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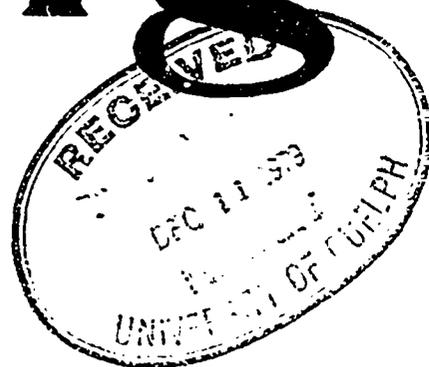
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December 12, 1899

Farming

A Paper for
Farmers and Stockmen



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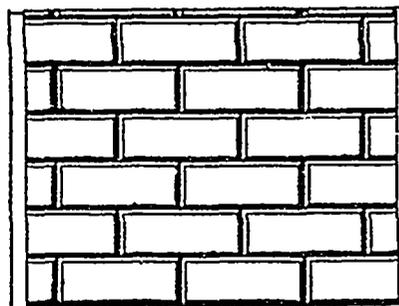
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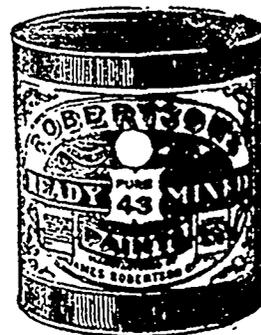
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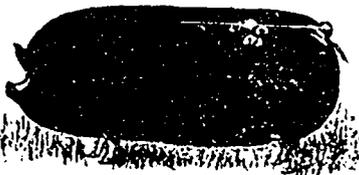
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"W. D. Flatt, Hamilton, Ont., will offer by public auction in the City of Hamilton, on December 20th, 8 imported bulls, 8 Canadian bred bulls, 35 imported cows and heifers, and 9 Canadian bred cows and heifers, this lot embraces the 37 head which I have in quarantine at the present time. Catalogue, now ready, will be mailed on application."

The Golden Link Herd of Berkshires

Will be again out at the Provincial Fat Stock Show. They are of the long bacon type. Will be pleased to have any of my old customers or any intending purchasers, call and inspect my herd. I have six young boars left, fit for service. Also the 1st prize boar under 12 months at London and first at five other fairs; also 25 young 1st class sows from 4 to 6 months old, and three 1st class sows one year old. Also 1st prize sow under 12 months at Toronto, London and five other fairs. Will make a special offer to pay freight on all orders till Jan. 1st, in Ontario. Write for prices or come and see stock.



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BURFORD, Ontario

FARMING

VOL. XVII.

DECEMBER 12th, 1899

No. 15

Earning a Christmas Present

A Christmas present that will fit in appropriately in almost every family is our new edition of the *Life of Christ for the Young*, a beautifully bound book of 400 pages with 74 full-page half-tone illustrations. You need to send us just one subscription for *Farming* to entitle you to this book free of charge.

Look Out for Next Issue

Though it has not been our habit in the past to make any very special effort in the way of a Christmas number we propose to give our readers something better than the ordinary issue, which in itself is nearly double its former size, this year. Our object is not to turn out an elaborate Christmas issue, but to make a number twice the regular size, containing some special Christmas matter and suitable illustrations. There will be several pages devoted to our Farm Implement department, and a lot of very appropriate matter for the Farm Home. It will also contain a complete report of the Provincial Fat Stock and Dairy Show at London this week. The number will be of real special value, and any of our readers desiring extra copies to send or give to friends can have them by notifying us. All we ask is that applications be made early.

Subscribers receiving an extra copy of *FARMING* from time to time will kindly take this as an indication of our confidence in their willingness to say a good word for the paper. Plant extra copies where they will bring the best results. If any reader has in his mind a probable subscriber we shall be pleased, on receipt of his name and address, to forward same a sample copy.

Prime Beef Animals

Those who visit the Provincial Fat Stock and Dairy Show this week will, no doubt, see the best that this country can produce in the way of prime beef cattle. That the supply of this quality in the country is small goes almost without saying. The reports of the Toronto cattle market, published each week in *FARMING*, show that while the supply of inferior and medium qualities during the past few months has been large, there has been a scarcity of really fine beeves. The quality of the feeders offered has also been open to the same objection, comparatively few well-bred smooth steers being seen, the bulk of them being of the rough sort, showing both poor breeding and care.

The cattle offered for sale on the Toronto market each week may be taken as a fair sample of the kind produced in the country generally and that there is a great scarcity of really prime beeves fit for the export trade shows that considerable improvement is needed in the breeding and feeding methods followed by the average farmer before we can lay claim to much credit for the quality of our fat cattle. There is certainly room for great improvement in the breeding and feeding of the average beef animal offered on the market to-day. The slovenly and careless breeding habits adopted by many

farmers a few years ago, as a result of the depressed state of the cattle market, are still seen in the bulk of the stuff offered. The revival in the cattle trade during the past year or two, and the demand there is at the present time for prime beef cattle, will no doubt have the effect of improving matters. But still much remains to be done.

The enterprise and enthusiasm shown by our leading breeders in the large importations they have made of pure-bred animals during the past year is deserving of the highest commendation, and will no doubt have the effect of improving the quality of our cattle very shortly. But their efforts must be backed home by thorough educational work and by impressing upon farmers the necessity of breeding and raising only the kind of stock that will command the top price on the market. Then the feeding and fitting of an animal for market is important. Though a beast may have ever so good breeding if it is not properly fed and cared for it cannot make a really prime beef animal.

We believe that one of the reasons why many farmers turn out such a number of inferior beef animals is because they do not know what is wanted in a prime export steer, or, in other words, they do not know what an animal should be like when properly fattened and finished for market. They have not the right ideal and therefore do not aim high enough when breeding and feeding their animals. For this reason we believe it would be one of the best investments that our cattle raisers could make to spend a little money on a visit to the Fat Stock Show, where the types of fat cattle required can be seen. In fact we would go so far as to say that it might be money well spent if the Government would place the Provincial show on such a footing that it could afford to allow the farmers living in the locality where the show is held admission free of charge. At any rate no farmer interested in the rearing of fine stock should neglect this opportunity of obtaining information regarding his own business.

A New Poultry Disease

Discovered Through an Inquiry in "Farming"

In *FARMING* for November 14th, in our Questions and Answers department, appeared a letter from "Farmer's Daughter," describing some sick turkeys and asking for a remedy. We submitted her letter to Mr. A. G. Gilbert, Poultry Manager, Central Experimental Farm, Ottawa, who, in his reply, which was published with the inquiry, advised sending a turkey that had just died to the Bacteriological Laboratory, Ontario Agricultural College. This advice was acted upon, and in last week's *FARMING* appeared the report of Malcolm Ross, in charge of the Bacteriological Laboratory at the college during the absence of Prof. Harrison in Europe. His report showed that the turkey died of a disease known as *entero-hepatitis*, entirely new to Canada, and one for which no effective cure is known. In describing this disease Mr. Ross says: "The organism causing it gains access to the bird in the early summer, and will live in it for months; large numbers of them are excreted in the droppings. The only way in which the disease can be got rid of is by getting

rid of *all* the turkeys, and not keeping any on the same ground for some length of time, at any rate not till the next summer."

That such important results have been obtained by merely asking for information through our inquiry columns is deserving of special mention. Everyone concerned, the farmer's daughter, Prof. Gilbert, and Mr. Ross are deserving of the gratitude of every poultry raiser in the country, and we feel justified in taking considerable credit to ourselves in being the means of bringing to light the existence of a disease so fatal in its nature to the most valuable birds kept on Canadian farms. The fact that such a disease is known to exist in the country makes it possible for effective measures to be taken at once to eradicate it and prevent its spreading to other districts. The symptoms given by Mr. Ross also make it possible for the disease to be located in other sections than the one in which "Farmer's Daughter" lived. Mr. Gilbert, in writing us regarding the matter, says: "Mr. Ross writes me that it has resulted in the discovery of a disease new to Canada, viz., *entero-hepatitis*, and which has no doubt been the cause of death to many thousands of turkeys throughout the country, judging from the number of enquiries to cure diseases with similar symptoms." This disease, then, may be prevalent in many places, and we would advise those having sick turkeys showing the symptoms described to lose no time in making the fact known, and if there is any doubt send some of the dead turkeys to Guelph for examination.

This whole affair suggests the great importance of the farmer utilizing the means at his disposal for obtaining accurate and definite information about his business. The enquiry columns of our paper are always open for giving information of this nature, and we trust our readers will avail themselves of them to a greater degree than they have done in the past. Then the services of the staffs of the experimental farms at Ottawa and Guelph and also of the Agricultural College are always available when the interests of the farmer are concerned. By utilizing these mediums the farmer can obtain a fund of valuable information that can be secured in no other way. There is not as much co-operation as there should be between the agriculturist, the agricultural teacher, and the agricultural press owing largely to the failure of the farmer to utilize these mediums as much as is in his power to do. The results obtained in the discovery of this new poultry disease shows what can be done by co-operation in this way.

Stockmen Dine

The annual banquet of the Guelph Fat Stock Club, held in connection with the show, is always an enjoyable affair, and this year's spread was no exception to the rule. It took place at the Royal Hotel, Guelph, on Dec. 7th, when addresses were given by J. Mutrie, M.P.P., G. T. Powell, N.Y.; E. P. Hawkins, G. C. Creelman, L. G. Jarvis, and others. The proceedings were enlivened by songs and music. The keynote of the gathering was struck by Mr. Powell, who, in a masterly address, set forth the importance of intelligence and skill in breeding good stock, and in carrying on the operations of the farm.

Lice on Poultry

Now that your birds are going into winter quarters, it is time to tackle the lice problem again. At this season of the year if the birds have been spending the summer months on range, they should be comparatively free of vermin. Thorough work in fighting lice now will mean less lice to fight this winter, less sickness, more comfort, and more eggs and dollars.

Of course you cleaned up the house, whitewashed it, and put in new earth floors while the weather was warm.

If you did not it is your loss, for it is too late to do it now. Whitewash and fresh earth added to the poultry house after frosty weather sets in is liable to result in a damp house for winter. There are plenty of things that can be done. If you neglected to clean up the house properly, you can make a shift to make it presentable by spading up the earth floor and sweeping the walls. Clean up the windows and kerosene the roosts. Be sure that the nests are clean and have new nesting material.

Each and every fowl should receive a careful handling and treatment for lice. Give every bird a good dusting with some good insect powder; or use a mixture of tobacco dust and fine dry coal ashes. Dust them three times, if you wish to be sure you have control of the pests; each dusting should be given about a week apart. Don't dab a little powder into the fluff and under the wings, and call that dusting a fowl. Take the bird in your lap, and with your hand work the powder well into the feathers down to the skin all over the bird. It is only thorough work that will do any good.

Supply the birds with a good dust bath. With a good place to wallow in the dust, the birds will help your war against vermin. A bird that takes every opportunity to roll and wallow in the dirt and fill her feathers full of dust, is seldom lousy enough to cause trouble. The lice cannot stand being showered with dust at frequent intervals.

It is never too early or too late to fight lice; begin now.
—Dr. Woods in *Farm Poultry*.

Sugar Beet Pulp for Cows

In the United States the pulp from the sugar beet factories is utilized for feeding stock. Farmers secure this pulp from the factories after the sugar has been extracted in the process of manufacturing, and claim to have splendid results from such feeding. The following experience of a New York farmer, as given in the *American Agriculturist*, who fed sugar beet pulp to his cows will be of interest to those living in sections where sugar beet factories are in contemplation:

"I have had some experience in feeding sugar beet pulp, but first I would like to tell how I have fed my cows since the beginning of last winter. In the morning about half past six the cows are given a feed of rowen, rather more than they will eat at the time. About 8 o'clock they are turned out for half-an-hour and allowed to get a drink. I sprinkle the feed left with a very little brine. At noon I give them a little more rowen, and about 5 turn them out again for another half-hour, so that they may get another drink. I sweep the mangers, giving what feed remains to the horses, then give the cows a feed of early cut hay. About 8 o'clock in the evening I give them a bushel of corn ensilage apiece and the milk cows from two to three quarts of gluten. To the cows that are being fattened I give all the hominy feed and whole meal that they will eat up clean.

Since I began feeding the pulp, I treat the cattle in the same way, except that at noon I do not feed any rowen, but clean out the manger and give the cows a half bushel each of beet pulp, which is about all they will eat at one time. I also give them meal now instead of at night. I commence feeding the pulp in very small quantities and see what effect it has on the digestive organs. I gradually increase the feed until the cows are getting all they will eat.

I have seen no ill effects from feeding the pulp at any time. Before commencing I weighed the milk every day for a week, continuing after the pulp feeding was in progress. The next day after the pulp was first fed, I began to get an increase of milk. This continued until the cows were on a full ration of pulp when they were giving about 4 lbs apiece more than previously and this, too, where some of them had been in milk for two years. There did not appear to be any change in the flavor of the milk. It

was sold every day to about 100 customers, and I have had no complaints. The cows do not eat as much other food as they did before the pulp was fed. More hay is left in the manger, and also a little more ensilage. The weather was quite cold during the time the trial was made. There was scarcely any change the whole time, consequently the weather has not caused the flow of the milk as a change in temperature often does.

I think that beet pulp is an excellent cattle food. The stock certainly relish it and it is an appetizer and aids in digestion, consequently a promoter of health. I have fed roots of various kinds every winter for many years, and I think the beet pulp is better than any of them. It certainly has the advantage of not having to be cut, and there is no danger of animals choking on the pieces. Hogs eat it nearly as well as cattle.

Guelph Fat Stock Show

(Specially Reported for Farming)

For over sixty years the Guelph district has been famed for its fat stock and for over a quarter of a century fat stock shows have been held in Guelph.

The Guelph Fat Stock Club has held annual shows for the past eighteen years and is the oldest organization of the kind on the American continent. The show this year was held under the auspices of the Guelph Fat Stock Club, the South Wellington Agricultural Society and the Guelph Poultry Association.

The meeting this year was a marked success. Not only was the attendance very large, but the stock was first class and the entries more numerous than in late years. The poultry and pet stock were well brought out and made a splendid exhibit. They were quartered in the annex of the Victoria Skating Rink, which makes a fine place for a winter show. During the days of the exhibition the galleries were frequently crowded with spectators, amongst these many hundred of ladies who took a great interest in the show.

Cattle—Pure Bred.

There were three classes for cattle: (1) pure bred of any class; (2) pure bred animals, other than Shorthorns; (3) grades. The Shorthorns were far the most numerous and this was to be expected as nine-tenths of all the beef stock in Ontario are Shorthorns. Of the other breeds shown, the Galloways had a few very good specimens, but only moderately fat. The Polled Angus had a very good trio, one of them Mr. Walter Hall's steer, being perhaps the fattest animal in the show. The Herefords were only conspicuous by their absence though there were two white-faced, half-bred animals shown. It was therefore a Shorthorn show, not the very fat animals seen years ago, but a lot of young, useful butcher's cattle of grand quality.

One special feature of the show was the large number of sales made and the good prices obtained. Not for many years have such good prices been procured by the sellers. The first class was for two-year-old steers. Three Shorthorns were shown, and Harry Smith, Hay, Huron Co., won first with his white steer "Free Trade," by Abbotsford, dam Fragrance by Prince Albert. He was a winner last year and was then sold for this year's delivery at 8c per lb. live weight. He was twice resold here bringing finally a good bonus over 10c. per lb. Second prize went to J. Freid & Son, Roseville, for a dark roan, while James Oak, Alvinston, got third place. For yearling steer, J. Freid & Son were first with a nice red, and I. Groff of Elora, with a sweet one that had many admirers. For best cow or heifer, three years and over, J. Freid & Son were first with a big cow a trifle patchy. Harry Smith, second, with Gem of Athelstane, by Lyndhurst, and D. McCrae, Guelph, was third, with the Galloway Semiramis 24th. For two-year-old heifers, P. Stewart Everton had a very level one that got first. D. McCrae was second with a Galloway and

James Oak, Alviston, third with a white Shorthorn. In yearling class Harry Smith was first with a white Shorthorn named Barmaid, James Oak, second with a red and D. McCrae, third with a black Galloway. In pure bred other than Shorthorns, Walter Hall, Washington, was first with his Polled Angus steer. In heifers James Bowman was first and second with three year-old Polled Angus heifers, and D. McCrae third with a Galloway two-year-old. For best Shorthorn steer, Mr. H. Smith's white steer was the winner of the Shorthorn breeders prize's.

Grades.

For grades there were a great many entries and good types of beef animals shown. The old patchy animals were not in the prize list. Two small, smooth, nicely finished ones taking the eye of the judge. For best steer two years old J. Freid & Son won with a dark roan, a very smooth steer. He afterward proved to be the heaviest in the show, weighing 2195 lbs. Second went to a lengthy red with white hind socks shown by Robert Young, Ponsonby. This animal was winner for the County of Wellington prize. Jas. Leask was third. For yearling steer A. Richardson, Peepabun P.O., East Luther, was first for a very sweet roan, a nice, level fellow that sold close on eight cents per pound. Second went to James Leask and third to George Clayton, Peepabun. For grade cow J. Freid & Sons were first with Leask second and Jno. Brown, Galt, third. For heifers Jas. Leask, Greenbank, won first in all the classes with a very nice lot well brought out.

There were a number of prizes offered for amateur exhibitors from all the neighboring townships. The classes failed to fill and there was nothing of very special merit.

Sheep.

There was a large show of sheep and they were of excellent quality. In the long wools George Allen, Oriel, and W. J. Watson, Castlederg showed Cotswolds, Mr. Allen had a very fine shearling ewe, an easy winner in her class, and an animal of great merit. She was bred by Game, Gloucestershire. He also got second for pair wethers. A. I. Watson had first for ewe lambs and third for shearling ewes. Orr and Lillicoe, Galt, showed Leicesters and won for pair wethers, yearlings and lambs, with Allen second. The Lincolns shown by L. Parkinson, Eramosa, won third prize for ewe lambs. For short-wooled breeds S. C. Douglas, Galt, with Southdowns, and W. H. Beattie, Wilton Grove, had a mixed lot of Shrops, Southdowns and Dorsets. Smith Evans had a fine lot of Oxford Downs. J. C. Douglas won for ewe lambs and old wethers and second for shearing ewes. W. H. Beattie won for wether lambs and second for yearling wethers. There was a large show of grades and crosses. Orr & Lillicoe won several of the prizes, specially those for pens of lambs. There was a close contest for heaviest sheep in the show. Smith Evans won with 306 lbs., a three-year-old ewe, an Oxford down. Geo. Allen had a shearling, Cotswold 274 lbs., and A. T. Watson another yearling Cotswold, 284 lbs., but the age gave the Oxford the advantage. The sweepstakes medal, given by Lt.-Col. D. McCrae, for best sheep in the show, W. H. Beattie won with a very nice Southdown wether.

Hogs.

The show of hogs was very large. They were nearly all improved Yorkshire and their crosses. There were but few Berkshires or Tamworths shown. I. Debels, Kossuth, won in several classes. He showed a Yorkshire sow weighing 823 lbs. In pure breeds other than Yorkshire or Tamworth, Geo. Kiching, Corwhin, was a winner with some very good ones. In grades A. Bolton, Armstrong's Mills, had the best farrows, while T. B. Lush, Oastie, was first for sows. Guelph Township showed a good lot of hogs with G. B. Hood first, W. McCrae second, and Geo. North third. They had perhaps the best lot from any of the Townships. For best pair of Singers, A. Elliott & Sons, Galt, were first, and Wm. McCrae, Galt, second. For five

best Singers, Wm. McCrae was first and George Barber second. They were a very good lot. H. Debels, Kossuth, won the medal for best hog in the show, given by James Bowman, Guelph.

Cattle Sweepstakes.

