch Shorthorns FOR SALE.
100 head to select from; 23 grand young bulls by Valkyrie =21806=, and cows and heifers of all ages, of the most approved breeding, served by (imp.) Diamond Jubilee =28961=, now at the head of our herd.
T. DOUGLAS & SONS,
-om- Strathroy Station and P. O. Farm 1 mile north of the town.



SCOTCH SHORTHORN BULLS AND HEIFERS
HERD ESTABLISHED IN 1872.
Such sires as imported Royal George and imported Warfare have put us where we are Imported Blue Ribbon now heads herd.
A. & D. BROWN,
-om- ELGIN COUNTY. IONA, ONTARIO.

JAS. DORRANCE,
SEAFORTH, ONTARIO,
BREEDER OF

Shorthorn Cattle and Berkshire Pigs
Young stock always for sale. -om-

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.
-om- **D. ALEXANDER, Bridgen, 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,
-om- Burlington Jet. Station, Nelson P. O.



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.
-om- Correspondence Invited.

SPRINGHURST SHORTHORNS
The famous sire, Abbotford =19116=, and the crack young show bull, (imp.) Knuckle Duster (72733), head the herd, which is largely of Cruickshank blood. Twelve good young bulls (some top-per), and a choice selection of females for sale. Address,
Exeter Station, G. T. R., H. SMITH,
half mile from farm. -om- HAY, ONT.

GOSSIP.

Mr. W. W. Cox, of Collingwood, Ont., recently sold his apple crop, of over 1,600 barrels, for nearly \$4,000.

An Ottawa despatch states that Prof. Robertson has been invited to visit Newfoundland ere long, by the Government, to look into the agricultural situation and advise how agriculture and dairying may best be promoted.

Kenneth McKenzie, Sr., of Burnside, Man., one of the oldest and most successful settlers of Manitoba, called at our Winnipeg office recently to have his FARMER'S ADVOCATE addressed to Los Angeles, California, where he is going to spend the winter with a daughter whose home is there.

Senator Ferguson, Charlottetown, P. E. I., at the Halifax Exhibition, sold to Mr. Pineo, Waterville, N. S., an excellent quartette of his prizewinning Galloways—one bull calf and three females—which will make a good foundation for a "Bluenose" herd, and it is to be hoped will increase the competition in this class at future Maritime Province exhibitions.

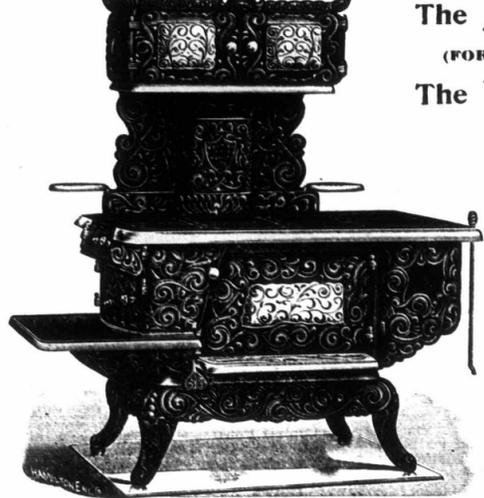
Mr. R. A. Brown, Harbor Beach, Mich., a former Canadian farmer, who finds the FARMER'S ADVOCATE helpful to him in his farm and stock operations, and has taken an interest in extending its circulation in his adopted State, writes us that times have greatly improved the last three years, that crops have been satisfactory and prices for good stock encouraging. He has laid the foundation of a herd of Shorthorns by the purchase of a few useful animals bred from reliable Canadian herds, and has had gratifying success in winning prizes at several of the leading county fairs in his State. His stock bull, Duke of Hillside, 118358, whose pedigree traces in its blood lines through Canadian and Scotch bred animals to the famous Champion of England, has an unbroken record as a first prize winner wherever shown in the three counties of Huron, Sanilac, and Tuscola.

R. Reid & Co., Maple Cliff Dairy and Stock Farm, Hintonburg, Ont., write:—"Our stock are doing well, and have been very successful at the late fairs, with sales extra good. We still have on hand a fine lot of young things for sale. In Ayrshires we have two yearling bulls, including the 3rd prize yearling at Ottawa, and seven bull calves, five of them calved since the first of July. They are all sired by Gold King =1387=, and are a very promising lot. We can spare a few heifers of the right kind. Our herd of Tamworths are far better than ever, at Ottawa, winning the bulk of the first prizes, including the herd prize. We have ten young boars fit for full service, sired by Red Fellow and Amber King, both winning boars at Ottawa. The first and second prize yearling sows at Ottawa have fine litters that will soon be ready to ship. One litter is sired by Amber Luther, the first prize boar at Toronto. We have also a fine lot of young Berkshires, including the 2nd prize 6-month-old boar at Ottawa, and a few Poland-Chines.

The well-known Thoroughbred stallion, Wiley Buckles, owned by Thru Bros., Brampton, Ont., died Oct. 10th, of acute indigestion, aged 13 years. He had been a very successful prizewinner in his day, having frequently won the first prize at the Canadian Horse Show and the Toronto Industrial Exhibition as the best stallion suitable to sire saddle horses and hunters, and in 1888 stood third in the list of winners at the National Horse Show, New York. He was a horse of good size and handsome conformation, and proved an excellent sire, his offspring probably winning more first prizes at Canada's greatest fair than those of any other horse of his class, or of any class, in the Dominion in the last ten years. They have also made high-class saddle and harness horses, and have commanded very high prices. One of his daughters, a magnificent mare, owned by Senator Cochrane, won first prize in the class for saddle horses and hunters at the late exhibition at Ottawa, and is valued at \$800. Wiley Buckles was sired by imp. London; dam Lizzie Vic.