The silver cup—a grand trophy—valued at \$250 offered for the best pair of fat animals of any age or breed brought out a large number of competitors. The prize has to be won twice before it becomes the property of the exhibitor. This year it went to J. Fried & Son, of Roseville, county of Waterloo, for a pair of roan heifers. The same exhibitor had a pair of Shorthorn steers, winners of first and second prizes, but his grade heifers were put first. The contest was close, and many butchers thought that the pair shown by James Leask, of Greenbank, would have been the winners. One of Fried's heifers was the heaviest animal in the show, scaling 2,195 pounds. For the Holliday Cup, given by Thomas Holliday, brewer, Guelph, and valued at \$75, the white Shorthorn steer shown by Harry Smith was the winner. This was another very close contest, the runner up being the black Polled Angus steer shown by Walter Hall, and considered by good judges the fattest animal, but he had not the lofty carriage and strong breed character of the winner. The same award carried with it the National Cream Separator, valued at \$75, given by the Raymond Manufacturing Co., of Guelph. This white steer, "Free Trade," won at this show in money and value \$210, and was sold for \$198. One of these prizes, the Holliday, has to be won twice by the exhibitor. This animal has already won many prizes which shows that there is lots of money in prize animals for the feeder. Next year there will be even more money offered for fat stock and the Chicago show will have one of the heaviest purses ever offered for fat stock in America. Feeders should begin early, and fit animals that will be a credit to Ontario.

Ontario Experimental Union

The Twenty-fifth Anniversary of the Ontario Agricultural College

(Specially reported for FARMING.)

On the evening of Dec 6th, the twenty-first meeting of the Ontario Experimental Union opened with the annual supper held in the dining-hall of the college. The officers and students, and a large and representative gathering of the ex-students, representing most of the college terms, since the establishment of the college in 1874, were present, and did ample justice to the good things set before them. A considerable number of ladies also honored the supper with their presence.

Owing to the fact that the dining-hall was too small to accommodate everyone present, the usual speeches and toasts were omitted, with the exception of the toast to the Queen, which was proposed by Pres. Mills, and drunk with great enthusiasm. Afterwards "God Save the Queen" was sung very heartily by those present.

Before leaving the table, Pres. Mills spoke of the retirement of Mr. J. A. McIntosh, who had been the head of the mechanical department of the college since its establishment. The president spoke of the able manner in which Mr. McIntosh had always performed his duties, and of the deserved popularity which he had enjoyed among both officers and students. In concluding, he expressed his pleasure at Mr. McIntosh's presence, and called on him for a few words.

In rising to reply, the storm of applause which greeted him bore strong testimony of Mr. McIntosh's popularity. Mr. McIntosh spoke very briefly of the humble beginning of the college, and of the way in which all obstacles to its advancement had been overcome. He expressed great satisfaction with the present state of the college, especially when compared with its humble beginning in 1874.

When Mr. McIntosh resumed his seat, the students and

ex-students paid a further tribute to his popularity by singing "For he's a jolly good fellow."

After this the gathering repaired to the college halls and the reading-room, where the time was spent in conversation until the time of the evening meeting at 8 o'clock.

At 8 o'clock between six and seven hundred people were assembled in the gymnasium, which had been fitted up for the purpose, and tastefully decorated with evergreens and bunting by the students. Among the decorations, the Union Jack occupied a prominent place, testifying to the loyalty and patriotism of the students.

In the absence of the Hon. John Dryden, who was to have occupied the chair, Pres. Mills presided over the meeting. In opening he called attention to the fact that the meeting was intended primarily for students and ex-students, for the Union was a student's organization. He regretted that the speaking could not have taken place in the dining-hall as in the past.

A. E. Shuttleworth, Ph.D., B.A.Sc., the first speaker of the evening, expressed the welcome of the college to the ex-officers and ex-students. "The ties which are formed during college life," he said, "are never broken, but wherever a man may be, or whatever his occupation, he will be bound by a common love to his college and his college associates." The union served to bring together friends of old days, of every year of the 25 of the existence of the college. The O.A.C. had a good record for sending men back to the farm. Of 1,000 ex-students who had replied to letters inquiring as to their occupations, over 500 were directly engaged in agriculture. This was a good record, considering the fact that in the early days of the college, many of the students came from towns and cities and few from the rural districts. Our students are becoming appreciated in their own counties. They have real worth of character, education, industry, and gentlemanliness. He emphasized the necessity of politeness and gentlemanly bearing on the part of all who go forth from the college.

The college requires backing throughout the country, and its ex-students should be the ones to back it up most heartily. They owed something to their Alma Mater for the advantages they had enjoyed.

Nelson Monteith, B.S.A., M.P.P., spoke briefly on behalf of the ex-students. The annual re-union was a great cause for rejoicing. The number that was met here on the present occasion was great, but it was yet too small and he looked forward to the day when it should be much greater. The ex-students, wherever he had met them, were united in friendship, and in love for the college. The number sent back to the farm was, he believed, at present, 70 per cent. of the students attending, which, compared with other educational institutions, was very great. Throughout the country the graduates of the O.A.C. were highly appreciated, wherever they were found. He believed that the larger proportion of ex-students were found doing their duty to college, country and empire, as a result of the principles taught them at the O.A.C. In closing, he expressed the thanks of the ex-students for the kind reception they had received at the hands of the officers and students of the college.

THE COLLEGE FOR A QUARTER OF A CENTURY.

Dr. Jas. Mills, the next speaker, spoke on "The O.A.C. for a Quarter of a Century." He reviewed the history of the college during that time, pointing out the main facts connected with its foundation, progress, and the officers who had had charge of it. The Hon. John Carling, of London, was the originator of the movement which resulted in progress towards education along practical lines. In his report of 1869, addressed to Gov. Howland, Mr. Carling, then Com. of Agr. and Arts, drew attention to the need for such a training. In the same year Rev. W. F. Clark, of Guelph, was appointed a commissioner to visit the various schools of this sort then established, and report upon them. His report was favorable to the establishment of such a system of education. So, in pursuance of his previous intimation, in 1870 Mr. Carling recommended definitely such a scheme of education, and the result of his

recommendation was the establishing of the School of Practical Science in Toronto, and the purchase of 600 acres of land at Mimico.

The contract for the erection of buildings was made in 1871, but a change of government in that year delayed the operation of building indefinitely. The site at Mimico was objected to, and at length the Hon Arch. McKellar requested the Board of Agriculture and Arts, and also Prof. Miles and Dr. Kedgis, of Michigan Agricultural College, to report on the matter. Both reports were unfavorable and a committee was appointed to examine farms and report as to the best location for the new school. The outcome of the investigations of this committee was that the Government purchased 550 acres from Mr. Stone, of Guelph, in 1873.

The name chosen for the new school was the "Ontario School of Agriculture and Experimental Farm," and the motto of the new school, "Practice, with Science." In March, 1874, an advertisement appeared, announcing the opening of the new school.

The officers at opening were:

President—H. McCandless, of Cornell University.

Rector—Rev. W. T. Clark, Guelph.

Farm Foreman—James McNair, Richmond Hill.

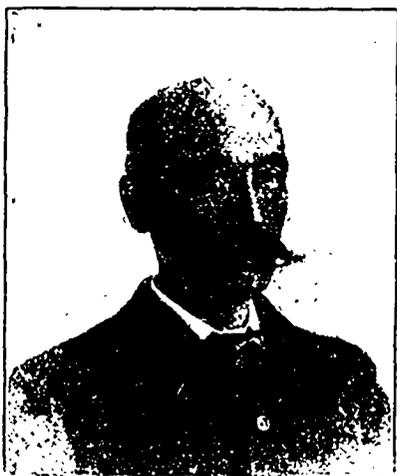
Stockman—James Stirton, Guelph.

the college till the present time, outlining the way in which it had been governed from its inception till the present time.

He then showed the enlargement of equipment since the founding of the school. At present the college had a good equipment and, he believed, with the able staff now in charge, was able to do good work, not only in teaching, but in spreading knowledge among the people at large, and in experimental work. Yet, though the equipment was good, the increasing numbers of students made it imperative that larger buildings should be erected to accommodate them. In closing, the president expressed the hope that in the near future, these might be erected, and also that a school of domestic science, in connection with the college, might be established before long.

Prof. J. W. Robertson spoke on behalf of the ex-officers. He had, he said, had a chance of seeing the work done by agricultural colleges in England, France, and Denmark, and he found the O. A. C. equal in efficiency to any agricultural colleges he had seen. To increase the intelligence of the students, it is necessary that they should do things for themselves and by themselves, and he believed the college was doing good work in encouraging work of this sort, and in forming habits of industry in its students. In speaking of the ex-officers, he traced the career of several of the ex-officers, including Prof. Brown, Prof. Shaw, Dr.

THREE LONDON CITIZENS ACTIVE IN PROMOTING PROVINCIAL WINTER SHOW.



Col. Wm. Gartshore,
President Western Fair.



Sir John Carling,
Chairman Public Meeting.



J. A. Nelles,
Secretary Western Fair.

Foreman Carpenter—Jas. McIntosh, Guelph.

Gardener—Thos. Farnham, Toronto.

Engineer—T. Walton, Toronto.

Matron—Mrs. Petrie, Guelph.

At the opening, there were 28 students in attendance, and the outlook was encouraging. Very liberal terms were offered students at the outset, viz.: Tuition and board and \$50 at the end of the year, in return for seven hours' labor per day.

Divided authority at the outset caused considerable friction among the officers. President Mills traced the history of the trouble; at the first, resulting in several changes of principal during the years from the founding of the institution till 1879, when President Mills took charge of the college. The first principal of the school was H. McCandless, appointed 1874, resigned in July of same year. He was followed by Mr. Johnston, who was rector at the time, till April, 1875, when Mr. Roberts, of Haslemere, Surrey, England, took charge, but almost immediately resigned on account of illness. Mr. Johnston was appointed principal then, and held the position till 1879, when President Mills was appointed. At the time of Mr. Johnston's resignation, and at his suggestion, the name of the school was changed to the Ontario Agricultural College.

Continuing, the president sketched briefly the growth of

Greenside, Rev. E. L. Hunt and Prof. James. Of Prof. Panton, who died in February 1898, he said. "He is a man whose influence will linger long, for good only. He was a scientist of high attainments, and besides, a Christian gentleman. His gentleness hath made him great." In closing, he expressed his hopes for the prosperity of the college, for only according to the agricultural knowledge of our people was our land valuable. The institution was grounded securely in the confidence of its ex-students, and he believed would, in the future, realize the highest possibilities.

Prof. C. C. James, speaking of the future of the college, said he was afraid to say much, for fear his words might be misconstrued. He believed the darkest days of the O. A. C. were past, and that the future would be much brighter. This institution, though doing a good work, could only reach a few of those requiring agricultural education. The college must reach a greater number of our people, or its work would be a failure. The students who go out from here must be trained as teachers for the people. To this end, the value of public speaking on the part of the students should be more fully recognized. He also emphasized the need for a broader training in the duties of citizenship of the students. The O. A. C., unlike other schools, returned most of its students to the farm and so kept them in the

country. There is no danger of too much agricultural education. The speaker, in closing, drew attention to the need of higher training, on the part of farmers, quoting the following from Charles Dickens: "The field which it will best pay the farmer to cultivate is that within the ring-fence of his own skull."

Several five-minute speeches, all expressive of appreciation of the college were made, by Hon C. Drury, Mr. J. T. Hobson, Mr. James McIntosh, Prof. Creelman, Mr. R. L. Beckett, Prof. G. E. Day, and Mr. E. C. Drury.

Music was provided by Miss Trenglass Stevenson, and was highly appreciated by all present. The meeting closed with the singing of "God Save the Queen."

From 8.15 o'clock a.m. on Dec. 7th till 10.30 o'clock, at which time the first session of the Experimental Union for this year opened, was devoted, by the members and others, to a systematic visit to the poultry, dairy, and farm departments of the O.A.C., under the supervision of the heads of those departments, Mr. R. W. Graham, B.S.A., Prof. H. H. Dean, and Prof. G. E. Day.

At 10.30 o'clock the Experimental Union meeting opened in Convocation Hall, H. L. Bickett, B.S.A., the able president of the Union, presiding. In his opening

enough to be decent; now the experiments worked out were so many that it was impossible to do justice to the subject in the time allowed at the Union meetings. He recommended that the results of experiments be published in the local papers throughout the country, as he believed this would increase the popular interest in the work. Continuing, he traced the growth of the work of the Union in this direction since 1886, when the number of experiments worked was very small. Since then there had been a very great increase, not only in the number of experiments worked out, but also in the percentage of good reports sent in. Even the unsuccessful experiments, however, do the farmers good, in teaching them accuracy and training their powers of observation. He gave great credit to the experimenters for the good work they had done in the past year. All experiments where the plots were not of exact size, or where the exact amount of material used and the yield obtained were not given, were thrown out as inaccurate, so that the results obtained were absolutely accurate.

The first experiment reported was one on the effects of different fertilizers on oats, mangels and corn. The fertilizers used were (1) nitrate of soda, at the rate of 160

THREE PROMINENT SPEAKERS AT PROVINCIAL WINTER SHOW.



Prof. Robertson.



Prof. J. A. Craig.



A. G. Gilbert,
Manager Poultry Dept., Central Experimental Farm, Ottawa.

address the president expressed the most hearty welcome to all those, students or ex-students, who were in attendance at the present meeting. The past year, in being one of extreme drought, had been a hard one on the farming class, but he hoped that it was not an unmixed evil, in that it had directed people's attention to the fact that they could not depend on pastures for the summer feeding of animals, but must grow some sort of soiling crop. The Union, he believed, was doing a valuable work in Ontario in introducing better varieties of agricultural plants in the province, and also in training its members in accuracy and observation. Very good work was being done now, and large numbers of experiments were being carried on, but he hoped for still better things in the future. He expressed the hope that in the near future a better hall might be provided for the meeting of the Union. In closing he exhorted the members to do their best to make this meeting the best in the history of the Union.

MR. ZAVITZ' REPORT.

In opening his report Mr. Zavitz drew attention to the remarkable growth of the experimental work of the Union. In the past it had often been hard to make a report long

lbs. to the acre; (2) muriate of potash, 160 lbs. to the acre; (3) superphosphate, 320 lbs. to the acre; (4) mixed fertilizer, consisting of 1 part each of nitrate of soda and muriate of potash, and 2 parts of superphosphate, applied at the rate of $213\frac{1}{3}$ lbs. to the acre. The results showed:

1. That the unfertilized land gave smaller yields, on the average, than the fertilized.
2. On some soils fertilizers had little influence, on others they nearly doubled the yield.
3. Oats gave the largest increase with the mixed fertilizer showing an increase over unmanured land of 9.8 bu. per acre, at a cost of 36.4 cents per bushel.
4. Mangels gave largest increase, 2.37 tons per acre, with nitrate of soda, at a cost of \$1.21 per ton in 1899, or, in an average of three years 4.78 tons per acre increase, at a cost of 73.3 cents per ton.
5. Corn gave best results with the mixed fertilizer, showing an increase of 1.1 tons of total crop and 1,120 lbs. ears.

The second experiment reported was one with hairy vetch, common vetch and grass peas, grown for green fodder. The yields per acre secured were: hairy vetch, 9.0

tons ; common vetch, 6.9 tons ; grass peas, 5.1 tons. There were five tests made in this experiment.

In an experiment with sowing mixed grains in three mixtures, (1) oats 1 1/2 bu., peas 1/2 bu. and tares 1/2 bu. per acre ; (2) oats 1 1/2 bu. and peas 1 bu. per acre, and (3) oats 1 1/2 bu., tares 1 bu. per acre, grown from green fodder the following were the results :

- (1) Oats, peas and tares yielded 6.97 tons per acre in 1899, and 8.72 on average of eight years.
- (2) Oats and peas yielded 6.10 tons per acre in 1899, and 8.20 on average of 8 years.
- (3) Oats and tares yielded 6.94 tons per acre in 1899, and 7.89 on average of eight years.

The experimenters, while reporting the largest yields from oats, peas and tares, reported oats and peas more valuable for feed.

A test made with six varieties of corn gave the following results :

Kind.	Each. Tons per acre.	Whole Crop. Tons per acre.
Mammoth Cuban (Dent)	2.8	14.3
Mastodon (Dent).....	2.8	13.5
Wisconsin Earliest (White Dent)....	2.8	12.0
Salzea's Dakota (White Flint)	2.6	11.2
King Philip (Red Flint)	2.7	10.0
Stowell's Evergreen (Sweet).....	2.5	10.0

of buckwheat, Japanese came ahead in the yield, with 23.3 bushels per acre, in an average of 3 years ; Silver Hull came second with 22.4 bushels per acre, and Common Grey came last with a yield of 21.4 bushels per acre.

In an experiment with spring wheats, results were obtained as follows :

	Straw (tons) per acre	Grain (bushels).
Wellman Fife.....	1.7	23.5
Rio Grand.....	1.6	20.5
Kenion Bearded.....	1.6	19.3

This concluded this part of Mr. Zanity's report, and a short discussion ensued on varieties and selection. Prof. Robertson believed that each man should grow those varieties best suited to his own locality. Mr. Zanity believed that, while this was true, the results of experiments over the whole province were useful in guiding farmers in the selection of good varieties. The general conclusion arrived at was, that where the best kinds for any particular locality were found the best results were obtained by careful selection of seed from that variety.

HORTICULTURE EXPERIMENTS.

Prof. H. L. Hutt gave the report of the experiments on horticulture conducted during the year. The experiments carried on in this department were comparatively few in



C. A. Zavitz,
Secretary Ontario Experimental Union.



W. R. Graham,
Manager Poultry Department, Ontario
Agricultural College.



L. Woolverton,
Secretary Ontario Fruit Growers' Association.

Experiments with three kinds of millet gave the following results :

Kind.	Green hay.	
	Tons per acre (1) 1899.	(2) 2 years.
Japanese Panicke	4.4	6.4
Japanese Barnyard	3.7	5.9
Hungarian Grass	4.0	4.8

Experiments with different varieties of grasses for hay.

Varieties.	Tons of hay per acre.	
	(1) 2nd season sown.	(2) 3rd season sown.
Tall Oat Grass	3.0	2.3
Timothy	2.7	2.1
Orchard Grass	2.0	1.6
Meadow Fescue.....	2.1	1.3

Tests with clovers gave the following results :

Varieties.	Tons per Acre.	
	Green Hay.	2nd Year. Dry Hay.
Mammoth Red.....	7.3	3.6
Common Red.....	6.0	2.4
Alsike	5.6	2.4
Lucerne.....	5.3	2.0

In this test the result is only for the first cutting in each case, no second cutting being taken.

In the results of 3 years' experiments with three kinds

of this sort, yet the work done was fairly extensive. There were 290 engaged in experiments during 1899, and the results were good. Experiments had been carried on with strawberries, raspberries, black raspberries, blackberries, currants and gooseberries.

Five kinds of strawberries had been tested, the kinds being Clyde, Woolverton, Haverland, VanDeman and Bubach. Of these the Clyde had given much the heaviest yield. This results had shown that one year after setting out the crop was heaviest and that the next crop was much lighter ; therefore it was better not to keep plantations longer than two years without resetting. The Haverland was an early variety, with imperfect flowers, therefore it was necessary to grow the VanDeman, which flowered about the same time, along with it, in order that the flowers of the Haverland might be fertilized from the perfect flowers of the VanDeman.

Questioned as to the susceptibility of these varieties to rust on the leaves Prof. Hutt replied that the VanDeman was the most susceptible of these varieties, but all were fairly free from it.

THE POSSIBILITIES OF INTENSIVE FARMING.

Mr. G. T. Powell, of Ghent, N.Y., delivered an able address on this subject. One of the greatest subjects of

modern times was the question of preventing the constant and increasing flow of population from the country to the city. Modern tendencies were all towards centring the population in the large cities. Commerce and manufactures are two forces which draw men from the farm to the city, while the existence of railroads makes it easier to drift towards the city, by bringing city influences quickly to bear on all parts of the country. The depletion of the fertility of farm lands, and the increasing difficulties in the way of making agriculture profitable, were also responsible for this movement, to a great extent. The extensive system of farming where large areas of land were handled with comparatively a slight demand for laborers, thereby lessening the number of men required on the farms, had also a great effect in driving men to seek more profitable employment in the cities.

The cities of to day are overcrowded, and the extra population above that number for which there is profitable employment is a source of weakness to the country at large, for the surplus population of the cities become non-producing and dependent, and are of no value to themselves or their country. What is the solution? The speaker believed that the solution lay in the new fields presented by agriculture, one of which was the adoption of a system of intensive farming.