A FINE FLOCK OF LINCOLNS.
J. H. & E. Patrick, Ilderton, Ont., have established on a sound basis, on their fertile farm of 150 acres, near Ilderton Station, on the Grand Trunk Railway, and twelve miles from the City of London, a high-class flock of registered Lincoln sheep, about thirty-five head of which are imported animals, selected in person, with rare good judgment, by Mr. Eugene Patrick, from leading English flocks, and including a number of prizewinning animals which for form, size, quality of flesh and fleece, and breed type, would be hard to excel. Among these were a shearing ram and shearing ewe, wearing their lamb fleeces, bred by Mr. R. Wright, of Nocton Heath, which are wonderfully developed, having backs like a table, and magnificent fleeces, measuring over twenty inches, and of fine fiber and even, silken quality. A ram lamb from the famous flock of S. E. Dean & Sons, which won first prize at the Royal Show, and at Toronto Exhibition, is a first-class specimen of the breed, being large, well-formed, and carrying a splendid fleece of lustrous wool. Messrs. Patrick won 1st prize at Toronto for ram, two shears and over, with a magnificent sheep, strong, firm fleshed, standing on a grand set of legs and covered with an even fleece of great weight and the most perfect quality, declared by an expert wool-buyer to be one of the most perfectly uniform fleeces he had ever examined. The selections from their flock shown by Messrs. Patrick at the Toronto Exhibition were a center of attraction, and were considered by competent judges one of the very best lots of Lincolns, or any breed, ever shown there, being brought out in splendid condition without being overdone, and winning the first prize for the best flock of the breed, open to all, besides a large proportion of the first prizes in the class in all its sections. In the 1899 importation are a capital lot of ram lambs, wisely selected with a view to true type of type, constitution, form and quality; also a choice lot of ewe lambs, and in the home-bred flock are a fine stock of useful-looking shearing rams and ewes, and ram and ewe lambs. This firm has had very gratifying success in filling orders for single animals, for foundation flocks, and for carloads, and have done a very extensive business in the last few years, giving, so far as we can learn, excellent satisfaction. See their advertisement in FARMER'S ADVOCATE of the first of each month.

Comfort and Economy.



The Aberdeen
(FOR COAL AND WOOD),
The Victorian
(FOR WOOD ONLY).

Comfort, because they're sure, quick and perfect bakers.
Economy, because they're not extravagant fuel-users.
And they're a handsome and imposing piece of furnishing for any home—beautifully mounted.

The **Copp Bros. Co., Ltd.**
HAMILTON.
BRANCHES: TORONTO AND WINDSOR.
Write for descriptive booklet.

The Jones Umbrella "Roof"



Put on in One minute. No Sewing. Fits any Frame.
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
-om- **THE JONES-MULLEN CO., 396-398 BROADWAY, NEW YORK.**



THE NATIONAL Cream Separator
FOR USE IN FARM DAIRIES

THIS cut 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.

"NATIONAL" NO. 1 HAND POWER. Capacity, 30 to 50 lbs. per hour.
The Raymond Manufacturing Company of Guelph, Limited, Guelph, Ont.

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

Shires, Shorthorns, and Leicesters.
 We have a few choice Prime Minister (imp.) bulls on hand. A limited number Leicesters, both sexes.
J. M. GARDHOUSE, Highfield, Ont.
 Malton Station, G. T. R. -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,
 -om **DELAWARE, 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,
 -om **STOUFFVILLE, ONT.**

SHROPSHIRE!
 We are offering twenty-five strong, well-covered lambs from descendants of Miller importation.
ROWAT BROS., Hillsdale, 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.

SHROPSHIRE FOR SALE.
 Ram and Ewe Lambs.
Charles H. Rowe, Orillia, Ont.
 P. O. Box 192. -o

JAMES COOPER & SON, KIPPEN, ONT.,
 IMPORTERS AND BREEDERS OF
Registered Shropshires.
SHROPSHIRE of the best English blood. Fashionably bred and true to type. Only the best specimens of the breed kept. Selection in breeding our stronghold.
50 ram and ewe lambs for sale. **20** yearling rams also to sell. A limited number of yearling ewes.

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

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

Shropshires...
 I offer for sale SHEARLING EWES, sired by imported Newton Stamp 99631, prizewinner at Toronto, 1897; also RAM and EWE LAMBS, by Standard, a son of Newton Lord.
GEORGE HINDMARSH,
 -o **AILSA CRAIG, ONT.**

Shropshires. One shearing ram, and a few ram lambs. One Shorthorn bull calf eleven months old. Write for prices.
HALDIMAND CO. H. GEE & SONS, Fisherville.

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,
 -om **WOODVILLE, 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.

GOSSIP.

R. H. Harding, Thorndale, Ont., writes as follows: "I have a few good Chester boars fit for service, and a litter of August pigs from my last imported boar. He is one of the most lengthy boars in America, and is leaving just such stock as are needed at the present time. I also have some Shropshire lambs (sired by Cooper and Phin rams), nicely covered, and of good quality, but thin in flesh. Of Dorsets I can spare a few yet, especially lambs and aged ewes." See Mr. Harding's advertisement in this issue, and take advantage of his offerings which are being made to make room before the close housing season commences.

THE ARDFERT HERD.
 As many breeders are interested in the future of this celebrated Old Country herd of Shorthorns, bred by the late Mr. W. T. Talbot Crosbie, we are asked to state that owing to its great number and the lateness of the season, it has been arranged for the annual sale to take place as usual on the Thursday before the Royal Dublin Show next April, when, in addition to the young bulls, a number of in-calf cows and heifers will be sold. This will be the forty-eighth annual sale that has been held on the estate without a break since 1852, and the final one. The remainder of the herd, consisting of about forty-five cows, with their calves, forty two-year-old and yearling heifers, as well as the two stock bulls, Mr. Willis' Stephen Fitz-Lester and Mr. Stratton's Beacon Light, the total numbering about 120 head, will be unreservedly dispersed on the Thursday preceding the great horse show in Dublin, which takes place about the third week in August.

ABERDEEN-ANGUS CATTLE SELL WELL.
 A draft of the celebrated English herd of Aberdeen-Angus cattle, the property of Mr. Clement Stephenson, Balliol College Farm, Newcastle-on-Tyne, was disposed of by auction on September 27th. The highest figure for cows was made by Pride of Albion at 85 guineas, while Mirror realized 82 guineas.

Summary.

	Average.	Total.
	£ s. d.	£ s. d.
8 Cows.....	53 11 0	428 8 0
13 Two-year-old heifers.....	40 9 3	526 1 0
10 Yearling heifers.....	42 12 7	426 6 0
9 Heifer calves.....	31 19 4	287 14 0
1 Stock bull.....	157 10	157 10 0
3 Yearling bulls.....	31 2 0	93 9 0
6 Bull calves.....	23 2 0	138 12 0
50	41 3 2	2,058 0 0

50 head averaged £41 3s. 2d., total £2,058.

LEICESTERS.
 100 head to select from, among which are some specially good shearing ewes and rams. We employed two rams last fall, bred direct from imported stock.
C. & E. WOOD, FREEMAN, ONT.

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,
 -om **LUCKNOW, ONT.**

EUROPEAN ADVERTISEMENTS.

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—Sheepcote, London. -om

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. -o

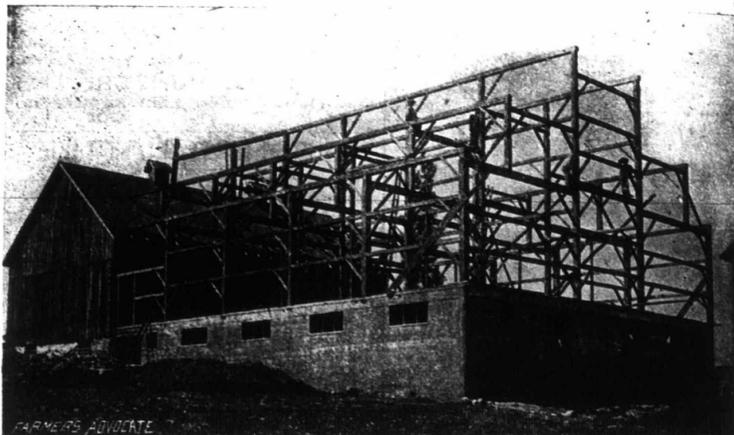
J. E. CASSWELL, Loughton, Foklingham, Lincolnshire,
 breeder of Lincoln Long-wooled Sheep, Flock No. 46. The flock was in the possession of the present owner's great-grandfather in 1785, and has descended direct from father to son without a single dispersion sale. J. E. Casswell made the highest average 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 shearlings for sale, also Shire horses, Shorthorns, and Dark Dorking fowls. Telegrams: "Casswell, Foklingham, Eng." Station: Billingboro, G. N. R. -o

FAMOUS ALL OVER THE WORLD.
ALFRED MANSELL & CO.,
 LIVE STOCK 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. -o

Thoroughbred Horses for Sale.

CHESTNUT STALLION, WICKER. FIVE YEARS OLD: 15.3.
 Public two-year-old trial, one mile in 1.42, 110 pounds up. Started five times as a three-year-old, winning three firsts, one third, one fourth, and then bowed a tendon; cannot race again, but as a sire of race horses, carriage or saddle horses, or hunters, of surpassing beauty and endurance, should be second to nothing in the Dominion; is a splendid jumper, powerful, gentle, and of rare beauty and quality.
CHESTNUT BROOD MARE, FANNY CARTER. FOALED 1882.
 Dam of Wicker; fine breeder; in foal to the Stockwell race horse, Beldemonio; broken to harness and saddle; superb jumper.
CHESTNUT HORSE COLT, "WHAT CHEER."
 Yearling, full brother to Wicker.
CHESTNUT FILLY, FOUR MONTHS OLD, FULL SISTER TO WICKER.
 A magnificent youngster; extra large and fine.
 Prices reasonable for such stock. This offers a rare opportunity to anyone wishing to start a racing stable from blood that cannot be excelled, either in this country or in England, and close to West Australian on both sides; or, to breeders in Northwest, government rates on registered stock being now almost nominal, and care and attendance provided free.
MRS. E. M. JONES, BOX 324, BROCKVILLE, ONT., CAN.
 Also (as usual) Jersey Cattle of highest excellence.