The recent hard times for farmers had been caused by two things, the decline of prices of farm produce, and the constantly decreasing yield of farm crops. The remedy for this state of things lay in a system of intensive farming, which would secure maximum yields from the land, and thereby decrease the cost of production and leave a greater profit for the agriculturist. In this system, he believed, lay the solution of the whole problem of retaining the population on the farms.

In speaking here he wished to deal with the intensive system in connection with horticulture, and particularly with regard to the production of apples, which he regarded as a staple fruit, the demand for which was bound to increase in the future.

In growing apples, early productiveness is one great necessity for profit, and to secure this, we must do more than plant the trees and wait for Providence to bring them into bearing. The average time needed to bring trees into bearing was about twelve years, and sometimes more, and so long a period of waiting largely destroyed the profits of the business. In order to secure early production we must study the laws of nature, as shown in the principles of early maturity, the individuality of trees in this matter. All trees of the same kind were not alike in respect to early production. We should select the best and take our scions from these. He believed that, by selecting such scions, and grafting on hardy stocks, such as the Northern Spy, we could secure much better results in apple production. He instanced the King apple, which, on its own stock is short-lived and weak, but grafted on the Northern Spy was much more hardy, and gave much better results.

In choosing the scions to be transferred to any stock one should consider, first, the form of the tree from which they are taken, and by choosing one of good form we could get rid of much of the necessity for pruning. Secondly, we should consider the form and quality of the fruit, and the character of the tree with regard to early productiveness, in order that the best qualities possible might be transferred to the new orchard. The speaker affirmed that, in the matter of early productiveness, the time elapsing before the trees have grown might be shortened fully one-half. In proof of this, he showed some branches of the Dutton Beauty apple, which had been grafted on a Northern Spy stock three years, some trees of which had produced two bushels of fruit last year. The very fine development of fruit-buds on these branches bore ample testimony to the truth of his word.

In the treatment of these trees intensive culture of the soil was used, the soil being worked all summer until August. Last year, in spite of the unfavorable conditions, due to drought, very favorable growth was made.

The stocks he used for his scions in this method were

three years of age and were transplanted from nursery at two years. He did not graft the whole top in one year, but in two or three years, thereby not checking the growth of the tree. The same possibilities were seen in the peach, which, by this method, had been made to bear in one and a half years after setting out.

In reply to a question as to whether early productiveness shortened the life of a tree or lessened its power of bearing later, Mr. Powell stated that it might have some influence in shortening the life of a tree, though he thought it was questionable. He was sure it would have no evil effects on the productiveness of the tree later, this being merely a question of nutrition.

In speaking of strawberry culture, Mr. Powell said that here the question of maximum production was a vital one, on account of the great expense of cultivating the crop. In treating these plants it was necessary to secure the highest yields, to practice intensive culture of the soil, and to restrain the lateral runners of the plants, which were reproductive and not fruit bearing. In 1898, by cultivation in the hill system, and carefully restraining the lateral growth, he had obtained plants measuring two feet across the foliage and having more than 600 set berries on each plant. In reply to a question as to whether this system would be suited to a species of rank growth, such as the crescent, he replied that it would not be suited to strawberries of this character.

In reply to questions, Mr. Powell stated that in grafts of apples on other stocks, not only was improvement obtained in the form of the tree and the qualities of its products, but in its power of resistance to disease. As an instance of this, he cited the Baldwin, whose leaf was very subject to scale, but which, when set on a stronger stock, showed a much increased resisting power to this disease.

Mr. McCoun, Central Experimental Farm, Ottawa, expressed his keen appreciation of Mr. Powell's lecture, more especially as the Ottawa Experimental Station was engaged in work upon similar lines. He had found that many varieties of apples which, grown on their own stocks, could not withstand the severe climate at Ottawa, were perfectly hardy when grafted on hardy stocks. The Duchess and Wealthy provided such hardy stocks. He cautioned people again: the danger of grafting a rapid-growing scion on a slow-going stock, as in this case the tree would become top heavy and break down.

In reply to a question by President Mills as to the necessity of care in selecting grafts, and whether different trees of the same variety showed differences in the time of maturing their fruit, he replied that it was necessary to exercise care as to the kind of tree the scions were taken from. He had not noticed differences in time of maturing fruit in different trees of same variety.

A lively discussion followed, during which several interesting points were brought out. Mr. Powell, in reply to a question as to the trunks of grafted trees breaking down, replied that this may be avoided by placing the scions so as not to make opposite crotches in the trees. Grafts which do not grow should be removed and the wound in the stock waxed over, as, if dead scions are left in the stock, they are liable to produce disease. Asked if spraying was effective in preventing the attacks of fungi, he said that he believed it helped greatly, if done in time, early in the spring. Questioned as to the use of wind-breaks for orchards Mr. Powell said he believed they were very beneficial in sheltering the trees from violent storms. Norway spruce and white pine, he believed, were the best varieties of trees for wind-breaks. Wind-breaks should not be too solid, as they tended to produce large bodies of still air near to them, and increased the danger from frost. A question as to the benefit of scraping the trunks of trees brought on a general discussion as to means of destroying bark insects, during which it was brought out that spraying with whitewash was very useful in destroying certain insects, particularly the pear psilla and the oyster-shell bark-louse.

The meeting adjourned at the close of the discussion.
(To be continued.)

Ontario Fruit Growers

The thirty-first annual meeting of the Ontario Fruit Growers' Association was held at Whitby on Tuesday and Wednesday, December 5th and 6th. The attendance, though not as large as when the convention meets in special fruit sections such as the Niagara district, was fair, and the keenest interest was taken in the proceedings. There were a number of specimens of fruit on exhibition, chiefly apples and pears, many of them being samples of new fruit grown at the Central Experimental Farm, Ottawa. A disgraceful sample of dishonest packing was exhibited by an apple-buyer. The barrel contained some very fine specimens of Ba'dwins on top, while the centre and bottom of the barrel was filled with miserable, trashy stuff about the size of plums, and hardly fit for making good cider. If this be a sample it shows what some unscrupulous apple-packers will resort to in their dishonest and despicable practices. This matter was thoroughly discussed by the convention, and formed the key-note for many strong remarks against dishonesty and robbery in connection with apple-packing.

Mr. W. M. Orr, Fruitland, Ont., Vice-President, presided in the absence of the President, Mr. W. E. Wellington. After the appointment of the committees on the fruit exhibits, resolutions and the nominating committee, the regular business of the convention opened by a paper on "Hardy Fruits Along the St. Lawrence," by W. A. Whitney, Iroquois, in which he gave the following list: Summer—Yellow Transparent, Duchess, Red Astrachan. Early winter—Fameuse, Scarlet Pippin, McIntosh and Wealthy. Late winter—Scott's Winter, Salome, Seek, Golden Russet, Yellow Belleville, Ontario, Tolman Sweet and Canada Red.

Mr. Geo. T. Powell, Chent, N.Y., a noted Institute worker and fruit grower, spoke of the importance of thinning fruit, taking out the poor, scabby and inferior samples. He preferred thinning by pruning, as trees exhaust themselves by carrying too much wood. Judicious pruning was the first and most important operation of the fruit grower.

In the discussion following Mr. E. Morris pointed out that he would prune about August 1st, because growth is then about at a standstill, and the result would be to strengthen the fruit buds. Prof. McCoun warned fruit growers against top grafting on Wealthy or Duchess, as the growth was too slow.

TOP GRAFTING AND CULTURE.

On Tuesday afternoon, Mr. J. T. Graham, Vandeleur, discussed top-grafting and irrigation in which he gave a description of some special work in his own orchard. Seven years ago he grafted on seedling stock, Baldwins and King of Tompkins, and the results have proven very satisfactory.

Upon a small corner of his orchard, 17x25 feet he picked 30 bbls. of apples, for which he received \$2 per bbl. He pointed out that top-grafted trees bear much heavier than nursery stock. Speaking of watery or bad keeping fruit he pointed out that he had irrigated his orchard in dry weather, and found his apples kept well and the growth was continuous from start to finish.

A valuable paper on "Pears for the Amateur and Professional Grower," was read by Mr. E. C. Beaman, of New-castle.

One of the important addresses of the convention was made by Mr. Powell, of New York State, upon general fruit culture and the importance of improving the size and quality of the fruit. He emphasized the importance of propagating from mature stock. In the young tree the growth of wood is propagated and not the ability to produce fruit. The study of the individuality of the tree was important. Scions should be selected from perfectly formed trees. There was a difference in the assimilating power of trees. A large share of the inferior fruit in an orchard could be eliminated by culture. Fully developing trees puts them in a position to withstand disease. Attention should be given to the soil. Trees must have perfect nutrition in order to develop. Nutrition can be secured by proper tillage.

Mr. Powell then described his method of tillage. About ten years ago he was growing trees on soil lacking in humus. The lack of humus prevented the withstanding of drouth. He then began a system of cultivation with a view of incorporating humus in the soil by growing and plowing under crimson clover, and by early culture in the spring and as much as possible during the season, until the tree is well grown which is about the middle of July in New York State. High tillage makes it necessary to cover the ground for the balance of the season. This is done by sowing crimson clover as soon as cultivation ceases. This covering tends to hold nitrates and by plowing in the clover in the spring humus is supplied the soil. Peas are not so good as crimson clover as they freeze earlier. If clover will not grow, a mixture of rye and peas will do. The aim is to have living plants in the orchard all winter.

After carrying on this line of culture for several years, Mr. Powell had an analysis made of the soil on a part of the orchard where clover was grown and where there was no clover. He cultivated only six inches deep and the analysis and the increase in plant food, etc., per acre given below are based upon a depth of six inches only.

The following is the table :

CRIMSON CLOVER AS A GREEN MANURE.			
—Analysis of soils—			
		3 crops clover.	No clover.
Water	15.	per cent.	8.75 per cent.
Nitrogen21	"	.12 "
Humus	2.94	"	1.91 "
Phosphoric acid available....	.015	"	.008 "
Water, increase per acre.....	6.25	per cent.	46.875 tons.
Nitrogen " "09	"	1,350 lbs.
Phosphoric acid "007	"	405 "

This shows a remarkable increase. To buy 1,350 lbs. of nitrogen at 15c. per lb. would cost \$202.50. By this method of culture, as the table shows, good fruit can be grown, and yet the quality of the soil can be improved. Mr. Powell's contention was that the phosphoric acid was increased by the humic acid setting free more of it in the soil.

In the discussion which followed it was pointed out that though the plants would winter kill, their effect was not lost in this method of tillage. Drouth and warm weather following has brought the apple business into a national calamity. It might be difficult to get clover to grow in midsummer. Mr. Powell's soil was a gravel loam. Peas might do better than clover on clay soils. This tillage should be applied to all fruits. Clover might not do so well with peaches, as it might cause too much nitrogen in the soil.

Prof. McCoun pointed out that at the Ottawa farm, where the soil was a sandy loam, the aim was to get as much nitrogen in the land as possible. The plan was to plow red clover in the spring, and re-seed with clover. Clover was cut, but allowed to remain on land. Hungarian grass would not do on an orchard, as it would take too much nourishment out of the soil. When an orchard has been in grass for some time the first plowing should be light. When not cultivated the roots of trees come near surface in order to get moisture. Cow peas do very well where they can be grown.

Mr. E. B. Edwards, Peterboro, Ont., followed with a talk on spraying, in which he highly commended spraying and the Government in sending out a spraying outfit. The value of orchards was increased 50 per cent. by spraying. In his own orchard 8 or 9 years ago, about half the fruit was unfit to pack, but by spraying in 1898 he had 50 bbls. of good shipping apples out of 66, which sold for \$3 per barrel.

Prof. H. S. Hutt, of the Ontario Agricultural College, presented a report of the committee on new fruits. There were not so many new fruits brought to light the past season, though some very promising specimens were identified.

During this session Mr. A. H. Pettit discussed dishonest apple packing, and read a strong resolution passed at a meeting of fruit growers at Grimsby last June, and which

was endorsed by the convention. Mr. Pettit is strongly in favor of taking prompt action of some kind to stamp out dishonesty in packing, and recommended the appointment of inspectors by the Government, who might be called in to inspect apples before shipping, and to put a brand on them designating their quality. This would give the shipper a recognized standard, upon which basis he could ship and sell his fruit.

Wednesday evening session was somewhat given up to music and addresses of a more or less entertaining character. The executive committee's report showed that the increase in membership during the year was 400, and that the number of affiliated societies was 42. The *Horticulturist*, the official organ of the association, had been enlarged. The committee made strong recommendations regarding dishonest packing and the San José scale. Grapes had been sent to Manchester, and fruit was being prepared for the Paris Exposition. The committee had asked the Government that Mr. W. M. Orr be sent to Paris in charge of Ontario fruits.

Dr. Harrison, Keene, Ont., gave an interesting address on conservatories in our homes at small cost. He was followed by Prof. Hult, who read a valuable paper on beautifying country homes. In this he pointed out that the most beautiful scenes are as a rule more or less natural. The natural materials for landscape gardening are ground, grass, trees, shrubs, vines, herbaceous plants, animals, rocks, etc. The artificial are trees, shrubs, geometrical beds of improved flowers, terraces, walks, drives, buildings, fountains, statuary, etc. The skill of the landscape gardener consists in the judicious use of materials. The contour of the surface is an important feature in making lawns, a little crown helps the appearance. Buildings should be on highest elevation and ground made to slope away. Green sward can be obtained by sodding or seeding. Coarse grass such as timothy does not do for lawns. A good lawn mixture is equal parts of Kentucky blue grass, red top grass and white Dutch clover sown three or four bushels to the acre. The lawns should be cut frequently, and on farms where the grounds are large the ordinary mower might be used to advantage by lowering cutter bar and sharpening the knives. Lawn should receive top dressing of barn-yard manure in the fall. Suitable trees are the maples, elm, birch, pines and spruces. In arrangement of trees, nature should be followed as much as possible, only don't shut off the front view. The walks and drives should be as few as possible. Too many fences are not good. Their necessity is often imaginary. They serve often to advertise slovenly farms. The best plan is to dispense with roadside fences and to fence in one's own stock instead of that of one's neighbors.

Mr. J. E. Farewell gave an interesting address in which he emphasized the importance of substituting the teaching of agricultural subjects for Latin, Greek, etc., in high schools. Mr. Powell strongly supported the sentiments expressed at the convention in regard to the destruction of the San José scale. The losses in New York state from pests amounted to \$26,000,000 annually.

Wednesday morning session opened with an address by W. H. Bunting, St. Catharines, on ocean and railway transportation. His remarks were confined chiefly to presenting the report of a committee appointed to confer with the General Traffic Associations on this subject. Very little had been accomplished so far. The railway companies were loth to make any definite promise of reduced rates because of the irregularity in the shipments of fruit. If fruit growers would co-operate and ship together from central points, their demands might be granted. The committee's efforts had been directed towards obtaining a different classification of freights for fruit. At present fresh fruit, under car lots, rank as first-class, while car lots ranked as third-class. They had been successful in getting a different classification for grapes. While refrigerator car service had been provided, it was not all that could be desired. One of the great needs in this respect was that of ventilation in the cars and on board steamships. A committee was appointed to continue the work.

COMMERCE IN LARGE FRUITS.

This formed the topic of a very valuable address by Prof. J. W. Robertson, Agricultural and Dairy Commissioner, Ottawa. He explained the function of commerce and the importance of having good quality in products and of obtaining a market for them. The transportation formed an important part of every transaction. Fruit growing has been adopted by many who have not taken the trouble to perfect themselves in its culture. They have been growing trees in the easiest way and have varieties of trees and fruit that hit no market in particular. Growers should have a few specific large fruits for which there was a good market. In Canada even, during most of the season, our markets were supplied by American fruit, chiefly because it was more uniform in appearance and all good. It had good keeping qualities. The flavor of Canadian fruit was good. Every Canadian town would take more fruit if the quality were good. In Manitoba, merchants had tried Ontario fruit and found it wanting and not uniform. The local market was as important as the export trade to the grower. For the export market what was wanted in fruit was: (1) soundness and good keeping; (2) size; (3) appearance; (4) good quality. The Keiffer pear, though not considered a good variety in this country, was giving satisfaction in the Old Country because of its good keeping qualities.

He read extracts from account sales of fruit shipments made under the direction of his department. 127 cases of peaches were sent over, and netted at point of shipment here, prices ranging from 91 cents to \$2.31 per case. The "Alberta" peach gave good satisfaction. 3,746 cases of pears were shipped. Some landed too ripe and others too green. Pears for export should be picked when the pips were just turning brown. These netted at point of shipment prices ranging from 54 cents to \$1.54 per case of 16 to 18 lbs. The high price was for Bartlett pears. Large size pears bring better prices than small ones, and large lots sell better than smaller ones. Most of the fruit offered was small. It must be large to sell well; 60 or 70 pears in a case instead of 100 to 120. Nearly all the Government shipments of apples landed in good condition, but the packages were too small. They netted from 5 cents to 25 cents and 30 cents for 15 lb. cases. What are wanted are 40 to 50-lb. cases. As much as 4s. 9d. to 9s. was received for 40 lb. packages, which would net, on an average, \$1.25 at Grimsby for a little over a bushel.

Improvements required in the export trade were large lots of one sort and variety, fine quality, large, uniform and sound. It will pay growers to send only these and utilize other quality in some other way. Orchards should be large so as to get a large quantity of one variety. If not this, then growers should co-operate and ship together from some central point. Fruit must be of a uniform standard quality. The facilities on ocean vessels were not suitable for the transportation of apples or tender fruits. Next season the Government had made arrangements to have a number of small chambers on vessels holding from 1 to 2 carloads where temperature can be controlled with ventilating holes for apples. Where Government provided facilities the growers should utilize them. The individual grower must look after his own fruit. Some of the main causes of the unsatisfactory condition of the trade are damage to the apples and lack of skill in packing. The packer must be trained for the work. There was a want of care and gross dishonesty. In order to get some definite information in regard to the condition of the fruit when shipped, the Government had employed two inspectors to examine shipments at Montreal, Halifax and St. John, during September and October. The reports on lots examined showed that there were many shipments in which the apples were damp, barrels wet, small apples, loose packing, badly spotted and rotten apples, many barrels were poor. Inspectors could not disturb fruit sufficiently to detect dishonesty. At Halifax considerable rough handling of the fruit was reported. Nova Scotia fruit is not sold as Canadian. The percentage of wets and slacks in N.S. apples was only 6,

while in Canadian (Ontario and Quebec) apples it was 60 per cent. N.S. orchards produce larger and better fruit and the grower does his own packing. One N.S. grower realized 3.5¢ per bbl. net in his orchard. He sprays 5 times a year and packs his own fruit. Canadian fruit was worse this year than last.

In closing, Prof. Robertson made a number of suggestions, which if carried into effect should improve matters greatly. These were as follows:—(1) An officially recognized standard of apples—standard of size, standard of quality in regard to shape and freedom from blemishes, and a standard of variety. (2) There should be some regulation that should compel the branding of the name of the packer and grower on every barrel. (3) Then when any fruit is sent to an outside market that is not what it is branded, it should be confiscated or some sufficient penalty meted out to the guilty party. We could have realized fully \$1,225,000 more for our fruit this year, had it all been good. If inferior fruit is produced it will find a market somewhere, and will be a temptation to get rid of it by dishonest means.

A committee was appointed to consider Prof. Robertson's suggestions and present a report.

Mr. M. Pettit, Winona, presented a report on the San Jose scale. The efforts put forth by the Government to stamp out the scale had been in a large measure effective. He moved a resolution, which was carried by the convention, expressing satisfaction with the Government's efforts to destroy the scale, and regretting that the work has been discontinued for a time. It recommended that there be no relaxation, and that in cases where an owner has a lot of slightly infected trees he should have the option of having them destroyed or treated with a view to eradicating the pest, and that all nursery stock should be treated with cyanide of potassium gas before it is sent out.

Mr. W. M. Orr presented his report on spraying for 1899. Work was done at 30 points with three agents on the road from the 3rd of April to the middle of July. The attendance was larger, and there was more interest shown in the work than ever. Systematic spraying was being taken up all over the country. There were cases where sprayed fruit had arrived in England in good condition, while unsprayed fruit was wet and slack. The average Ontario yield of apples was 8,000,000 bbls. which might be increased one-third by proper spraying.