ANOTHER FINE WALL
 . . . Built with . . .
Thorold Cement

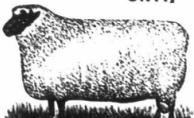


Basement and Frame of Mr. J. A. James' Dairy Stock Barn, Nilestown, Ont. New portion, 72 x 60 feet. Walls, 12 feet high.

WHAT MR. JAMES SAYS ABOUT THOROLD CEMENT.
 ESTATE OF JOHN BATTLE, THOROLD, ONTARIO:
 Nilestown, Ont., September 7th, 1899.
 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 72 x 60 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. -om

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



Oxfords Galore....
 WE have 300 to select from this fall, of all ages; bred up from the best English flocks. We employed the 1st and 2nd prize imported rams last fall.
PETER ARKELL & SONS,
 -o **TEESWATER, ONT.**

BRANT STOCK FARM
Oxford Downs.
 Two imported rams (first and second prize winners at Toronto, 1898) at head of flock of selected breeding ewes. Choose young stock for sale. Come and see our stock.
J. H. JULL & SONS,
 BREEDERS AND IMPORTERS,
 Burford Station. -o **Mt. Vernon P. O., Ont.**

Oxford Down Sheep
 Flock Established in 1881.
 Have for sale 120 registered ram lambs, and 50 ewes of different ages, singly or in car lots. Prices reasonable.
HENRY ARKELL,
 -om **ARKELL P. O., ONT.**
 Guelph: Telegraph and Telephone.

Ashton Frontview Cotswolds Galore.
 Stock Farm.
 We have upwards of 500 head of all ages, the majority of which are ram lambs, and are prepared to supply car lots.
A. J. WATSON,
 -o **Castlederg, 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. -o

GOTSWOLDS.
 Females of all ages; also this season's crop of ram lambs; all from imported stock; extra well covered.
John I. Balsdon,
 -o **BALSAM, ONT.**

Within the Capes of Virginia.
 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.,
 -o **Richmond, Va.**
NORTH BRUCE HERD OF IMPROVED LARGE YORKSHIRES.
 Young stock of both sexes for sale; sired by Oak Lodge Clarence 2nd -2885-, and Oak Lodge Royal King 3041 (imp.). Write for prices.
WILLIAM HOWE, North Bruce, Ont.
 Port Elgin Stn., G. T. R. -o

Persiac Sheep Dip and Animal Wash.

A NON-POISONOUS LIQUID "DIP."

Kills Ticks. Kills Red Lice. Heals Wounds.

Greatly Improves quality of WOOL.

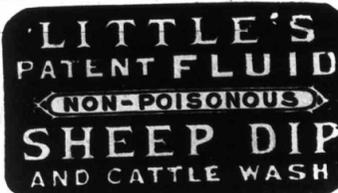
For Horses, Cattle, and Pigs.

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.



Disinfectant AND Germicide

A Highly Concentrated Fluid for Checking and Preventing Contagion from Infectious Diseases in Animals.

"Little's Patent Fluid" will destroy the infection of all fever germs, and all contagious and infectious diseases, and prevent contagion from one animal to another, and will neutralize any bad smell whatever, not by disguising it, but by destroying it.

NO DANGER! SAFE, CHEAP, EFFECTIVE. BEWARE OF IMITATIONS.

Sold in large tins at 75c. Sufficient in each to make from 25 to 40 gallons of wash, according to strength required. Special terms to breeders, ranchmen, and others requiring large quantities. Sold by all druggists. Send for pamphlet.

ROBERT WIGHTMAN, DRUGGIST, OWEN SOUND, ONT. Sole agent for the Dominion.

OAK LODGE HERD

Large Yorkshires

The oldest established and largest herd in America. This herd has a uniform and fixed type, acknowledged by the best judges to be what the market demands. It has a record of its own in the showings, winning more prizes at the largest Canadian and American shows than all other herds combined. Parties wishing high-class stock should examine this celebrated herd at the leading shows. All stock fully guaranteed.

J. E. BRETHOUR, BRANT COUNTY, -om BURFORD, ONT.

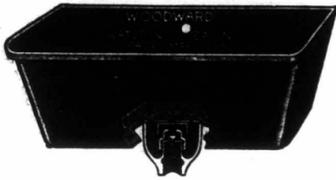
SNELGROVE BERKSHIRES.

We intend to exhibit our Berkshires at the coming Toronto Industrial Exhibition. Our exhibit will include some really good young boars and sows from 6 to 12 months old that are just the sort that are now wanted, and are for sale. Can supply young pigs from 6 to 10 weeks old, of the most approved type and breeding.

SNELL & LYONS, SNEGROVE, ONT.

Increased Profits

Do you need them?



The Woodward Water Basins Will secure you.

Why? The animal's flow of milk is increased. Your stock will COST LESS to feed. Your LABOR is diminished.

SEE IF WHAT WE SAY IS NOT CORRECT.

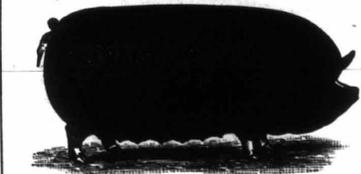
Ontario Wind Engine and Pump Co. (Ltd.), TORONTO, ONTARIO. -om

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. -om

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. -om Telegraph and Station: Stratford, G. T. R.

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. -om

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. -om

W. R. BOWMAN, MT. FOREST, ONT.

YORKSHIRE BOARS, 200 LBS., \$15.00. YORKSHIRE SOWS, IN FALLOW, 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. -om

Large Yorkshires.

SPECIAL OFFER FOR OCTOBER ONLY.

25 first-class pigs from six to eight weeks old, at \$6.00 each. Boars and sows all ages, including show stock.

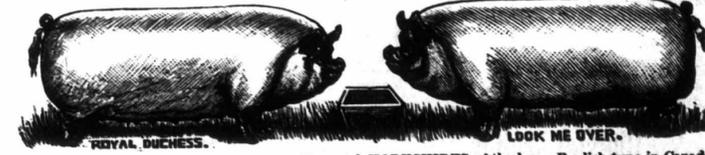
WRITE OR CALL ON L. Rogers, Cooksville, Ont. -om Mention this paper.

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 to H. J. DAVIS, BOX 290, WOODSTOCK, ONT.

PLEASE MENTION FARMER'S ADVOCATE.

Summer Hill Herd



The largest herd of imported and Canadian-bred YORKSHIRES of the large English type in Canada. Twenty-five matured imported sows, among them being several Royal winners. Six imported sows sired by Ruddington Lad, Royal winner and gold medal boar for the best pig of the white breed. Have three imported stock boars bred by such noted breeders as Sanders Spencer and Philo L. Mills. Twenty-five April pigs (imported) of both sexes for sale. Also a number imported in dam. Two hundred Canadian-bred pigs of all ages for sale. Write for prices. Personal inspection preferred. I prepay express charges, and guarantee stock as described. D. C. FLATT, MILLGROVE, ONT. -om

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 Minas, Brawith Buds, Secrets, Mysies, Beauties, Lady Mays, Lustres, etc. The home-bred herd contains Indian Statesman = 2304 =, and 15 young bulls from 6 to 18 months old, and 30 cows and heifers of all ages. Registered Shorthorns, 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. -om

2 Imported Shorthorn Bulls 2



HEIFERS ALL IN CALF TO IMPORTED BULLS. Correspondence or a personal visit solicited. Catalogues on application. -om

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

W. C. Edwards AND COMPANY. IMPORTERS AND BREEDERS

Laurentian Stock and Dairy Farm, NORTH NATION MILLS, P. Q. Pine Grove Stock Farm, ROCKLAND, ONTARIO.

Ayrshires, Jerseys, Shropshires, Berkshires. Our excellent aged herd of Ayrshires is headed by our noted imported bull Cyclone. Tam Glen heads the young herd, and Lisgar Pogis of St. Anne's heads the Jerseys. The young stock are all from time-tried dams. A. E. SCHRYER, Manager. We can be reached either by steamboat, the C. P. R., or C. A. R.; the C. A. R. making connections with the G. T. R. at Coteau Junction. Rockland is our station on all lines. 7-1-y-om

OXFORD HERD OF POLAND-CHINAS

The home winners of the Headed by the imported boars, Concord'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. -om MT. ELGIN, ONT.

LEICESTERS AND BERKSHIRES.

Present offering: Rams and Ram Lambs; Berkshire Pigs of either sex, from two to six months old. All stock registered. MAC. CAMPBELL, NORTHWOOD, ONT.

MAPLE CLIFF Dairy and Stock Farm.

FOR SALE: 2 YEARLING BULLS, 7 BULL CALVES, 10 TAMWORTH BOARS. Fit for fall service. SEVERAL YOUNG SOWS, 40 FALL PIGS. A number of BERKSHIRES of good quality. R. REID & CO., HINTONBURG, ONT. Five minutes' walk from Cen. Expl. Farm, Ottawa.

OAK HILL HERD OF TAMWORTHS.

2 boars fit for service; 2 sows in farrow. A lot of pigs 4 weeks to 4 months old, sired by Sandy III. and Oak Hill Toby. This is show stock, and of the right bacon type. Also Silver-Laced and White Wyandottes, B. and W. Leghorns, Pekin and Rouen Ducks. Prices reasonable. R. J. & A. LAURIE, -om WOLVERTON, 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.

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, Maplevue Farm, THORNDALE, ONT.

OHIO IMPROVED CHESTER WHITES.

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

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

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

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.

IF YOU WANT Chester Whites Write me for particulars.

The imported sires, Willis 1283, and Nonsuch 910, at head of herd.
Lambton County.
JOS. CAIRNS,
CAMLACHIE P. O.

BORNHOLM HERD IMP. CHESTER WHITES.

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

Spring Brood Herd of Tamworths.

Great opportunity for choice stock. A number of choice young pigs sired by British King, first prize Toronto Industrial, 1896, and also by Royal winner, Whitacre Crystal. Pairs and litters not akin. Now is your time. Send for catalogue. Stock of all ages for sale. -o-
A. C. HALLMAN, NEW DUNDEE, ONT.

Chatham HERD OF Tamworths

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

STRATFORD BROS., BRANTFORD.
Tamworth boars, Dorset rams, Shetland ponies, Light Brahmas, Houdans, Cornish Indian Game, Black Langhans, White Langhans, White Plymouth Rock, Buff Plymouth Rock, Banded Plymouth Rock. Prices right. -o-

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. -o-
R. O. MORROW, Hilton, Ont.



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 akin. Write for prices. -o-
M. 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. -o-
COLWILL BROS.,
Newcastle, Ont.

Are You

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

OHRS. FAHNER,
CREDITON, ONTARIO.

TAMWORTHS, BERKSHIRES, BRONZE TURKEY CHICKS.