W. T. McCoun, Horticultural Central Experimental Farm, Ottawa, presented a report on some work done in spraying with whitewash to prevent winter fruit budding. The spraying mixture consisted of skim-milk 6 gals., water 24 gals., and unslacked lime 60 lbs. The results showed that spraying with this lengthened the time of budding. The retarding of the swelling of the buds was largely noticeable on sprayed trees. This work will be continued next year.

Dr. Saunders, director of Experimental Farms, exhibited some new varieties of apples believed to be hardy enough to stand the climate of the Northwest. They were produced by cross-fertilization of hardy Siberian wild crab apples with the best hardy apples under cultivation in the east. The original crab apple is about the size of a respectable gooseberry, but the new hybrids are perhaps an inch and a half in diameter, and the professor hopes to greatly improve on them.

At the evening session, A. W. Campbell, Toronto, spoke on good roads for fruit growers, and Dr. Saunders on "Preparations for a display of Canadian fruits at the Paris Exposition." There was little change in the officers for 1900. W. M. Orr, Fruitland, was elected president, and G. C. Caston, Craighurst, vice president.

Ontario Beekeepers

The annual convention of Ontario Beekeepers took place at the Albion Hotel, Toronto, on December 5, 6, and 7. There was a good attendance and the various sections of the province were well represented. Most of the

papers read, though of a technical nature, were full of interest to beekeepers. Mr. W. J. Brown, Chard, Ontario, presided. In his address he pointed out that the past season had been a very unfavorable one and scores of beekeepers had been forced to feed their bees in order that they might have sufficient stores to winter upon. One of the questions to come before the meeting was the proposed purchase of the *Canadian Bee Journal* and the preparation of an exhibit for the Paris Exposition. The season had been such a bad one that there was some doubt as to whether a sufficient supply of good quality could be secured. He would not recommend sending an exhibit to a foreign country that would not do justice to the industry.

Papers were read on "The Spring Management of the Apiary," by D. White, Bethesda; "Bee Keepers' Associations, their Past, Present, and Future," by W. Z. Hutchinson Flint; "Marketing Extracted Honey," by H. Sibbald, Cooksville; "Management in Extracting Honey," by M. B. Holmes, Athens; "Methods of Bee Keeping," by G. E. Saunders, Hornby, and others. Prof. Robertson, Ottawa, addressed the gathering on the markets local and export for honey. He pointed out the field there was in England for Canadian honey and urged care in the preparation and packing of the article. A discussion took place on the law regulating the spraying of fruit trees, led by John Newton, Thamesford. The law forbids the use of any mixture containing Paris green or any other poisonous substance in spraying, but Mr. Newton contended that the law was neglected, in consequence of which beekeepers suffered loss. It was felt by others who took part in the discussion that the law was not generally known, and it was suggested that the association distribute generally copies of the law. Another suggestion was that the law should be posted in all the post-offices through the province.

Cattle Foods*

By H. Smith, Hay, Ont.

There are two very different opinions held as to what constitutes cattle food. One of these is that only such feed as there can be no other use made of, such as straw and hay too badly damaged to sell, can be profitably used as cattle food. I suppose that a small return can generally be got from passing these feeds through cattle. But a majority of farmers believe that they can profitably devote a considerable part of their farms to the growth of crops especially for stock feed. It is to introduce this subject for discussion that this short paper was prepared.

Before taking up the different crops that I think are most suitable for cattle food in this section, it might be well to consider for a short time the qualities that foods should possess to make them valuable for stock feed.

First of all, they must contain the elements that the animal's digestion can convert into the different parts of its own body.

At first thought this would seem to be all that was required, and a good many writers on the science of stock-feeding seem to think it is all that is necessary. Another quality that I think of almost equal importance is palatability. A cattle beast to thrive requires a full stomach; but unless the feed is appetizing it will not fill itself to the required extent. This virtue can generally be much improved by good management. Try to get the hay well saved. What oat-straw you expect to feed cut on the green side. Have the grain feed sound and free from mustiness. Cutting and mixing make quite an improvement in this respect. In England, molasses are often used to make the food more appetizing. Keep the feed mangers perfectly clean. An animal will no more take a good fill from a foul manger than you can eat a good dinner amid dirty and disagreeable surroundings. Then, healthfulness is another important quality. Something green, such as roots or ensilage, help

* A synopsis of an address prepared for Farmers' Institutes in Ontario, condensed for publication by the Superintendent.

to keep an animal in good health and the digestive apparatus in good working order.

Then, no doubt, you have all been told before this that you must feed a given amount of protein and carbohydrates and have them in exactly the right proportion, one of the former to $5\frac{1}{2}$ of the latter, to have what scientific men call a balanced ration. The protein is used largely to form the muscles, flesh or red meat of an animal's carcass, and the carbohydrates are used to furnish heat and energy, and what is not used for this purpose goes to form fat. There are other elements necessary in the feed besides these, but they are generally in almost all feed in sufficient quantity to supply the needs of the animal. Now, I think it is just as necessary to supply these elements in a reasonably exact proportion as it is to get the proper quantities of brick, stone, lumber, sand, lime, etc., if you are going to build a house, and it is no more difficult to do with a little study.

It is a well known fact that if any one element necessary to the animal is seriously lacking in the food, then the other elements are not fully taken in by the animal, but pass through it undigested.

It may be said we have been able to feed cattle so far without bothering with the chemical analysis of the food, and why do so now? My answer is, that we are not feeding the same foods as we did a few years ago. At that time we generally fed a fairly well balanced ration, without knowing it, perhaps. But peas are being largely dropped as cattle food, and corn is as largely taking its place. Peas are very rich in protein, while corn has a very small quantity, but is very rich in the heat and fat-forming elements, so that we are drifting away from a well-balanced ration.

A good many of us are also substituting corn ensilage for roots, which is also getting farther away from a proper proportion, unless we guard against it by feeding along with these feeds something that is rich in protein. As far as I know the cheapest and best feed for this purpose is well-cured clover hay, either from common red alsike or lucerne clover, which is the richest of all in protein, and will produce immense crops on suitable land, but is pretty difficult to cure properly, as it has to be cut very green or it becomes woody. Bran is also useful for balancing a ration, but at present prices clover is much the cheaper. In the Western States, where corn is king, feeders find from practical experience that it pays them to pay more per ton for bran than for corn rather than feed all corn. Now, I am not trying to discourage the growth of corn. I think that it is, perhaps, the cheapest and best cattle food we can grow; but don't depend wholly on the corn. The clovers and roots, either turnips, mangels, or sugar beets, are almost, if not quite, as profitable crops, and with an abundant supply of these feeds the cattle feeder should have little difficulty in carrying a herd of cattle through the winter, with the addition of a small quantity of grain for the stock that are being finished for market, and also cows that are milking heavily.

Taste vs. Keeping Quality of Butter

Butter-making competitors seem to be as popular as ever, judging by the prizes offered at the majority of the agricultural shows throughout the country, says S. A. W. in the *Scottish Farmer*. Good butter judges are, therefore, at a premium, not so much on account of lack in numbers, but because the best judges are often at a loss as to the marks to be awarded to the several distinct operations and results; and therefore they do not care to occupy the position they can, in their own judgment, only inadequately fill. It has undoubtedly occurred to many judges that the difficulty in apportioning the marks lies chiefly between the taste and the keeping quality of the sample. Why this should be so is probably unknown to them, but that such a difficulty does exist is well known to almost every butter judge in the kingdom. To put the matter clearly, taste and keeping quality are the two best properties of butter,

and they are to all intents and purposes rival qualities. To these excellent qualities all competitors aspire, and all invariably fail to satisfy themselves or their judges, although some judges, either by chance or otherwise, have given the maximum number of marks obtainable, and thus overstepped what may be termed "the bounds of rational judgment."

Looking at the matter carefully, it is at once seen that taste and good keeping quality are at variance. For to what is the taste of butter due? Not to the fat, that is quite certain, as pure butter fat is a very insipid substance; therefore, we must look to some other constituent of milk to furnish us with the necessary material to develop flavor. To anyone accustomed to dealing with milk, and especially to those engaged in its analysis, it is well known that the "nutty" taste, so much demanded by judges (and so much "hoped for" by competitors), is obtained not from the fat, but from the "solids not fat" of milk. Anyone can prove this by evaporating carefully to dryness a little milk, and then, after extracting the fat from the total solids by ether, tasting the residue. The "nutty" flavor is so pronounced that the goal of perfection appears to have been reached without the aid of the fat at all.

And now, with reference to the keeping quality. To all butter-makers it is a maxim that the purer the butter fat the better the keeping quality of the sample, and also, that to obtain pure fat as much as the caseous matter as possible must be got rid of. But what does this amount to? Is it not taking away the very substance which is necessary for the production of the nutty taste? Placing these two plain truths together, it seems rather curious that judges invariably demand a high standard in both qualities, while all the time the possession of one to the fullest extent must necessarily destroy the other. Would it not be better to sacrifice one quality in one kind of butter and attempt to improve the remaining quality or qualities, instead of trying to reach the goal of perfection by an impossible route? Remembering, however, that with reference to taste, there is a limit, beyond which the taste is not improved by the addition of caseous matter to an extent consistent with the lowering of its keeping qualities. This is the point of perfection to which all genuine butter-makers should aspire.

Free Rural Mail Delivery

There has been some discussion in the daily press of late in regard to free rural mail delivery. We have discussed this matter frequently in these columns and are glad to see the movement spreading. The subject is deserving of the best thought of those interested in the welfare of the agriculturist and through him of the country at large. There can be no question but that a system of free rural mail delivery would be of great benefit to the farmer and would bring him more in touch with the world's great movements, thus improving his position educationally, socially and in many other ways.

Rural mail delivery has been largely developed in some sections of the United States, and the movement is spreading at a very rapid rate. This and the good roads movement should go hand in hand. The general plan is for residents along the routes selected to have mail boxes on the highway containing the mail matter they wish posted and to receive that which arrives for them. The mail wagon has a certain prescribed route to travel each day, and may be expected along at the same time every day, when, if necessary, stamps, stationery, etc., could be secured from the driver or travelling postmaster. One of the conditions necessary when a municipality applies for mail delivery is that of good roads. Without these, it would be difficult to carry out the scheme satisfactorily. So we would impress upon those sections of the Dominion where poor roads are the rule to get a hustle on and adopt such measures in road improvement as will insure their application for a free rural mail delivery, when it comes in Canada, being favorably considered.

The United States authorities at Washington have recently issued some valuable data on this subject. The advantages of the change brought about by free rural mail delivery are set forth in the report as follows:

"So many more letters are written and so many more periodicals taken that this increase alone pays the cost of some of the routes. Farm lands, by a moderate estimate, have increased in value from two to three dollars an acre. There is a movement in favor of good roads in those districts which wish to be included under the free delivery system. Better prices are got for farm products; one farmer tells how he lost a hundred and sixty-three dollars on his produce by not having a daily paper and not knowing that prices had gone up. Farm life becomes more attractive to the young when by the daily mail they are kept in touch with the outer world, and even with their own neighbors. Education gets a marked set forward in districts which are thus penetrated by daily delivery. The demand for other means of enlightenment follows immediately on the invasion of periodical literature. A curious fact that has been brought out of the figures is that the cost of rural delivery is actually less per capita than is the cost of city free delivery in many cases. In small cities the cost runs as high as \$2.80 per capita, while the average cost of rural delivery, so far as carried out, is 84 cents per capita. And the introduction of free delivery into towns brought with it little or none of the improved values or increased postal income which invariably follow it in the country. The Grangers have in many places taken up this movement and done much to forward it."

The free rural delivery does away with many of the corner post offices and costly mail routes that bring in little or no revenue, and are chiefly of benefit to the man who has the job of carrying the mails. The fact that rural delivery costs less per capita than city delivery in many places is worth noting. As the Grangers have done much to forward this movement in the United States, so the Farmers' Institutes could do considerable for it in this country. There can be no question as to the practicability of the scheme, so long as conditions such as good roads are favorable. We confess to a great desire to see this plan tried in some part of Canada. It is something which, if our Postmaster General took up and brought to a successful issue, would bring him more glory and renown, perhaps, than Imperial penny postage or a two-cent letter rate.

Why Breed Unprofitable Live Stock?

In making a short review of this subject, which is so important to the pecuniary success of all farmers who breed live stock, we willingly concede that, after every endeavor has been made, there will be misfits in breeding; but, because that is so, it is none the less a mistake to keep these misfits to propagate other misfits, and so to lower the standard of the animals of the country. The argument is applicable to all descriptions of live stock, but in the present article we confine it principally to Shorthorn cattle. In most farmers' stocks in the northern counties of the United Kingdom you find some half-dozen cows of more than ordinary excellence—good in shape, flesh and milk, and which would do no discredit if brought in contact with the best pedigree herds. But the others, it may be from thirty up to fifty milch cattle on each farm, fall by gradation, and you have the feeling that some of them are not paying for their keep. They have been bred in a happy-go-lucky way, from lack of thought mainly, but with the intention strongly underlying, although not openly confessed, of saving a shilling in the service fees. Unsound horses on the road at low fees are not the only sinners. For some years past a system has grown up amongst northern farmers of using a pedigree bull and rearing all their male calves for sale. These latter are mainly sold in the auction marts as pedi-

gree stock, although they are mostly bred from unregistered dams, and much disappointment frequently results, following the use of such bulls. The trade, too, has been so overdone that it is not unusual to see yearling bulls sold at from 6 to 10 gs., a price that cannot pay the breeder and rearer. These are the mongrels that keep farmers' stocks mongrel and unprofitable. At a sale of pedigree stock the purchaser has the opportunity of seeing both sire and dam of the young bull he decides to buy, and can thus assure himself that they are good alike in both milk and flesh. After taking stock of the best of the dams in his own herd from which he purposes to breed his future produce, he can then satisfy himself if they are lacking in any salient feature, and then select the bull most likely to supply the defect in his dam. It was precisely in thus selecting male animals to supply shortcomings in the females that the Holker and Inglewood herds attained to such excellence. But, even when this has been done, there will in all probability come misfits, and these must be cleared out, the males steered and the females fattened for slaughter. There can be no doubt but that if nine-tenths of the male calves now reared for service in the northern counties (possibly the same will apply to other counties) were sold as fat calves, or steered and sold fat as bullocks, the breeders (tenant farmers) would benefit pecuniarily, and a manifest improvement would result in the general cattle of the country. At present such breeding and rearing for use is a lottery. The yearling may bring 6gs. or 20gs. in the sale, so each take their chance of the higher figures. Such sires are simply a national loss, a deterrent to the improvement of the national breeds of cattle, and a pecuniary loss to each farmer who breeds them or from them. In the United Kingdom at the present time trade is good, wages are good, and the masses would prefer to eat British home meal; but when much of that meat offered to them is no better than the foreign meat sold at 2d. to 3d. per lb. cheaper, need we wonder that the foreign meat comes to us in ever-increasing quantities? And the future offers to intensify the competition, for the foreigners are taking the steps so many British farmers ignore, and are yearly improving their live stocks from British foundations. The lesson is before our eyes, yet British farmers—at all events, too many of them—remain apathetic, passive, looking on with folded hands, whilst their principal trade is slowly but too surely departing from them, and asking Jove to lift the wheel out of the rut—the landowners to reduce their rents. It is certainly a strange picture of "rest and be thankful," and the pity of the situation is that it is true. We remember the case of a farmer, a man of capital, who took what he admitted to be the worst of a dozen rams, because it was 5s. cheaper. Yet he selected that ram for use in his own flock, to the probable deterioration of hundreds of its produce. Where practice such as this prevails, need we wonder that British agriculture remains under a cloud? How can we hope to see the silver lining?—*London Live Stock Journal.*

Opportunities on the Canadian Farm

Canada furnishes more opportunities, perhaps, for home building and making a competence in life than any other agricultural country the world over. How many prosperous farmers there are in Canada to-day who, when they came to this country fifteen, twenty, or thirty years ago, had hardly enough of this world's goods to stock a good wagon, but who by perseverance, energy and skill, have made a fair competence for themselves and their families and have obtained comfortable homes in which to pass their declining years in peace. Sometimes we are apt to forget that a large number of our prosperous farmers, if not all of them, started from very small beginnings and have worked themselves up to their present positions by thrift, sobriety, and push, and by making the very best of their opportunities. But success was not altogether due to the individual

alone. A large share of it is due to the splendid opportunities which this country afforded every person willing to help himself. And to-day there are opportunities equally as good in our great Northwest, new Ontario and even in some of the older parts of the country if people are only willing to adapt themselves to these newer conditions with the same determination that our fathers did.

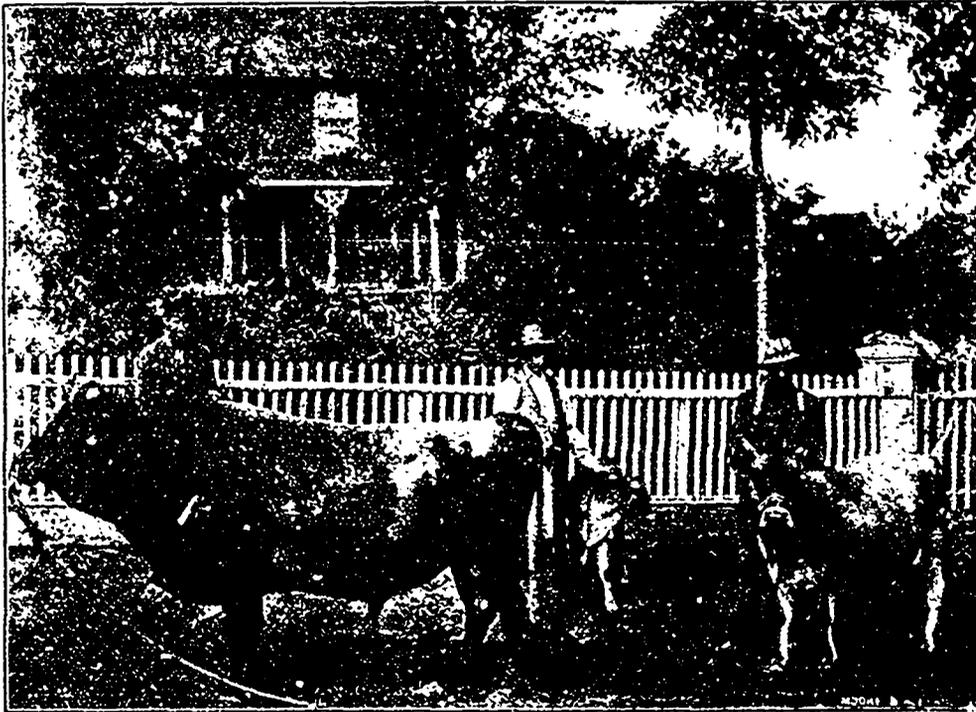
The experience of those who have come to this country and made a success of farming under Canadian conditions is always interesting to those engaged in the same line of work. Mr. Robert Tufts, sr., Tweed, Ont., in sending us the accompanying illustration of some of his Jersey stock, writes of his experience on an Ontario farm as follows:

"We came here from London, England, in 1861, and were working here in four weeks from the time we left Euston Square station and have been at it ever since. I had never done a day's work in my life on a farm till I set down here at the age of thirty with a wife and three little children. We chose dairying as our principal line of farming, and 1871 found us sending the milk of six cows to the cheese factory. In 1881 we were milking thirty and have kept about that number since. In 1891 I bought my first registered Jersey bull and heifer (A.J.C.C.) Two years later

The names, however, which seems to have become generally in use are parturient paresis and parturient apoplexy. There might be several reasons deduced to prove why these might be looked upon as misnomers; if we judge by the recent investigations of science, which have proven that the prevailing symptoms and conditions are brought about by a poison generated in the system at the time of parturition. Under these conditions this disease might therefore be considered autotoxic, and peculiar to the cow only, while we find parturient paresis affecting most of the other domestic animals.

On the other hand the term apoplexy defines a sudden paralysis from rupture of cerebral blood-vessels, or the sudden extravasation of blood into an organ. There are two forms of the disease described by most authors, namely, the congestive and the torpid form. The symptoms might, however, be said to be two extreme types with intervening grades. In both forms plethora and more or less sudden loss of voluntary movement and sensation, showing a deficiency of nervous power, are characteristic.