Young sows and boars, two months old, at \$6 each, registered; descended from best herds in Canada. -o-
D. J. GIBSON, Bowmanville, Ont.

TAMWORTH BOARS

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

Norman M. Blain, Coldspring Farm, St. George, Ont., writes:—"I have just arrived home from Toronto and London, where I have been trying to make it interesting for the boys. Winnings and sales have been satisfactory. Have an extra nice lot of young Tamworth stuff from the prizewinners on hand."

Mr. W. S. Hawkshaw, Glanworth, Ont., called at the office of the FARMER'S ADVOCATE, on Oct. 3rd, to bid us good-bye before starting to England for a shipment of Shropshires. He reports having sold out his home flock almost entirely. He expects to bring chiefly yearling ewes that have been bred this fall and ewe lambs.

Wm. Grainger & Son, Lonsdale, Ont., write:—"The young bulls we are offering for sale are as good a lot as we ever raised—big thrifty, growthy fellows, with lots of quality; sired by Beau Ideal—22554—, by Imp. Sittytan Stamp—18938—(68368). They are descendants of Second Fair Maid of Hullett—9047—, the Chicago dairy test cow."

SHORTHORN BULLS FOR RUSSIA.

On Wednesday last, the 20th inst., Messrs. Alfred Mansell & Co., live stock exporters, of Shrewsbury, England, shipped per the S.S. "Perm" from Hull, 10 high-class Shorthorn bulls to Libau. When the 10 bulls were collected together on the quay before being transferred to the ship, where capital accommodation was provided for them, they presented a grand appearance, and should they reach their destination in good condition they will give a good account of themselves in the various herds for which they are destined. They combine the red bull "Unanimous" bred by Mr. Arkell, of Gloucestershire, by that grand bull Airy Knight 2nd 6954, dam Ursulina 14th by Baron Bridekirk 5th 62120; "Maclean" 7494, bred in Aberdeenshire, by that fine sire Merry Mason 67486, dam Beauty 36th by Touchstone 60073; "His Grace of Connaught" 74706, a fine red bull bred by P. L. Mills, Esq., of Raddington Hall, sire Lordly Archer 70836, dam Grace of Connaught, by Connaught Duke of Waterloo 63391; "Sharon Duke 8th" 75620, also bred by Mr. P. L. Mills; "Silver Minstrel" 73654, bred by Mr. Wilkins, of Preston; "Baron Ruthin 2nd" 72015, bred by Mr. Blezard, of Ruthin; "Don Carlo," bred by Mr. John Clarke, of Maryport; "Eyton Jubilee Duke" 74508, a red bull bred by Mr. Frank Lloyd, of Wrexham; "Primrose Prince 2nd," from the fine herd of Mr. J. D. Owen, Ellesmere; and "Prince of Snowdon" 75312, bred by Mr. W. T. Malcolm, of Larbet, Scotland. The same firm shipped 4 bulls to Russia in April last, and this further order of 10 bulls is the result of the satisfactory character of the bulls comprised in the first shipment.

NOTICES.

Wheat.—A very interesting pamphlet has recently been issued from the Minnesota School of Agriculture on the important subject of wheat, varieties, breeding and cultivation. There is much in it of interest and value to every wheat-grower. It is edited by Prof. W. M. Hays, Agriculturist of the Experiment Station, and his assistant, Andrew Boss; is well illustrated and contains over 170 pages.

Phrenology.—Its use in business life—is a neat little pamphlet edited by J. A. Fowler, of the Fowler & Wells Co., publishers of the Phrenological Journal, New York. It is interesting and instructive to all who read it, but especially to those who desire to study out the relations of the human mind to the body, and mental qualifications necessary to success in various walks of life.

Forestry.—Part I, of a primer of forestry (Bulletin No. 24) has been issued in neat form by the U. S. Dept. of Agriculture, Division of Botany. It has been prepared by Gifford Pinchot, Forester of the Department, who has dealt in this first part with the units which compose the forest, with its character as an organic whole, and with its enemies. Part II, will be entirely "Practical Forestry," and will deal with the practice of forestry, with work in the woods, with the relations of the forest to the weather and the streams, and will conclude with a brief description of forestry at home and abroad.

Keystone Dehorning Clipper.—The advertisement of Keystone Dehorning Company, Picton, Ont., makes its first appearance in this issue of our paper for the new season's business. Our readers will remember this company as being the manufacturers of the new famous dehorning knife which took highest award at the World's Fair. It differs from other devices of its class in the fact that it cuts evenly from all four sides at once. This prevents all bruising and crushing of the horn and constitutes the humane way of removing the horns. Then, too, it is such a quick and safe way for both man and animal. Write them for circulars, etc.

Canadian Ayrshire Herd Book.—From the Secretary and Registrar, Mr. Hy. Wade, Parliament Buildings, Toronto, Ont., we have received a copy of Vol. IX, (new series) of the Canadian Ayrshire Herd Book, published by the Canadian Ayrshire Breeders' Association, the first issued since the amalgamation of the two records formerly existing. It is a handsome and creditable volume, embellished with portraits of President Robert Ness and Secretary Wade and a pair of Mr. W. W. Ogilvie's imported cattle, carrying the records from 8900 to 10397. The basis of amalgamation is given along with a great deal of information of special interest and value to Ayrshire breeders. The Association is to be complimented on the excellence of the volume.