In the congestive stage of the disease, dullness, languor, drooping of the head, uneasy movement of the hind limbs, dilated pupils, are all well marked; the weakness increas-



Group of Jersey Cattle, the property of R. Tufts & Son, Tweed, Ont. The home of Messrs. Tufts is shown in the background.

found us with a registered Yorkshire sow and hog. We have been and are now pushing along on these lines, and think we have not been living for nothing. Our milk goes to the cheese factory in summer and the butter factory in winter. We milk twice a day every day in the year. Our place is lot 5, concession 12, Hungerford township, Hastings Co., Tweed, P.O. This is a fairly prosperous part, but I fear we are in a rut and are getting out slowly."

Parturient Apoplexy in the Cow

Paper Read by E. C. Linton, Veterinary Student, at Weekly Meeting of Society: Ontario Veterinary College, Toronto.

A great series of discussion has at different times arisen over a name for this most important disease, but unfortunately there has not been any definite decision as to a suitable one.

ing until the cow lies down and is unable to rise. At such times the convulsive struggles of the fore and hind limbs are indicative that the disease is becoming more developed, and is evidently caused through nervous spasms. † An unconscious stage is eventually reached, which becomes more complete until the eyes eventually take on an amurotic condition. The tonic symptoms would therefore consist essentially in paralysis of the striated muscular fibres of the extremities, and alimentary track, superior eyelids, and muscular fibres of the blood-vessels, while any anatomical macroscopic alteration would be wanting. These conditions show that the pneumogastric nerve is more or less seriously involved. In the torpid form violence, as a rule, is not generally observed; the attack is slower in its development, but, unless relief is at hand, these symptoms might reach a truly alarming stage. The predisposition to the disease is said to follow the fourth or fifth calf, and the earlier the disease makes its appearance after parturition the less favorable the prognosis.

In regard to treatment very many methods indeed have been advanced, but Schmidt's has gained great favor and is considered by some to be almost a specific. He bases

his treatment on the theory that the disease is generated in the colostrum of the udder at the time of parturition, and accordingly injects of

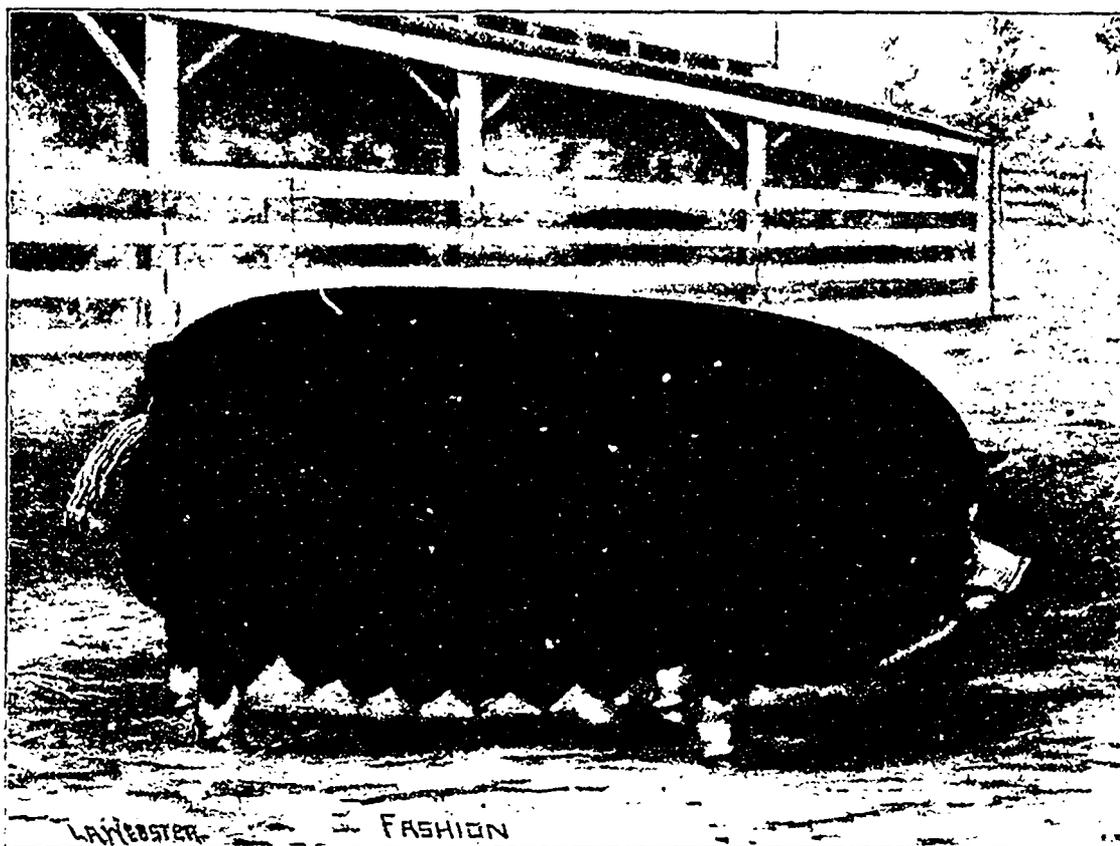
R Iodide of potassium..... 1 dr.
Distilled water..... 1 qt.
eight ounces into each teat, allowing a little air to enter, and taking care that the iodide of potassium is well dissolved and the water a little warmer than blood heat. He also also administers

R Caffeine..... 1 dr.
or Strychnine..... 11 grs.
hypodermically, noting their physiological actions. There can be little doubt as to the philosophy of this treatment, as all who have had the slightest acquaintance with this disease must have noticed the remarkable manner in which it attacks an animal and the rapid way in which it takes its flight, terminating either fatally or in a perfect restoration of health.

Perhaps on closing my remarks on this very interesting

apple-packing received considerable attention. Prof. Robertson advised the branding of the name of the packer and grower on every barrel of apples shipped out of the country, and the meting out of suitable punishment to parties found guilty of fraudulent packing of apples. In this connection he advocated the adoption of a suitable standard for size and quality of apples shipped.

The branding of the packer's and grower's names on the outside of every barrel of apples shipped is along the line we advocated in last week's issue, and seems to be the only feasible method for preventing dishonest packing and tracing up fraudulent packers. As we stated in last issue, the time for definite action has come. It is of no avail to warn or advise these dishonest individuals to desist from their nefarious practices. Only detection and the strong arm of the law will prevent these practices from being carried on, and which are bringing such disgrace and dishonor to the name of Canada. Immediate action is necessary in order to protect the honest packer and the grower



Fashion, 521S, 1st prize aged sow at London, 1899. Of immense size, weighing 800 lbs. in September last. She nursed a litter of 12 pigs in April last. She is of great length and depth, and has a beautiful head, as shown by cut. The property of T. A. Cox, Brantford, Ont.

and important subject it would be well to state that Schmidt's treatment certainly deserves a trial; first on account of the simplicity of its administration, and also when we consider the great danger of administering medicine by mouth after the power of deglutition is lost.

It has been claimed by many very eminent practitioners and advocates of the veterinary profession that in consequence of the impaired function of the œsophagus there is very likely to be a regurgitation of a certain amount of the medicines administered by the mouth, hence, mechanical pneumonia is very likely to result as a complication, and although it may seem to some far fetched still the statement seems very possible, and perhaps might in a great measure account for the majority of cases which terminate fatally.

Canada's Fruit Interests

At the annual meeting of the Ontario Fruit Growers, a report of which appears elsewhere in this issue, dishonest

who is endeavoring to deal fairly and honorably with his customers. Not all those who pack apples are guilty of dishonesty, but there are some of them who are bringing discredit to the whole lot by their actions, and the sooner they are punished the better for the whole trade.

An important point brought out in the discussion on this subject was that, if inferior fruit is produced, it must find a market somewhere, and will always be a temptation to those not over-scrupulous about their actions to practise dishonesty. The remedy suggested for this was to so improve the quality of the fruit as to reduce to a minimum the percentage of inferior fruit. This could be done by better culture of the orchard, pruning, and grafting, and by adopting systematic spraying. Another remedy suggested was for every fruit-grower, especially the larger ones, to pack his own apples. This is the practice followed in Nova Scotia, where fraudulent packing is almost unknown. The whole question is an important one, and should receive prompt attention from those in a position to deal with it.

CORRESPONDENCE

Practical Poultry Keeping

Valuable Hints — Government Money Not Wisely Spent

To the Editor of FARMING:

I am pleased that you are trying to arouse interest among your readers in regard to poultry keeping. I believe that every farmer may make it a profitable part of his business if he will devote to it the same care he bestows upon his other farm departments, and is willing to spend the small sum necessary for a suitable house and good stock. Without these requisites he is not working on a correct basis and cannot hope to be successful.

Poultry writers and the editors of agricultural papers have rung all the changes on this subject during the last few years, and had farmers given it the recognition that it deserves poultry culture would be much in advance of what it now is. All other branches of agriculture receive their due share of attention from our agricultural educators, but so far we have had very little in the way of object lessons upon the rearing of market fowl, or egg production. I was particularly impressed with the fact that in the list of Farmers' Institute speakers that I saw, not one was mentioned as taking up poultry work. In my opinion the farmer should be taught how to raise chickens before he is taught how to fatten them. We have yet to learn how much profit accrued to the farmers who raised the large chickens at fifty cents per pair for the experiment, conducted with a view to securing the British market. *There is no profit* in feeding chickens for six months or until they weigh from six to eight pounds per pair and selling them at fifty cents. And if the farmers rear their chicks at this price, selling them to others to fatten, or even if he fattens them himself as he does turkeys, a large slice of the profit is taken up by middlemen.

Mr. Ruddin mentions 14c. (if I remember correct'y) as the probable price in England if large quantities were put on the market. That there is quite a respectable margin between the rearing of chickens and fattening them and the price to be paid in England, I believe; but the farmer is not going to benefit by it unless he gets more than fifty cents a pair for birds suitable for finishing. It is an open question if the farmer will not do better to keep a good flock of selected layers, give them reasonable care in a comfortable house, with the object of securing the greatest number of winter eggs possible, raise a sufficient number of chickens to replace the old hens with pullets as required, and let the surplus stock go to the best buyer whether for home consumption or a foreign market.

If the farmers were alive to their interest in this matter they would demand of the Provincial Government that a large share of the money now voted to a few fanciers under the name of the Provincial Poultry Association, be applied to the furtherance of the *utility poultry interests among farmers and breeders of utility standard bred fowls*, thus encouraging the rearing of "better poultry and more of it" by the farmers. They are the people who should benefit by this grant instead of a few fanciers with their strings of bantams or some other equally useless exhibit. The Guelph Fat Stock Show offered prizes this season that should put to shame the miserable awards of the Ontario Poultry Association.

Ques. (1) As to how many birds might be kept on an average depends upon the purpose in view, viz., the rearing of market fowl or the production of eggs. If the former, a few breeding birds would be sufficient to raise a large number of chickens, but a much larger number would be required if eggs in any quantity were wanted. But, generally speaking, seventy-five hens, three breeding ducks and five breeding turkeys are as many as are likely to be properly attended to. Geese as usually raised and pastured with farm stock are not profitable.

(2) White Leghorns are ahead of all other breeds for egg-production, considering both size and number of eggs. For fattening, Rocks and Wyandottes lead in size and early maturity for feed consumed.

(3) No. Without a proper house and care they are invariably kept at a loss.

(4) Probably he could not grow all the feed. He might find it more profitable to buy suitable foods for the compounding of a proper ration for the purpose as many of our best farmers do when fattening other farm stock.

(5) After deducting expense of food at market prices the farmer might easily realize \$150 yearly from poultry.

(6) Not until he knows more than he does at present regarding the work will the average farmer be able to successfully fatten poultry for the British market.

Cobourg, Ont., Nov. 30th, 1899.

R. C. ALLAN.

The General Purpose Fowl

To the Editor of FARMING:

Your enquiry to hand, and in reply I will try and answer your questions to the best of my ability.

(1) How many fowls, including turkeys, geese, ducks, etc., might be kept on the average farm without interfering with farm work? About 100 fowls and trios of turkeys, geese and ducks for breeding purposes.

(2) What kind of fowls would be most profitable for the farmer? For egg production, Redcaps, Leghorns, Minorcas, and Hamburgs. For fattening purposes, Wyandottes, Plymouth Rocks, and Indian Games. Dorkings are also very good.

(3) Can fowls be profitably kept without a proper hen-house? Yes, but it pays to have a good house, for, like other stock, they require attention.

(4) In fattening poultry would the average farmer be able to produce all the feed required on his farm? Yes, on a farm we try to raise about 100 to 150 chicks and 25 to 40 turkeys, and about 15 geese and as many ducks, and feed the refuse grain we have to spare.

(5) What would be a fair income for a farmer to realize every year from his poultry? About \$175 to \$225; that is, if properly managed.

We do think if farmers would go into raising poultry they would realize more for the money invested than for any other stock on a farm. Our experience is that a general purpose fowl is the best for the farmer. We would prefer the Wyandottes, as they are better layers than the Plymouth Rocks, and are not so apt to set. We have Wyandotte pullets laying at four months and a half old.

Wolverton, Ont., Nov. 11th, 1899.

R. & A. LAURIE.

Farm Implement Feature Praised

It Should Appear every Week instead of Once a Month

To the Editor of FARMING:

The farm implement feature of FARMING is a splendid idea and a long felt want. You are certainly to be congratulated, Mr. Editor, on being the very first editor in Canada and the United States to introduce such a feature in American agricultural journalism. Farmers are dependent upon improved agricultural implements just now as much as they are for the seed they put in the ground. Farm help is scarce and dear, and in these days of improved farm appliances only skilled labor is profitable. Hitherto it was not possible for any farm hand to become proficient in the use of intricate machinery, as there was no avenue for the tyro to learn about their use. Now with a department in FARMING explaining the function and working of the newest farm implements, our farmers who are subscribers (and who but should be a subscriber to Canada's only weekly agricultural paper?) can have an opportunity of learning the use and practical working of the many labor-saving implements adapted to work on the farm. I notice that you only expect to have this department appear once a month. If you will pardon me for the suggestion, I would say let this department appear in every issue, for no department of your paper will elicit more interest.

Hermanville, P.E.I.

J. A. MACDONALD.

The Agricultural Gazette

The Official Bulletin of the Dominion Cattle, Sheep, and Swine Breeders' Associations, and of the Farmers' Institute System of the Province of Ontario.

THE DOMINION CATTLE, SHEEP, AND SWINE BREEDERS' ASSOCIATIONS.

Annual Membership Fees:—Cattle Breeders' \$1; Sheep Breeders', \$1; Swine Breeders', \$3
BENEFITS OF MEMBERSHIP.

Each member receives a free copy of each publication issued by the Association to which he belongs, during the year in which he is a member. In the case of the Swine Breeders' Association this includes a copy of the Swine Record.

A member of the Swine Breeders' Association is allowed to register pigs at 50c. per head; non-members are charged \$1.00 per head.

A member of the Sheep Breeders' Associations allowed to register sheep at 50c. per head, while non-members are charged \$1.00.

The name and address of each member, and the stock he has for sale, are published once a month. Over 10,000 copies of this directory are mailed monthly. Copies are sent to each Agricultural College and each Experiment Station in Canada and the United States, also to prominent breeders and probable buyers resident in Canada, the United States and elsewhere.

A member of an Association will only be allowed to advertise stock corresponding to the Association to which he belongs; that is, to advertise cattle he must be a member of the Dominion Cattle Breeders' Association, to advertise sheep he must be a member of the Dominion Sheep Breeders' Association, and to advertise swine he must be a member of the Dominion Swine Breeders' Association.

The list of cattle, sheep, and swine for sale will be published in the third issue of each month. Members having stock for sale, in order that they may be included in the Gazette, are required to notify the undersigned by letter on or before the 9th of each month, of the number, breed, age, and sex of the animals. Should a member fail to do this his name will not appear in that issue. The data will be published in the most condensed form.

F. W. Hopson, Secretary.
Parliament Buildings, Toronto, Ont.

FARM HELP EXCHANGE

The Farm Help Exchange has been started with the object of bringing together employers of farm and domestic labor and the employees. Any person wishing to obtain a position on a farm or dairy, or any person wishing to employ help for farm or dairy, is requested to forward his or her name and full particulars to F. W. Hodson, Secretary, Live Stock Association. In the case of persons wishing to employ help, the following should be given: particulars as to the kind of work to be done, probable length of engagement, wages, etc. In the case of persons wishing employment, the following should be given: experience and references, age, particular department of farm work in which a position is desired, wages expected, and where last employed.

These names when received together with particulars will be published FREE in the two following issues of the "Agricultural Gazette" and will afterwards be kept on file. Upon a request being received the particulars only will be published, the names being kept on file.

Every effort will be made to give all possible assistance, to the end that suitable workers, male or female, may be obtained. Every unemployed person wishing to engage in farm or dairy work is invited to take advantage of this opportunity.

Situations Wanted.

Wanted position of farm foreman before spring. Good references given. No. 186. a

Situation wanted on farm by man 40 years of age, strictly temperate and not afraid of work. Married. Understands farming in all its branches. No. 187. a

An experienced poultry man wishes a position as manager of a poultry farm. Has had a large business experience. State terms and length of engagement in writing. No. 188. a

Wanted foreman's place on farm by farmer's son, married, age 33. Will take \$250 with house and 1/2 acre of land. No. 189. a

An experienced man wants place on stock farm. Has managed a cheese factory for 5 seasons as cheese maker, taught school for two years and had charge of grain elevator. Good recommendations. 27 years of age and unmarried. No. 190. a

Position wanted as farm manager or working foreman. Am 35 years of age, single, brought up on a farm, had life experience in farm work, and

am accustomed to care of horses, cattle and swine. Have farmed for 12 years on my own account with good results and am accustomed to taking charge of men. Am handy with carpenter's tools. Wages \$25 a month, board, washing and lodging included. Good references.

A married man, with wife and one child, wants a position on a farm. Twelve years' experience with cattle in the old country. Also handy about the garden. Been in this country one year and eight months. In the same situation all that time. No. 177. b

Am forty years of age, married, strictly temperate, and not afraid of work. Have always farmed, and understand farming in all its branches. Have worked rented farms, but will quit and take position if offered. No. 178. b

Have worked for two years on a 200-acre farm in East Elgin. Would like a position on a good farm. No. 179. b

Would like to get a position on farm and ranch. Three years' experience with sheep and cattle in Western Texas, besides my knowledge of Canadian agriculture. No. 180. b

Help Wanted.

Young man wanted to help on farm. Must be able to put his hand to anything, plow, work in woods, cut wood and milk. Steady job for honest man. Hillsdale Jersey Stock Co., Truro, N.S.

Man capable of doing general farm work, milking included, required. Good home to suitable man. No. 182. a

Man wanted to work on farm; single, between 23 and 30 years of age; must be used to all kinds of farm work. Wages \$150 a year, including board and washing. No one who drinks or smokes need apply. Good references required. No. 183. a

Young man required to do general farm work, milk cows, and drive a milk wagon. Must be strictly honest, temperate and reliable. Steady employment assured to right kind of man. No. 184. a

Am in need of immediate help. I work a farm of 100 acres, but do not carry much stock. Winter work, chiefly chores. As I am preparing to build a house next summer, I have to be away a good deal this winter. The summer work will be general farm work, besides helping to draw stones for the house. References required. No. 185. a

Wanted—A good man to do general work on a farm. Must be a good milker and good caretaker of horses and cattle. Yearly employment, with board and washing for a suitable man. Apply, stating wages wanted to Box 205, Aurora, Ont. a

I am very pleased with the good work you are doing in regard to Farm Help Exchange, and avail myself of the privilege offered. I need a first-class man and his wife, the wife to take charge of our boarding house, the man to make himself generally useful on the farm, either looking after stock or working with horses, wherever he is best suited. Good wages will be paid to the right persons, who are not afraid of work. No. 191. a

Am in need of a farm hand. I have not much stock and the work is only general farm work. Will engage a satisfactory man for one year, if references are all right. No. 192. a

Require a steady, sober man who understands the care of stock, is a good milker and plowman, and can do general farm work. Would pay \$120 a year with board and washing and engage a suitable man at once. No. 193. a

Man wanted at once for general work on farm of 75 acres. Must be able to do all plowing. Will give \$120, and board, lodging and washing. No. 194. a

I am very pleased with the Farm Help Exchange, and avail myself of its columns to try to obtain a man for general farm work, engagement to commence at once. No. 195. a

Man wanted immediately for general farm work, will engage for a year if suitable. State length of time and kind of work done on last farm you were engaged on. No. 196.