Of Value to Horsemen.—Do you liberate your horses from work for the winter? If so, we want to call your attention to a very important matter. Horses which have been used steadily at work, either on the farm or road, have quite likely had some strains whereby lameness or enlargements have been caused. Gombault's Caustic Balsam applied as per directions, just as you are turning the horse out, will be of great benefit; and this is the time when it can be used very successfully. One great advantage in using this remedy is that after it is applied it needs no care or attention, but does its work well, and at a time when the horse is having a rest.

The Fence Of the Times.

The best spring steel wires, twisted main cables, well woven cross wires. Heavy enough for all purposes, yet low in price. Heavy galvanizing, expansion and contraction provided for. Once properly put up will last practically forever.

THE ELLWOOD FENCES

Sold by our agents everywhere. If no agent in your town write direct to
AMERICAN STEEL & WIRE CO., - Chicago or New York.

All Customers Say the Same Thing



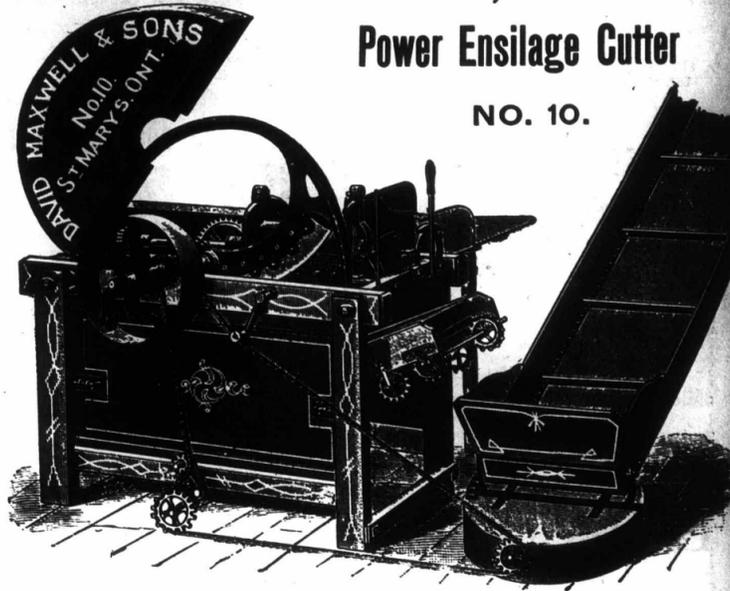
RAPID-EASY GRINDERS do MORE work with the SAME power than any OTHER. 80 LBS. of steam will do more work with R.-E. GRINDERS than 100 LBS. with other Grinders; and FOUR horses more than SIX.

LETTERS JUST RECEIVED.
Mr. Robert E. Mickel, Brighton, Ont., Sept. 28, 1896: "I suppose it would be of interest to you to know that I have been using the Rapid-Easy Grinder No. 2, which I purchased from your agent, Thomas Cheer, since last January. It has proved to be a success, having done all the work it was recommended to do, and MORE. I have ground over 7,000 bushels of grain of all kinds with the FIRST PLATES, even to Herrick, which it ground as FINE AS SNUFF."

Mr. Charles Mackey (A. McD.), Stayner, Sept. 16, '96: "We started the grinder at THREE o'clock, and when we quit at FOUR we had ground 15 BAGS of oats, 18 BAGS of mixed peas, barley, weeds and wild oats. They went through FLYING, and were a FIRST-CLASS job."

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. -o-

DAVID MAXWELL & SONS, ST. MARY'S, ONTARIO.



The most modern—from new and improved patterns. Durable, Powerful, and Efficient. Send for Catalogue with full description.



The Favorite Churn

Made in seven different sizes, from five to fifty gallons. Steel Frame, Improved Roller Bearings, Patented Hand and Foot Drive, Best Quality Oak Barrels, Superior Finish. Sold by first-class dealers everywhere. -om

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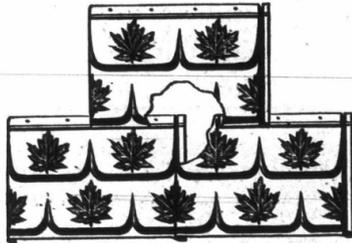
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 Distinguished everywhere for
 Delicacy of Flavour Superior
 Quality, and Highly Nutritive
 Properties. Specially grate-
 ful and comforting to the
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 only in 1-lb. tins, labelled
JAMES EPPS & CO., Ltd.
 Homeopathic Chemists,
 London, England.

EPPS'S COCOA

IF YOU OWN A BUILDING



YOU SHOULD HAVE A COPY OF OUR CATALOGUE
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SHEET METAL GOODS
 For Roofing, Siding, Ceilings, Etc.



OUR PATENT SAFE-LOCK SHINGLES
 Interlock each other on all four sides, leaving no
 openings to admit the weather. We guarantee
 them to be absolutely weatherproof. Metal
 goods make buildings warm in winter and cool
 in summer. Handsome in appearance. Very
 durable and practically fire and lightning proof.
 Send size of building, and we mail free catalogue
 and estimate.

Metal Shingle and Siding Co., Ltd.,
 PRESTON, ONTARIO.

The Proof is In the Cures

THERE is but one
 proof of the value
 of a Lump Jaw
 remedy, and that is the
 cures it has made.

**Mitchell's
 Anti-Lump Jaw**

stands unrivalled in its
 field. No other remedy
 has the record it has.
 No other remedy dare
 offer "your money back
 if it fails to cure," as
 we do.

Our Little Book
 about Lump Jaw
 FREE.

1 Bottle, - - \$2 00
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ALL DEALERS OR
W. J. MITCHELL & CO.,
 CHEMISTS. -m- WINNIPEG, MAN.

METAL EAR LABELS
 Used by all Live Stock
 Record Associations.

BURCH
 Sheep size, per 100.....\$1.50
 Hog size, per 100..... 1.50
 Cattle size, per 100..... 2.00
 Punch and Pliers for attach-
 ing 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.

Beauty and Economy
 ARE BOTH GAINED
 BY USING OUR

**Metallic
 Ceilings
 AND Walls**

THEY don't crack or drop; can be
 readily cleaned; are fireproof and
 sanitary; and more durable than any other
 style of interior finish.

The different designs we make are highly artistic, and offer a suitable choice for private
 houses or public buildings. If you wish an estimate, mail us an outline showing the shape
 and measurements of your walls and ceilings.

Sample Plate No. 227.

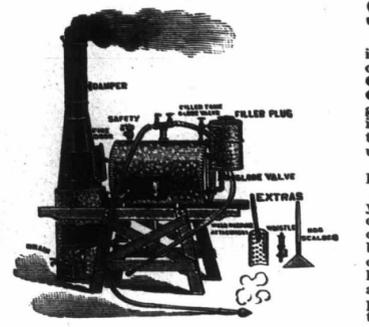
THE METALLIC ROOFING COMPANY, LIMITED
 1185 King St. West, TORONTO.

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.**

COOK OR STEAM YOUR STOCK'S FEED AND SAVE 1/4 TO 1/2
 YOUR FEED. YOU WILL SAVE THE PRICE OF OUR COOKER
 ON A DROVE OF THIRTY HOGS OR TEN HEAD OF CATTLE.



Yorkshire Sow at six months old.

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 BELLEFLEUR 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.,
 Rippley 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 1-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 130
 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.
 Rippley 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 statement. 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, 18x80 feet. I cook feed for 150 pure-bred Yorkshires.

Wyoming, Ontario, Canada, March 27th, 1899.
 The Rippley Hardware Co., Grafton, Ill.:
 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.
 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.

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.
RIPPLEY HARDWARE COMPANY, Box 100, Grafton, Ill.

FOR SALE.

Fine ALBERTA Farm

Clear of Incumbrance,
 Rich Soil, All Fenced,
 Good Buildings,
 Two Splendid Wells,
 Mile to Market & School.

GOOD REASONS. O. S. MOORE.

FARM MANAGER.

Wanted—A steady, competent man to take charge
 of a farm in the Province of Quebec.
 Apply, with references, to P. O. Drawer 2292, Mont-
 real, stating age, experience, and salary expected.
 House, fuel, milk free, and plot for vegetables. Write
 to G. A. Drummond, Montreal, Que.

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Enlarged premises and increased number of teach-
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Catalogue free. J. W. Westervelt, Principal.

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 has gone through
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 improvement, until
 it stands, as its
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 All machines are
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 AGENTS WANTED.
 For full particu-
 lars, prices, etc.,
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 The Leading Hotel of the West.
 ALL MODERN CONVENIENCES. RATES, \$2 to \$4 PER DAY.
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MACHINE \$10
 Write at once for Catalog
 THE BOWEN CABLE STAY FENCE CO.
 Norwalk, Ohio.

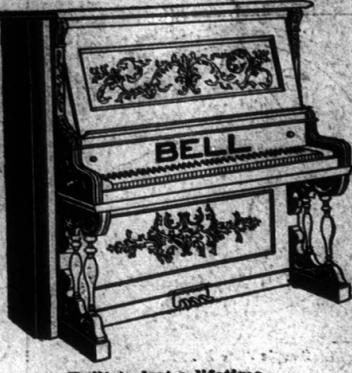
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 CUTS BY ALL PROCESSES
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And there is no better to be had.

The orchestral attachment renders possible the effect of sixteen different stringed instruments. It is used only in the "BELL." Send for free booklet, No. 40, it tells all about it.



Built to last a lifetime.

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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 ⁹⁹/₁₀₀ TO 100 per cent. of pure Cane Sugar, with no impurities whatever."

(Signed) JOHN BAKER EDWARDS, Ph. D., D.O.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.

Teas "fragrant", "delicious", "perfect" and "best" are now plentiful as gold mines, but people only smile and say "Give us Blue Ribbon Ceylon."



ROCK SALT for horses and cattle. Per 100 lbs., 70c., or 500 lbs., \$3.00, Toronto. Cash with the order. Also in car lots. TORONTO SALT WORKS, Toronto.

LIVE STOCK AUCTIONEER.

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, Bobcaygeon. Thos. Ingram, Care Mercury Office, Guelph, Ont.



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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, \$8.00.

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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. JOHN SMITH, BRAMPTON.

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

Made at Nilestown Factory of Thames Dairy Co.

Date, 1899.	Machine	Amount skimmed per hour	Speed revolutions per minute.	Butter-fat left in skim milk at following temperatures.			Lbs. Milk per Lb. Butter.
				80	85	90 95	
January 25	Alpha	2800	6000	.05	.02	.01 .01	21.10
January 27	Reid's	2800	6200	.15	.14	.12 .10	22.45
January 30	Alpha	2600	6000	.05	.03	.02	
January 30	Reid's	2600	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

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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,
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