Place ready for a good man on a stock farm where there is no milking

in the summer to be done. A comfortable home to a trusty young man. No. 197. a

Man wanted, used to tending stock, and milking cows. Must have no bad habits. Send references. No. 198 a

Farm hand wanted for general farm work. No. 199. a

Man wanted to help with care of live stock and for general farm work. No. 200. a

Will give \$120 a year, board and washing to a man who can do general work on a farm. Month's trial preferred. No. 201. a

General farm hand required. Must be good plowman. No. 202. a

I would like to engage a suitable man at once. Must be capable of doing all kinds of farm work. No. 203. a

Domestic Help Wanted.

A good, reliable housekeeper wanted by a single man on a hundred acre farm. Must be capable of taking full charge of dairy, etc. No. 181. b

A. KIRK & COMPANY,
Direct Importers, Wholesale and Retail, General Merchants.

Antigonish, N.S., Nov. 20, 1899.
F. W. Hodson, Esq.,
Toronto, Ont.

DEAR SIR,—I notice in the AGRICULTURAL GAZETTE some advertisements from parties wanting positions as farm managers. I have a farm located three miles from Antigonish. There is a very good house on it containing nine or ten rooms, also fair barns. I have upwards of 100 tons of feed in the barns, consisting of hay and straw, and if I could get a reliable married man who understands stock, I would put some cattle, sheep and hogs on it. Perhaps you may have some applicant for such a place, and could put him in communication with me.

As you are of course aware, farming is not a very profitable business, and I could not promise large remuneration, at least at the start, but if I got a man who suited me, I would treat him as well as possible, and I would like that his wife would be a good housekeeper, as I might wish to live with them during part of the year. The farm is conveniently located on one of the most public roads in the county. There is a schoolhouse on the adjoining farm, and a railway half a mile distant. If I succeed in getting such a man as I want, I would like him to look me up a few Shropshire ewes and a few Shorthorn heifers, and perhaps a few hogs.

Very truly yours,
(Signed) R. D. KIRK.

The above letter was received a few days ago. Any person wishing to

apply for the position had better communicate direct with Mr. Kirk. As Mr. Kirk may require a few Shropshire ewes and a few Shorthorn heifers, it might be worth while for some of the breeders to communicate with him. Everything possible will be done to make the GAZETTE of service to the live stock breeders and agriculturists.

N.B.—Where no name is mentioned in the advertisement apply to F. W. Hodson, giving number of advertisement.

Farm Telephones.

Under the above heading we inserted in the GAZETTE of Nov. 28th the following paragraph:

Can any of the GAZETTE readers give any facts and principles from their personal knowledge in reference to:

- (1) The theory and kinds of phones
- (2) The cost of same.
- (3) The advisability of farmers in a community organizing a company and conducting their own lines.

If such replies are put in the form of a short article and sent to the Superintendent of Farmers' Institutes they will be given space in this department.

We have received the following reply:

In the Nov. 28th issue of FARMING there is an inquiry about farm telephones, and the following questions are asked:

- (1) The kind of phones.
We have here in use the Bell and the Wilhelm telephones, the same as are used by the regular companies.
- (2) The cost of same.

Phones cost from \$12 to \$16 each, and poles 20 to 24 ft. long, 32 to the mile, will cost from 30 cents to 75 cents each, according to distance from a cedar swamp. Number 12 galvanized wire is used; side blocks are 4 cents each, and glasses or insulators 3 cents each. Any telegraph or telephone line man can string the wires and connect phones. The cost to each person on the line will depend on the number of subscribers on the circuit and the distance from one to the other; when the distances are far apart the cost for poles and wires will be greater. If the owners put in the poles and help to string the wire, the service, all completed, when subscribers are not over one-half mile apart, should not be over \$25 each.

- (3) The advisability of farmers in a community organizing a company and conducting their own lines.

I would certainly say that, after our experience here, we would not be without them if they cost more. There is no trouble in working a circuit, as each person has an individual call. For instance, Mr. A., one long ring; Mr. B., two long rings; Mr. C., three long rings; Mr. D., four long rings. Then

follow one long and one short ring, and so on with the different calls, each person taking a different call. We can have from twenty to thirty on the circuit, and there is no further expense when once the line is built, except to see that the wires are kept in good shape. They save us the first cost every year, not taking into consideration the social side of the question. Even the children use them freely. We can converse as easily as with a person in the next room. They also help the farmers to work together, and to consult each other, and are amongst the many conveniences we must have.

If any one wants any further information I shall be pleased to answer them. I can only say that my phone cost me no more than fifteen cents per year for sal-ammoniac to recharge the cells, and it is more and more appreciated by the ladies every year.

ROBERT THOMPSON,
Grantham Tp., St. Catharines, Ont.

Raising Good Calves Economically.

The ever-increasing competition in certain food products for the farm, due to the extension of dairying and beef-raising, renders it of the greatest importance that farmers who raise their calves while shipping milk to the cheese factory, creamery, or to supply the large demand from cities, should consider carefully how this can best be done without lessening too much the daily milk output. The difficulty the dairy farmer finds in raising good calves from his own superior milking stock, while all or nearly all his whole milk is sold, has debarred many a one from attempting to do so, and he has had to be content with filling up the vacancies in his herd by purchase, a method that is very often most unsatisfactory. The creamery patron is not in such a bad position as the one who sends milk to the cheese factory, because he can get back his skim-milk, and by adding oil meal and other substances can furnish his calves with something nearly akin to whole milk. But even he labors under a disadvantage, inasmuch as the skim-milk is often sour in hot weather when he gets it back, and sour milk for calves is not a satisfactory feed. Where the farmer has his own separator, however, this disadvantage is removed and he can utilize skim milk with the best results.

With the farmers who raise calves for beef purposes the case is somewhat different. A great many of them raise their calves on whole milk, for some time at least, and those who use skim-milk can have it fresh, because, as a rule, no milk is sent to the factory or creamery. It must be conceded that the finest beef calves are raised on whole milk, but the question arises whether a greater profit could not be obtained by utilizing the cream for

butter-making, or sending the whole milk to the factory, substituting therefor either skim-milk, butter-milk, or whey, with the addition of certain fatty substances, or by using in part or entirely one of the useful calf foods which

fat, and the primary cost of which is much lower, the substitution of these must be profitable. In linseed or oil meal and in prepared calf foods we have nearly ideal foods to add to the skim-milk to bring it up to the desired

ruined. This must be carefully borne in mind when the dairyman selects his rations to add to the skim milk allowance.

As soon as the calf is born, it is wise to remove it at once from its mother to a separate pen where it should be thoroughly rubbed dry with a cloth. Some prefer to let the cow do the rubbing and cleaning process, but it is doubtful if any good is served thereby, and in the case of a heifer with her first calf the longer she is left with the calf the more troublesome she is likely to be when she is milked, especially as regards holding up her milk. Teaching the calf to drink is not as a rule a troublesome process when it is removed from its dam before it has suckled. By using two fingers the calf is soon induced to lower its head into a pail, and it is not long before it will drink of its own accord. By those who dislike the trouble of teaching the calf, the calf-feeders that can be obtained in any city will be found advantageous. If the calf should prove obstinate when being taught and the milk gets cold, warm water should be added in order to keep up the required temperature, otherwise disarrangement of the bowels may be looked for. The milk, whether whole or skim, should always be fed at a temperature of 98 degrees to 100 degrees. Cold milk or scalded milk soon causes indigestion and scouring.



Highland Cattle fed on Skim-Milk

can now be purchased at prices that make them profitable to use. These various methods will be discussed in turn.

Raising Calves for the Dairy on Skim-Milk.

Where butter-making is largely practiced, the greater part of the skim-milk which is available for feeding purposes is separator milk, out of which has been extracted the greater portion of the butter fat, the amount remaining in it depending, of course, on the care, or want of care, with which the extracting has been done. In the old methods of setting milk the butter fat was never removed so closely as is done to-day by means of the separator, and therefore skim-milk, before the separator came into general use, was richer in feeding properties on account of the butter fat remaining in it. This fat, however, though serving a good purpose, was yet too costly a food, because when recovered from the milk it could be made into butter, which would bring more than its worth for calf-feeding purposes. But, supposing that every atom of the butter fat was extracted from the milk, we have yet in the skim-milk remaining the most important part of the milk for feeding purposes, viz., the protein, the percentage of which is a little larger in the skim than in the whole milk, and from which are principally formed the bones, ligaments, muscles, nerves and internal organs of the animal. In skimming milk that tests 4.2 per cent. fat we remove one quarter of the total solids, and there is left in the skim milk about 9.16 per cent. of solids not fat, and from .1 per cent. to .2 per cent. of fat. Now it is evident that if we can replace the butter fat extracted from the milk by one or more feeding substances that contain nearly, if not quite, as good feeding qualities as the

standard. The average proportion of oil in crushed linseed meal is about 35 per cent. Whole milk is composed of eight parts of water by weight to one part of solids. The very first essential in calf-raising is to preserve this relation between water and solids undisturbed as much as possible when the milk is given the calf, also to have the substitutes for whole milk in such a condition that they can be digested without difficulty.

Developing the Dairy Habit in the Young Calf.

It is a fundamental law among dairyman that the calf destined for the dairy should never be fed a ration conducive to the putting on of fat. When once the flesh forming habit has been acquired by the young grow-

Feed New Milk for a Week.

Nature has specially prepared the first milk of the dam for cleansing the bowels of the young calf, and, therefore, this should always be given to it. The time when the milk resumes its normal character varies from three to four days, or perhaps a little longer. In actual practice it is proved desirable to give the calf whole milk for a week



Highland Heifer, two years old, reared on Skim-Milk and Calf Meal Gruel.

ing animal, it remains with it all its life, and, consequently, the animal's usefulness for the dairy is very seriously impaired, even if not utterly

at least and some continue it for a fortnight. One quart is quite sufficient at first for a meal and should be given three times a day. Frequent

feeding of a little at a time every day is far better than feeding a quantity twice only. Never give more than two quarts at a feed to a young calf. A good way of ascertaining whether a

calves should be so accus-

tomed to skim milk that its milk ration should consist entirely of it. As soon as the animal shows a disposition to nibble at food put a few whole or ground oats in its manger, and it is

Other Substitutes.

An English dairy farmer who has evidently some new milk to spare gives the following as his method of feeding calves: He makes a porridge of four quarts of corn meal, two quarts of ground buckwheat, four quarts of wheat bran, and two handfuls of linseed meal. Each calf receives a heaping tablespoonful for each meal, which is made into a porridge with water and added to one quart of sweet milk in which a pinch of salt is put. The grain is gradually increased each week. As regards this ration it may be said that skim-milk could well be substituted as more economical than new milk, and also that the feeding of corn meal and ground buckwheat would have a tendency to induce flesh forming habits in the animal. The Iowa Experiment Station, it is true, has had better success with corn meal than with linseed meal as a fat substitute, but its experiment was more in the line of animals destined for feeding purposes than for dairy use. Good results have, however, been obtained by the following mixture in which corn meal has a share: skim-milk, twenty pounds per day, corn meal 1.5 pounds, flax seed one ounce. This ration is for a calf that has had a good start, beginning with twelve to sixteen pounds of skim-milk per day in which one-quarter to one-half pound of ground linseed has been mixed.

Some breeders use an oatmeal porridge composed of two pints of oatmeal and one-half pint of linseed meal boiled with sufficient water to make it of the right consistency. This, when stirred in with skim milk, constitutes a feed for a calf for one day. As stated above, care must be taken when the calf is young to remove all oat husks from the meal before it is boiled. Then there are the various calf meals which can be used in connection with skim-milk, but as these will be discussed further on, no more need be said of them just here. Alternate substitutes for oil meal are gluten meal and even boiled mashed potatoes, which have been advantageously used in some instances, although their composition would not lead one to think that they would be of much value in calf feeding.

As the calf grows, the substitutes for fat in the skim-milk are to be increased from time to time, but not beyond a certain extent. The increases should rather be made in the dry grain ration fed in addition to the skim-milk and mixture as soon as the calf will eat it. For the ration of grain fed dry there is nothing better than ground oats and bran, which furnish material to build up the frame of the growing calf. When the milk ration is entirely dropped, which will be at any time when the animal is from three to six months, according to the supply available, the linseed meal



Five Shorthorn Grade Calves under seven months, reared for the first fourteen days on Skim-Milk afterwards on Calf-meal Gruel.

calf has had enough is to watch its sides, and when they are flush with its shoulders and hips remove the pail. Small calves, such as Jerseys, require less than larger ones. Another important point is to watch when whole milk is being fed that the mother's milk is not too rich for the young calf, because milk that tests high in butter-fat will be very liable to upset the young animal's digestive organs. At the end of the first or second week commence gradually to substitute skim-milk for part of the new milk, the amount changed varying according to the disposition of the calf. Some will resent the change, others will not. Be careful to have the milk warmed to from 90 degrees to 98 degrees, but not exceeding 100 degrees F. A simple way to bring it to this temperature is to place the vessel containing the milk in hot water. All risk of burning and boiling is thus obviated. When the milk is separated directly after milking it will be warm enough to feed without heating if given to the calves at once. To prevent calves drinking too fast, a practice which sometimes causes scouring, it is an excellent plan to add a few bread crumbs or small pieces of stale bread to the milk. Too much stress cannot be laid on the absolute necessity of cleanliness in the vessels and pails in which the milk is heated and fed to the calf. A little of the previous meal's milk left in the crevices or on the sides of the pails will soon cause an enormous increase of the bacteria that sour the milk, and the consequence will be derangement of the digestive organs and a calf "off its feed." At the end of a week after the gradual change from whole milk has begun the calf should be so accus-

surprising to see how quickly it will learn to eat them. The manger must be watched, however, and the uneaten grain removed before it becomes sour. A little good clover hay should now be provided.

Substitutes for Butter Fat in Whole Milk.

When the change to skim-milk is made it becomes necessary to add something to the ration to make up for the butter fat previously fed in the whole milk. For calves intended for the dairy there is no better substitute than flax seed or linseed meal. To prepare the former take a quart of it, let it soak for six hours in from six to eight quarts of water, then boil it for an hour. It will then be in the form of a jelly. Give the calf one-half teacup full at a meal in the warmed milk and gradually increase the jelly as the calf grows. Do not feed too much at a time because it is a laxative, and heavy feeding of it also tends to the formation of too much flesh. If desired, the flax seed can be added to the milk while being boiled, before it forms into a jelly. The addition of a little salt to the flax seed when boiling acts as an aid to digestion. When linseed meal is used, take equal parts by weight of linseed meal, fine oatmeal that has been run through a sieve to remove the hulls, and wheat bran mixed, about one-half pound for each calf. Stir this in water and boil slowly for one-half hour, then add it to the skim-milk, keeping the mess stirred while feeding. Some feed jelly for one or two months then change to linseed meal, feeding it dry with ground oats, using four to eight ounces a day of the linseed meal and increasing it to

which has been given in the milk can be fed dry in conjunction with the other grains, but it is not desirable to feed it or any other flesh forming substance too heavily.

Fall or Spring Calves.

The question of whether cows should drop their calves in the spring or fall is one that must be decided by each dairyman according to whether he practises winter dairying or not. As regards the calves, the fall-dropped calf has an opportunity to acquire good growth before spring, when it can run out on pasture. It can also be fed ensilage, which has been successfully tried in many instances with calves, and fallen apples cut up fine are also a suitable feed. When calves are dropped in the spring they should not be turned out to pasture in the hot weather. If they are turned out under a mistaken idea of economizing, the young things will suffer so much from heat, and be so tormented with flies that their growth will be stunted, and any saving of feed will be much more than counterbalanced by their lack of growth and thrift. Those who treat their calves in this manner must remember that, while the flesh-forming habit should not be encouraged among dairy calves, yet a continuous, steady, natural growth is always desirable, and any check thereto is harmful to the future success of the animal's career. The necessary exercise for the calves is best obtained by letting them run in a small paddock in the cool of the evening or early in the morning before the flies get troublesome.

Some Requisites for Calf Feeding.

Always keep the calf pens dry and clean, using plenty of litter. A dirty pen is conducive to scouring, that bane of the young calf's existence. When several calves are fed together it is best to fit up on one side of the pen as many narrow stalls as there are calves. In the partition in the front of these stalls there should be cut holes for the calf to put his head through to drink out of a pail placed outside. At the back of the stalls can be placed doors fitted loosely between cleats, which can be raised by means of ropes and pulleys before the calves enter the stalls, and dropped as soon as they are inside. If doors are not used small stanchions can be fitted in the parts of the stalls and the calves fastened there as long as it is desired. By this means the weaker calves get their full share of the milk with no risk of being robbed by the bigger ones. After the calves have finished drinking it is well to keep them tied or fastened in their stalls for a little while, until they have got over the excitement of drinking. Unless this is done there is the danger that some of them may acquire the practice of sucking the ears, navels or teats of the others which oftentimes causes bloating, not to speak of occasional injury to the animal sucked. To prevent this taking place and to divert the animal's attention, a good practice

after they have drunk their milk, is to feed some dry oatmeal and bran in a manger placed on one side of the front of the stall, just as soon as the animal will nibble at it. After it has eaten a little it forgets its sucking propensities and will not molest its companions.

Remedies for Scours.

The most frequent and troublesome disease that affects calves is scouring. Various causes for it have been given above, which it will be unnecessary to repeat here. If steps are taken to remedy the trouble at once a cure is soon effected. If milk has been fed too cold or too hot see that it is given at the proper temperature and perfectly sweet, and be sure that the pails are thoroughly clean. If the pens are dirty, clean them out and furnish with plenty of bedding. Sometimes boiled milk which has been allowed to cool to a suitable temperature will cure the disease. In other cases a little charcoal together with five to ten drops of rennet extract is very efficacious, especially where wind colic is present. Raw eggs given whole with the shell crushed fine are often administered, the lime in the shell being particularly good for this trouble. Lime water is a favorite prescription with many, while in severe cases a cure is generally speedily worked by discontinuing the milk for a little while and giving a small dose of castor oil to remove the source of the disorder in the bowels.

Gains in Weight on Skim-Milk.

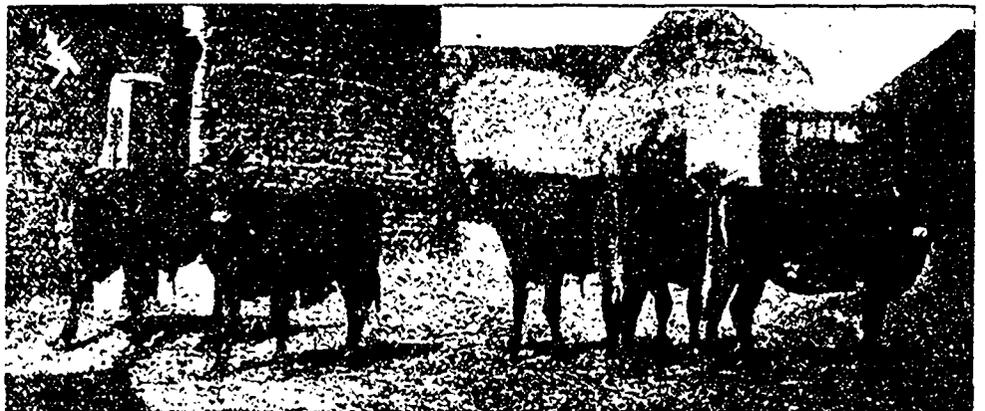
Excellent gains in weight have been made with calves on skim milk and grain and linseed meal, as described above. At the Massachusetts Station the average gain was 1.49 pounds per day for seven calves. At other stations the gains have reached from .95 to 1.72 pounds a head per day, according to age, and the value of skim-milk for calf raising has been shown to be from 25 to 35 cents per 100 pounds. Stewart, in his work, "Feeding Animals," reports a number of calves in his experience that made an average growth of two pounds per day for the first ninety days, and individuals were doing equally well when older.

Whey.

Whey is sometimes utilized as a substitute for skim-milk to feed to calves, but it can only be successfully used when fed with care and forethought. In comparison with skim-milk it is by itself a poor food, because the casein, the most valuable constituent of skim-milk, has been all removed, and the milk sugar, the principal constituent that remains, is a carbohydrate and belongs to the class of the cheapest food products. There is a small amount of albuminoids, however, about .8 per cent., also present in it. The value of whey is not more than one-half of that of skim-milk. It should never be fed alone with the expectation of raising good calves.

To ensure success with whey feeding it must be fed sweet—a difficult thing to be managed when it has to be brought back from the factory, because it is generally sour before it leaves there, and it must be warmed to a proper temperature like skim-milk. Then, to bring its feeding value up to a standard akin to whole milk, there must be added, for a young calf, one-quarter pound of linseed meal to each gallon of whey. When the calf is about a month old, add one quarter pound of bran to each gallon of whey mixture, or, instead of bran, an equal quantity of ground oats or barley, which has been scalded in whey or water. A dairyman, writing in the *Ohio Farmer*, carried out the following method of feeding whey: His calves were dropped in the spring. New milk was given till the calves were three or four weeks old; then whey was gradually substituted for the milk, until at the end of a week whey had entirely taken the place of the whole milk. The fat in the ration was made up by adding to the whey Old Process oil meal. When the whey soured in the hot water, hay tea was substituted for it, and oil meal and water and a little bran were added. Two tablespoonfuls of oil meal were given to each calf. This correspondent, after trying whey for some time, finally discarded it altogether, using the hay tea instead from the first.

To be Continued)



Five Shorthorn Grade Calves, seven months old, fed on new milk one week, then a little calf-meal gruel mixed with separator milk, the calf-meal gruel being gradually increased and the milk soon discontinued altogether. As soon as they were old enough they were fed clover hay, oil meal, and chopped hay.

The Farm Home

Mr. Josh Simpkins on Etiquette.

He Rebels.

I've studied up on etiquette,
Read every book that I could get,
and yet

There is n't one in all the lot
That tells a feller it is not
De rigger to eat pie
For breakfast, hence why should n't I?

And, furthermore, I cannot find
In all the books I call to mind
A single line
That gives a reason worth a whoop
Against a second plate of soup
When fellers dine.

And as for eating marrowfats
Without a spoon, I think that that's
A fool-
Ish sort of rule.

When I eat pease
I'll do as I darn please!

And what is more, till I'm a snob
I'll eat my corn straight off the cob;
And sparrergrass I'll eat as I
Have always done in days gone by—
A sort of dangling from the sky;
A sort of gift from heaven come,
Held 'twixt my finger and my thumb.

And as for those peculiar things
Called finger-bowls, I vow, by jings!
I will not use 'em as they say
The bon-ton uses 'em to-day.
If my hands ain't both good and clean,
The pump is where it's always been;
As far as I could ever see.
It's plenty good enough for me.
I don't stand much on etiquette,
But yet
I'm too polite to wash my paws
At table, spite of social laws.

—Harper's Bazaar.

Sweeping.

Recently it was my fortune, or misfortune, to notice particularly some methods of sweeping.

In house number one, the mistress was plying the broom with all speed and strength, and if there is any truth in the saying that "it is a good house-keeper who gets a peck of dust," then, judging by the dust that filled the room, she is indeed a good house-keeper. It is true she had all the doors and windows open, that the wind might carry the minute particles to some other place, but there were too many to escape, and I felt as though great quantities, almost the famous "peck," were entering my lungs by the nose and throat.

Of course, our nostrils are supplied with hair-strainers, which exclude a reasonable amount of foreign substances, but it is not a good plan to get them clogged, for then we will be compelled to inhale some dust. Besides the pecks we were taking in that manner, every article of furniture, ledges, and exposed surfaces soon became thickly coated, and when the room again became clear the careful (and she really thought herself careful) housewife with her dry dustcloth stirred it all up again.

The question often arises, "Where

does the dust all come from?" On the farms, we know, it is carried in with decaying wood, or on the boots and shoes of the family, from the fields, the yards, and the stables, usually in a moist condition, when it so readily sticks to the boots, and probably is filled with microbes and disease germs. Owing to the prevalence of consumption and catarrh, notices to "avoid expectorating" are not amiss. An old book on etiquette says: "Do not spit in the centre of the room; spit in a corner and rub it out with the foot." When we think of the vast amount of spitting that is done which may be also carried in on the boots and the other sources from which dust arises, it gives us a decidedly disagreeable sensation when we see the dust in our rooms "making a bee-line" for our throats; while I would make another rule: "Never spit except in a red hot fire." (Why do people use the long word when the short is more expressive?) Yet a cloud of dust is not necessary when we are sweeping, though we cannot always avoid it when travelling.

In another house, the daughter took a pail of clean water and placed it on the verandah; then, dipping her broom in the water until it was quite wet, she then shook it free from surplus moisture and began sweeping. Do I hear the remark, "I would not ruin my carpets with a wet broom"? I reply, "Her broom was not wet; it was only clean and damp." She moves along with short, quick strokes of the broom, and is beginning to collect a heap of dust, while every damp fibre of the broom is coated with black mud, which a short time ago was dust, eager to fly through the room, but stopped short on its upward flight by the moisture it met and to which it clung fast. The sweeper goes to the pail of water, and, dipping the broom several times, soon has it again clean, and, after shaking, returns again to the sweeping; she repeats this as often as the broom gets dirty, probably half a dozen times in each room. When swept, the carpet looks fresh and free from dust, and the bare floors show no sign of streak, as would have been the case were the broom wet or dirty. When she completes the work she rinses her broom and puts it away. There is positively not a speck of floating dust, and the furniture contains no more than when she began. Where is the dust? I look at the pail of clean water; I find it is not clean, but very black and dirty, and all those dust particles and germs are bathing in it, and I say emphatically, by all means let us sweep with damp and often washed brooms. But, if we wish to save our strength, it might be preferable to use carpet-sweepers, which are not given to dust agitating.

MECYRA.

The Poultry Business for Farmers' Wives.

When I first went into poultry in earnest I had a dim idea of doing business. I had not forgotten how to do the sums in mental arithmetic, or reckon the interest on notes, and by an effort could recall from school days enough mental power to estimate the number of rolls of paper needed for my sitting-room, or the yards of carpet required for the floor; but real business, such as a man encounters at every turn, or a woman, if she is the manager of an estate, I knew nothing of.

At first I tried shipping broilers to Detroit and Chicago, but the hired man took a half day in trying to make a crate for twelve. I know now that it weighed three times what it should have weighed and the express rates and the commission were so heavy that I had little remaining, and a number of loads of clover were ruined because of my unlucky crate. Then I sold some live fowls to hucksters, and soon found out that they had cheated in weights; their hook scales were an invention of Ananias himself. I could raise the birds all right, but how to dispose of them profitably was the rub. I tried shipping dressed fowls to commission merchants in cities, and received 21 cents each for large fat pullets in November. That ended the commission business for me. I doubtless would have had a round with incubator and capon branches of the business, but some very good friends of mine tried experiments along that

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Farmers, their

Your spare time can be very profitably used
in a genteel money-making diversion right at
home.

Sons and

We want your services, and will pay you
liberally for the time you spend in the interest
of our work.

Daughters

If you are interested in making
money, write

J. L. NICHOLS & CO.

33 Richmond Street West,
TORONTO, CAN.

Cut this out.

line, and I became convinced that one woman without help, on a farm, could not sit up nights with an incubator, or make a success with capons; if one has plenty of help, not the hired kind, it makes a difference.

Then I tried a new venture. I killed and dressed for the local butcher sixteen big Plymouth Rock hens, and borrowed enough more to purchase a trio from a famous breeder. I paid double fancy express rates, and one pullet had the roup when she arrived, but without treatment (except isolation) recovered. Then business began in earnest—the selling of eggs from that trio, the disposing of surplus stock to breeders, the ordering of baskets, the arranging of the ever necessary advertisement, and the paying for it also, sharpened my wits. I soon found that a high priced ad. in a poultry paper did not pay unless you had a show record, and that was beyond the reach of a woman who was house-keeper as well as poultry raiser. The ad. in the local paper did but little to bring purchasers, but the state agricultural paper was more to the point. I will admit that for a time the balance, with a blue hand pointing to the words, "Please remit," made me feel like having a nervous chill, but I learned that an "ad" that was in every issue for a year was the cheapest in the long run, and that it became more valuable the longer it appeared; that it increased in value with age, was what medical men call "cumulative" in action, and that after a while the very fact that you were an old advertiser in the poultry column meant to the reader that you were not only ancient, but reliable. The hardest pull was at first. I soon learned to make my own crates and ship my birds and eggs, learned by a tough experience to let the C. O. D. customer severely alone. I learned how to make out a postoffice order or draw money from the bank without having an attack of nervous prostration; how to answer a business letter concisely and courteously, and how to deal with dudes who tried to get my best birds for half price.

I found a market among private customers for cull birds; bought a set of scales and did my own weighing; learned that the time of year to market dressed fowls is the first three months of the year, not the last, broilers excepted. All this came little by little, in the hard school of experience, but I am aware that if I should be left as many farmers' wives are—to settle their husbands' estates or act as guardian—I should not tremble at the overbearing manners of sundry officials, or have spasms because sharks tried to cheat me. Better by far than a course in a business college; a business experience humbly begun

and steadily pushed to a successful issue, and this is possible to a certain extent to every farmer's wife—as well as a little pin money.—*Priscilla Plum, in Ohio Farmer.*

The Single Feathered Hat.

Have you seen the jaunty maiden tripping
lightly 'long the street
With an old grey goosequill sticking in her
hat?

She is neat and she is natty and most ravish-
ingly sweet

With that old grey goosequill sticking in
her hat.

In her eyes there is a sparkle of most inde-
pendent pride,

On her face a cute expression she would
never try to hide,

And her bootheels with the pavement so de-
cisively collide

That it jars the old grey goosequill in her
hat.

Oh! she is a pleasing picture as she gaily
trips along

With an old grey goosequill sticking in her
hat!

Her eyes are dreams of glory and her smile a
radiant song,

With that old grey goosequill sticking in
her hat.

In her dress there is a smartness that must
magnet every eye,

Every head turns on its pivot as the men
she passes by;

They admire her style, her action and her
bright, expressive eye,

And the old grey goosequill sticking in her
hat.

How she calls to mind the warrior of redskin
Indian race,

With that old grey goosequill sticking in
her hat.

Sometimes bears out the simile by painting
up her face,

With that old grey goosequill sticking in
her hat.

She is out upon the warpath, be she plump
or be she svelte,

And many a pale-face fellow has her eye-
shot arrows felt—

Many lovers' scalps are dangling from her
alligator belt,

That sweet warrior with the goosequill in
her hat.

We all love her and admire her, just cawn't
help it, don't ye know,

With that old grey goosequill sticking in
her hat.

She's the very fairest jewel in our western
beauty show.

That neat sage-hen with the goosequill in
her hat

Maids of statuesque construction 'neath their
ostrich plumes arrayed

Or with wealth of floral beauty on their
proud heads may parade,

But they simply aren't in it with the dashing
little maid

With the old grey goosequill sticking in
her hat.

—From the *Denver Evening Post.*

To Cook a Husband.

The following recipe was cut from
an exchange, and maybe our readers
will enjoy it:

A good many husbands are utterly
spoiled by mismanagement. Some
women go about as if their husbands
were balloons and blow them up.
Others keep them constantly in hot
water, others let them freeze by in-

difference and carelessness. Some
keep them in a stew by irritating
ways and words. Others roast them.
Some keep them in pickle all their
lives. It cannot be supposed that
any husband will be tender and good
if managed in this way, but they are
really delicious when properly treated.

In selecting your husband do not
go to market for him, as the best are
always brought to your door. It is
far better to have none, unless you
will patiently learn how to govern
him. See that the linen in which you
wrap him is perfectly washed and
mended, with the required number of
buttons and strings tightly sewed on.
Tie him in the kettle by a strong silk
cord called "comfort," as the one
called "duty" is apt to be weak. They
are apt to fall out of the kettle, and
be burned and crusty on the edges,
since, like crabs and lobsters, you have
to cook them while alive.

If he sputters and fusses do not
be anxious—some husbands do that
until they are called down. Add a lit-
tle sugar in the form of what confec-
tioners call kisses, but no vinegar or
pepper on any account. A little spice
improves them, but it must be used
with judgment. Do not stick any
sharp instrument into him to see if he
is becoming tender. Stir him gently,
watching the while lest he adhere to
the kettle and so becomes useless. You
can not fail to know when he is done.
If this treatment is closely followed
you will find him all that is desirable;
but do not be careless with him and
keep him in too cool a place.

Washing Dishes.

To wash dishes properly begin right.
Make ready for the work by clearing
off neatly, removing every crumb and
and bit of food from each dish. Drain
cups and glasses; group each set of
dishes by itself, placing the cups and
saucers together. Put the silver on a
small tray or on a dish by itself. Pile
plates and platters carefully and in
order, the greasy ones apart from the
rest. Have plenty of hot, not merely
warm, water; soap which will make a
good lather, or better still a good
washing powder and plenty of clean
towels. Whether a dishcloth or mop
is used depends upon your preference,
but it is well to have both, a mop
being indispensable for the cleansing
of pitchers, glasses, etc. Besides, you
may wash dishes with a mop without
ever putting your hands into the water,
thus keeping them from chapping in
cold weather. If you use soap, have
a soap cup, and never let your soap
get into the dishpan. Dip the cup up
and down, rubbing the mop on the
soap until the dishwater is sufficiently
soapy; just the proper degree of soapi-
ness requisite must be learned by ex-
perience. By doing this you avoid all
danger of finding bits of soap sticking
to the dishes when you are thorough.—
American Queen.



110 for 10 cents This book contains
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of the best humorous recitations, embracing the
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Wives and Mothers on the Farm.

By Dolly Merrill.

Most mothers and wives on the farm, when thinking of "duty," scarcely ever couple it with "self"; it is almost invariably "others" that they are trying to do their "duty" by, and self is neglected, sometimes sadly. But would not the family be benefited in many ways if the wife and mother would just observe some of the duties to herself? For instance, she should have as good clothes, and as neatly made and as modern in style as the daughters; she should do some of the going as well as the girls; she ought to take time to improve herself by reading and keeping up with the times; she ought always to take time to write to, and to visit, her parents in their old age. This last is a duty she owes herself as well as her parents. It is a duty she owes to herself and her posterity that she does not work so hard, that she has no life, no strength, but is worn and weary of life. This world of ours might be much happier if we had mothers who could devote more time to the training and teaching the children the right way, instead of so much time put upon fine cooking and fine clothes, thereby making them tired and nervous, and not competent to do their duties to those entrusted to their care.

How Tripler Bewitched the Beef-steak.

Charles E. Tripler, the famous experimenter in liquid air, recently went to Boston to visit his friend, Elihu Thompson, the electrical expert. He took with him a can of liquefied air. It was a simple looking can and might have held baked beans or cold coffee so far as its outward appearance went. But it contained a fluid so cold that a cake of ice acts on it like fire on water. It makes it boil. It is so cold that it freezes alcohol stiff, and turns mercury into a substance hard enough to drive nails with. It was a quart of the coldest thing on earth that Mr. Tripler had in his tin can, and he took it with him to luncheon, where he put in on the floor by his chair. They lunched in a hotel cafe, and ordered a steak. After it had been brought in, and while the waiter's back was turned, Mr. Tripler lifted it from the platter, opened the can and exposed the meat to the liquid air. When he put it back on the platter it was as hard as a rock.

"Waiter," called Mr. Tripler. "Come here." The waiter obeyed.

"What's the matter with this steak?" he asked anxiously.

And he lifted it from the plate by two fingers and struck it with his knife. The frozen meat rang like a bell.

"I d-d-on't k-n-now, sir," he

faltered, and he started for the head waiter on the run.

Mr. Tripler, by the way, is one of the fiercest looking men in the inventing business. His mustache is of the pirate cut, and his eyebrows bristle and meet in the middle. Therefore the head waiter approached him with almost timidity.

"Do you serve your steaks like this as a rule?" asked Mr. Tripler, as he struck the time of day on it.

"It's that fool chef," explained the head waiter as he started for the kitchen.

A few minutes later the chef appeared with the head waiter. He recognized the steak by sight at once. Then Mr. Tripler took it up and made it ring again.

"Mercy! Gracious!" ejaculated the chef, piously crossing himself. "I didn't do it, sure!"

Then Mr. Tripler smiled, and Mr. Thompson laughed. A new steak was ordered, and the frozen one was carried below to fool the rest of the kitchen.—*The Saturday Evening Post.*

Those juicy pies that mother makes,
With light and flaky crust,
Will bid defiance bold for aye,
To any pastry trust.
—*Philadelphia North American.*

Some Curious Facts.

The director of the United States mint has nearly completed his estimate of the world's gold production for the year 1898. The data at hand seems to warrant conclusion that production will amount to at least \$294,000,000, and possibly \$295,000,000. Africa leads all other countries with \$80,300,000, Australia second with \$67,500,000, and United States third with \$64,163,000. Canada, including the Klondike, \$14,000,000. In 1897 Africa produced \$58,306,000, with United States second with \$55,363,000, and Australia third with \$55,684,000. Canada, including the Klondike, \$6,027,000. The total for that year was \$267,505,000. In the estimate of the production of the United States during the last year \$3,524,000 came from Alaska. In 1896, and for nearly fifty years previously, the United States occupied the first place in the world's production of gold. In that year the output of the world was estimated at \$202,682,000.

In the King of Saxony's museum at Dresden there is a cherry stone upon which, by the aid of a microscope, more than one hundred faces can be distinguished.

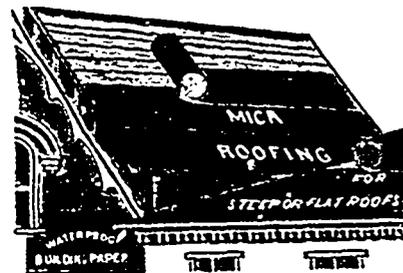
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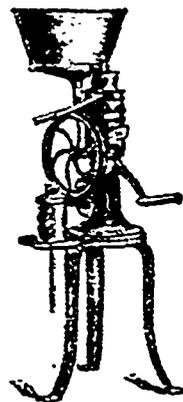
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Newest Fancies in Stocks and Collars.

Since the days of high stocks and collars there is no end to the variety. Several of the fashionable women at Newport this year have been seen in the morning with dark linen collars and cravats on white shirt-waists, instead of the reverse, as has been so long the fad. These collars and stocks are of dark red, brown or blue linen of the very finest quality, and are made with the little turned-over top, just as the white collars are. They are made with a tie attached of the same material, which is crossed over behind and tied in front in a small bow. These new collars and stocks are the latest thing here, and set off a white morning waist to perfection.—*Fdith Lawrence, in the July Ladies' Home Journal.*

In the Spring.

In the spring the young man's fancy
Lightly turns to thoughts of ease,
While the old man beats the carpet.
Floating in the morning breeze.

In the spring the apple blossoms
Send their fragrance o'er the hills,
And the barns are freshly coated
With the flaming circus bills.

Mrs. de Fashion (to her new Chinese cook): "John, why do the Chinese bind the feet of their women?"
John: "So they not trottee 'round kitchen and bothere cook."

Visitor: "You oughtn't to keep the pigs so near the house."
Countryman: "Who?"
Visitor: "It isn't healthy."
Countryman: "That's where you're wrong; them pigs ain't never had a day's illness."

"To whom do you belong?" was the question put by King Henri IV. of France to a stranger of common appearance.

"To myse" was the respectful answer.

"Friend," said the King, "you have a foolish master."

A New England Episcopal bishop met a young minister at a social gathering and was introduced.

"Ah, Mr. —, I am pleased to meet you. I am told that you are a Congregationalist."

"Ah, well, Mr. —, excuse me, but while I recognize you as a gentleman, I cannot recognize you as a Christian."

"That is all right, bishop. While I can recognize you as a Christian, I cannot recognize you as a gentleman."
—*Exchange.*

A little girl who was trying to tell a friend how absent minded her grandpa was, said: "He walks around thinking about nothing, and when he remembers it, he then forgets that what he thought of was something entirely different from what he wanted to remember."
—*Exchange.*

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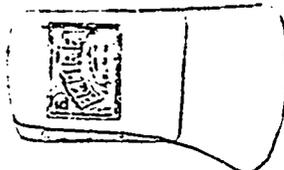
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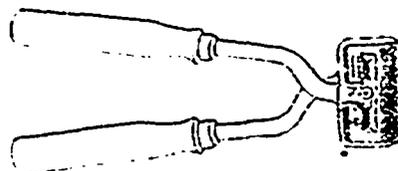
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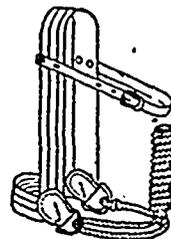
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QUESTIONS AND ANSWERS

Yorkshire Pigs.

A. J. W. wishes to know the origin of Yorkshire pigs and their characteristics.

There is very little definite information available as to how the breed of Yorkshire pigs, as it is now generally known, originated. There were pigs called Yorkshires many years ago in the north of England, but they were, as a rule, very big, coarse animals, that required a long time to mature, and were totally different from the present style of Yorkshires. In Great Britain at the present time, white pigs are classified as large, middle, and small whites, the former being the same as our Yorkshires, the middle, a shorter pig of more quality, and the small whites practically the same as our Suffolks, a short easily-kept sort. There is no doubt that there was much indiscriminate crossing between these three sub-varieties before the herd books were started, the middle white especially, being used to give greater quality to the coarser large pigs, until now we have the Yorkshire, which the bacon curers have designated as a good model for their export trade. It is also said that Berkshire blood was sometimes used to introduce quality, and some countenance is given to this theory by the occasional discovery of dark spots on the skins of some Yorkshires.

Let the origin of Yorkshires be what it may, they certainly originated in the north of England, chiefly in Yorkshire, and are to-day, thanks to the skilfulness of their breeders, a breed that have done much to bring the pigs

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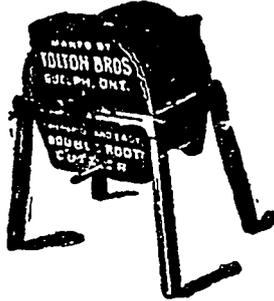
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of this Dominion up to the standard required by the pork-packers who cater to the British trade. Their principal characteristics are great length and depth of body, a back not too wide, and of even width from ham to shoulder, and carried well out to the tail, hams good and long, the head and jowl fine, and not inclined to thickness, the body covered with a thick coat of fine soft hair, indicating quality. As regards feeding qualities they mature early, and can be made ready for the packer in six months, or less. The middle and small whites mature very easily, but they lay on too much fat for the requirements of the present day, and are, also deficient in length.

Prizes for Dairy Essays.

We have received from Mr. George Hatley, Brantford, Ont., secretary of the Cheese and Butter Association of Western Ontario, the following notice regarding the awarding of prizes for essays on cheese and butter making, mention of which was made in these columns a few weeks ago. The total amount offered is \$200, and the prize essays will be read at the Annual Convention of the Association, which takes place in Stratford on January 16th, 17th and 18th, 1900:

"Best essays on butter making, by butter makers, who have been employed in any creamery in Ontario, west of Toronto, during the year 1899 or by their assistants. Professors, instructors, and persons employed by any of the judges, are debarred from competition. First prize, fifty dollars; second prize, twenty-five dollars; third prize, fifteen dollars; fourth prize, ten dollars. Judges — Aaron Wenger, Ayton; H. H. Dean, Professor of Dairy Husbandry, O.A.C., Guelph; Arch. Smith, Butter Instructor for the Association and Director of the Strathroy Dairy School.

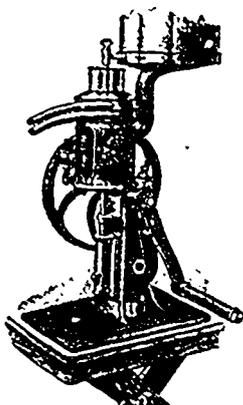
"For the best essays on cheese making, open to cheese makers who have been employed in the making of cheese in any cheese factory in Ontario, west of Toronto, during the year 1899, and to their assistants. Professors, instructors and persons engaged by any of the judges, are debarred from competition. First prize fifty dollars; second prize, twenty-five dollars; third prize fifteen dollars; fourth prize, ten dollars. Judges—R. M. Ballantyne, Stratford; J. N. Paget, Canboro'; James Morrison, Cheese Instructor of the Association, and at the Ontario Agricultural College.

"The essays must be forwarded to me not later than Saturday, January 6. The prize essays on butter and cheese making, will be read and discussed at the Convention. The Directors hope that very valuable instruction will be derived from these essays."

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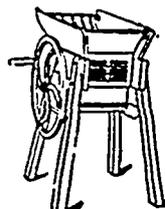
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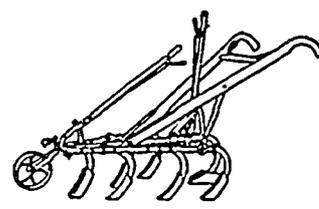
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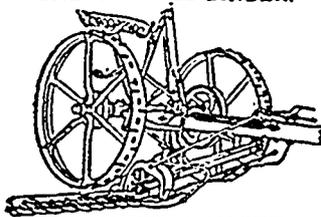
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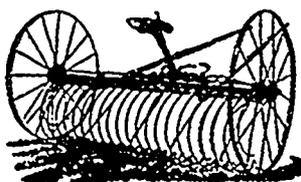
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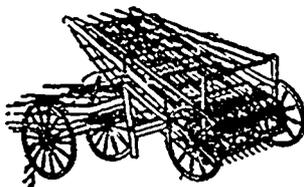
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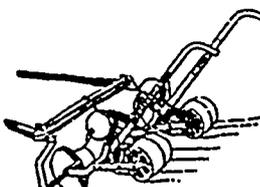
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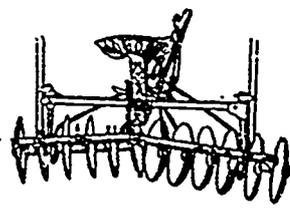
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Electrifying Eggs.

A Minnesota electrician is said to have devised a method of preserving eggs by electrifying them. The eggs are painted with an airproof composition, after the air within them has been exhausted, and are then submitted to a current strong enough to destroy germ life.

A Meat-Eating Nation.

In the eating of meat the United States heads all nations. Not less than 11,000,000,000 lbs. of meat are used there yearly, or 147 lbs. to each person. Five thousand million pounds is beef, 4,000,000,000 lbs. is pork, and 800,000,000 lbs. mutton. The United Kingdom stands next with 100 lbs. per inhabitant. Norway uses 80 lbs.; France, 77; Spain, 70; Germany, 64; Switzerland, 62; Belgium, 61; Austro-Hungary, 60; Russia, Portugal, and the Netherlands, 50 lbs. each; Italy, 24 lbs.

Farmers' Institute Report.

The annual report of the Superintendent of the Farmers' Institutes for Ontario, for 1898-99, has been published, and like its predecessors contains a lot of valuable information. The number of institutes is 96, in addition to two Women's Institutes. The total membership in July last was 16,808, as compared with 16,624 in 1898. The number of meetings held was 677, an increase of 19, at which papers and addresses were delivered to the number of 3,133. The total attendance, so far as reported, was 119,402. The institute having the largest membership is South Waterloo with 510.

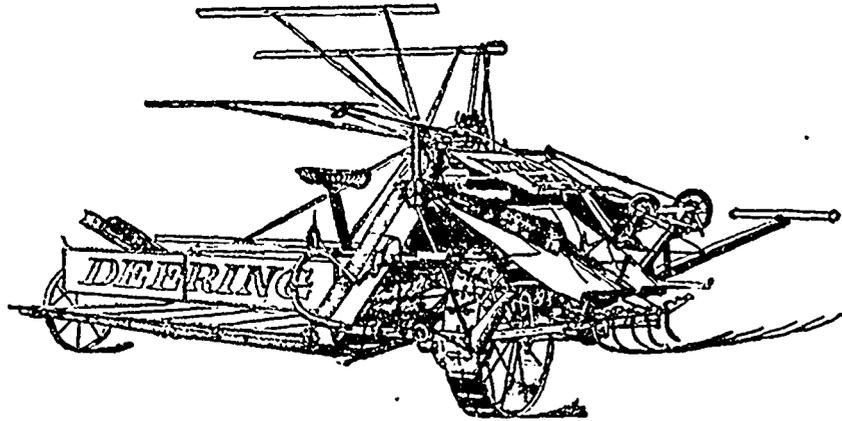
A valuable feature of the report is the numerous instructive and practical papers on all phases of agriculture. A number of illustrations are used and the whole forms a valuable treatise dealing with agricultural problems of vital interest to the Canadian farmer.

New Rules Southdown Registry.

The attention of breeders of Southdown sheep who yet have animals from unrecorded ancestors in their flocks, is called to the fact that after January 1st, 1900, no pedigrees will be accepted for registry in the American Southdown Record that are not of the immediate descendants of those heretofore recorded. Under the rules now in force animals that are purely bred and tracing in all their crosses to flocks of reputable breeders in Great Britain or to those already recorded, provided their sires and dams, grand sires and granddams, are eligible and are also recorded, will be accepted for registry until January 1st, 1900.

This means that an animal from unrecorded ancestors may, until January 1st next, be recorded, providing their sires and dams, and grandsires and granddams are recorded at the same time. It further means that after that

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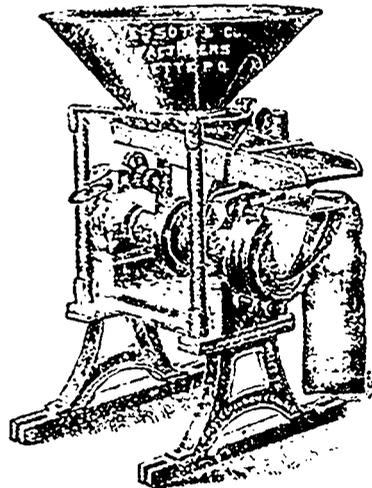
Are Made in the Largest Factory in America.
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Ahead of Them All

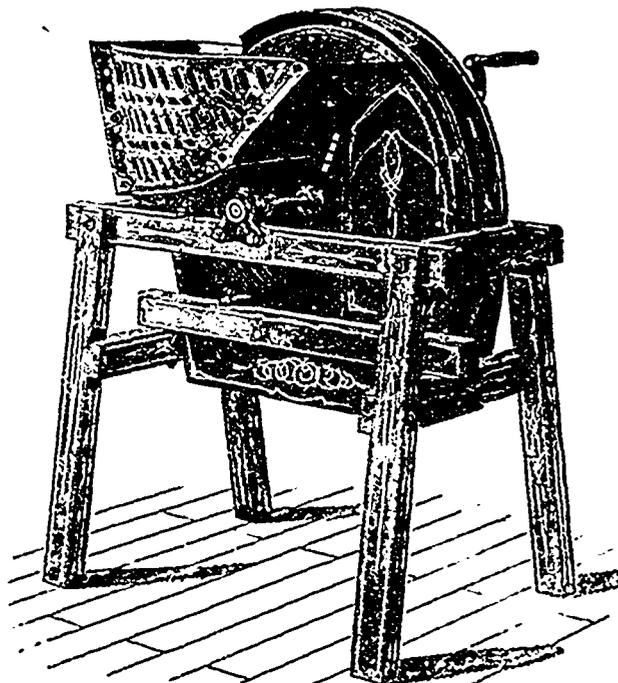
The Champion Grinder, Model '99

is the most improved grain grinder; it is strong, compact, simple and durable; large surface bearings, automatic oilers, and sand-cleaning device.

Made in four sizes.

Write for Catalogue.

S. VESSOT & CO.,
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New Root Cutter (Pulper and Slicer combined)

THE NOXON CO.

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Ingersoll, Ont.

MANUFACTURERS OF

HIGH-CLASS FARM IMPLEMENTS

Please write for
Price List and Descriptive Catalogue

date no Southdowns can be recorded unless they trace in all crosses to stock already recorded and all intermediate ancestors are also recorded.

There are some good flocks of Southdowns that are eligible and can be recorded during the month of December, and that cannot thereafter be recorded. These sheep ought to have been heretofore recorded during the years that have been open to their owners for this purpose, and it is nothing but fairness to the breeders who have for years kept their flocks recorded and by this modern and necessary manner, looked to the interest of the breed, that the line between animals eligible to registry and those not eligible has been drawn. It will be well then for those interested to note that applications for registry of Southdowns that will be barred from registry after January 1st must be filed during December.

Wool in Central Illinois.

Central Illinois is getting to be a great centre for wool growing and wool buying. Sangamon County has increased its number of sheep during the past year more than 29 per cent., and Springfield wool buyers have handled 1,000,000 pounds of wool during this season. This is more than one-fourth the clip of the State. Of the amount bought at this point 665,000 pounds have been here manufactured and sold, and 335,000 pounds are now, in November, on hand.

J. G. S.

Toronto Poultry Show.

Remember that the Toronto Poultry Show takes place next week. It will, without doubt, be one of the best shows of its kind ever held in this Province. A good prize list has been prepared and a splendid show of the leading kinds of farmers fowls may be looked for. Dr. Bell 536 Ontario street, is Secretary and will be pleased to give information to prospective exhibitors

Stock Notes

The American Shorthorn Breeders' Association seems to be in a very flourishing condition. The annual meeting was held on Nov. 1st last. The total receipts for the year amount to \$64,342.72 and the expenditures were such as to leave a balance in the treasury of \$16,006.16. There was paid in prizes a sum equal to \$4,140. \$5,000 will be expended this year at Chicago on Shorthorns and the same amount at Kansas City. J. H. Pickrell, Springfield, Ill., is secretary of the association.

FINE BERKSHIRES.—T. C. Cox, Brantford, Ont., is still to the front in Berkshires. His herd comprises some of the finest specimens of the breed to be seen in Canada. His 1st prize aged sow, Fashion 5818, at London last September, is a fine type. She is of immense size and weighed close to 800 lbs. last September. She raised a litter of 12 pigs in April. She is of great length and depth, with smoothness of body and a beautiful head. Mr. Cox has a

IF THE RANG "KICKS"—SO WILL THE COOK



Without A Hitch!

Day in and day out
Year in and year out

The Aberdeen

FOR COAL AND WOOD

The Victorian

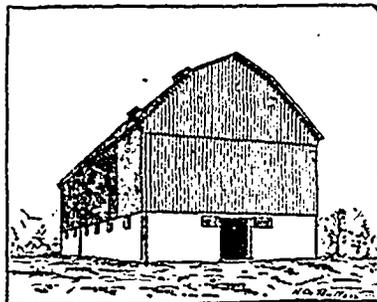
FOR WOOD ONLY

Operate with perfect satisfaction—like a true friend always to be depended upon. Cooking is a veritable pleasure—and they're easy on the coal bin and the wood box. Write for a descriptive Booklet.

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BRANCHES—TORONTO AND HAMILTON

Thorold Cement...



Do you intend building Barn Basements, or Stable Walls, or Walls of any kind? If so, use "Battle's Thorold Cement," which can truly be called the

Farmer's Favorite Cement

Mr. J. V. Cooper, of Cedarville Stock Farm, Picton, Ont., the well-known breeder of Shorthorn Durhams and Oxford Down Sheep, who used a large carload, says: "Your cement is a credit to you, and I am more than pleased with my concrete wall."

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FINE BANK OFFICE, COURT HOUSE & COLLEGE STORE FITTINGS.
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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 cents 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.

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SCHOOLS.

TORONTO

Situations

In the business field are constantly opening to those who are qualified to fill them.

THE
Central Business College
TORONTO

received these call's for help within three days from Oct. 30th.—Bradstreet's Agency, lady, stenographer H. H. Williams, Real Estate, young man, clerk and stenographer; J. D. King & Co., lady, stenographer; Gowans, Kent & Co., lady, bookkeeper; King, Darrell Produce Co., young man, bookkeeping and stenography. Our students secure such places as soon as they become qualified for them. It will pay to prepare for them. Correspondence invi ed.

W. H. SHAW, Principal

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Write—R. E. GALLAGHER, Principal.

STRATFORD.

Winter Term opens Jan. 2.

Central Business College

STRATFORD, ONT.

A large advertisement is not necessary to tell you that we have the best commercial school. Get our catalogue. It gives you full particulars. In one month 34 of our recent students notified us that they had taken good situations. We have a staff of nine male teachers.

W. J. ELLIOTT, Principal

couple of her last spring's sows for sale, and could spare one or two of the October litter. Parties desiring good types of Berkshires with excellent bacon qualities could not do better than secure some of Mr. Cox's breeding.

SCOTCH SHORTHORNS FOR CANADA.—With respect to the recent shipment per the S.S. *Kastalia*, of Shorthorns by Messrs. Alfred Mansell & Co., Shrewsbury, to Mr. John Miller, of Brougham, Ontario, from the well-known herd of Mr. William Morr, of Uppermill. They comprised half-a-dozen fashionably bred heifer calves of great promise from some of the most noted Uppermill tribes. Mr. Miller's purchases include an Emma, by Mr. Duthie's old stock bull, Count Arthur, from Emma 25th, a daughter of the celebrated bull, William of Orange. This is a stylish well-grown calf, exceptionally well bred. Another nice calf is the dark roan by Spicy Monarch, but quite one of the best is an Alexandrina 24th, by Captain of the Guard. This heifer is of the same family as the American show bull, Gay Monarch, and should be a distinct acquisition to the Brougham herd. The old Maud tribe is represented by a daughter of March 37th, and sired by Spicy Robin, and the Missies have a good representative from a Scottish Archer cow mated with Captain Inglewood, one of the high priced bulls at Perth. Another nice calf is a Goldie by Royal Fame, the sire of the highest priced bulls at the Collynie-Uppermill joint sale this year. This is a straight, well-grown calf of much promise.

Publishers' Desk

Fence Weaving Record.—On Thursday, November 23rd, at the Scotten Estate, Sandwich West, Mr. John Allen succeeded in smashing all fence-weaving records, and placing to his credit the remarkable record of weaving in ten hours 120 rods of ten wire fence, with No. 12 cross-wires, fifteen inches apart. The machine used was the Gem Fence Machine manufactured by McGregor Banwell & Co., Windsor, Ont.

A Handsome Catalogue.—We have received a copy of the fiftieth issue of the dairy catalogue published by R. A. Lister & Co., Limited, Dinsby, England. It is elaborately gotten up and contains a fund of information of value to dairymen. This enterprising firm are largely extending their business in Canada. Some twelve months ago they shipped from England many thousands of dollars worth of special plant for the manufacture and repairs of "Alexandra" and "Melotte" cream separators. This is meeting a long felt want in supplying repairs at low cost. The firm have a branch at Montreal and one at Winnipeg and in addition are operating two creameries, one at Brandon and one at Morris, Manitoba, thus closely identifying themselves with the Canadian butter trade.

A New Belting Material.—A test of interest to all users of belting for the transmission of power has been going on during the past week in the Montreal *Herald* press rooms. Upon installing its new press the *Herald* placed the contract for the necessary belting in the hands of R. A. Lister & Co., Ltd., dairy engineers, of that city, who fitted up the press room with their patent waer-proof coronet belting, claimed to be both stronger and cheaper than leather. The strain on this belting was made extremely severe by reason of the machinery being new, and of certain necessary arrangements of the pulleys, which threw an unusual strain on certain of the belts. The firm felt confident that their belts could stand this trial, and the test was watched with interest for several days by interested parties. So far the result has been completely satisfactory to all concerned. There has been no slipping of the belts or straining of the material, and as it is claimed that time and use affect these belts less than leather, it would appear that Messrs. Lister have control of a most valuable article.—*Montreal Herald*.

Madame Roy's IRON-ARSENIC TABLETS

(With Tansy and Pennyroyal)

Prepared from the original French formula, Nature's Sure Tonic for Women. The only infallible tonic and monthly medicine. \$1.00 a box, six boxes for \$5.00.

THE MADAME ROY MEDICINE CO.,
411 1/2 Parliament St., Toronto.
(Canadian Agency)

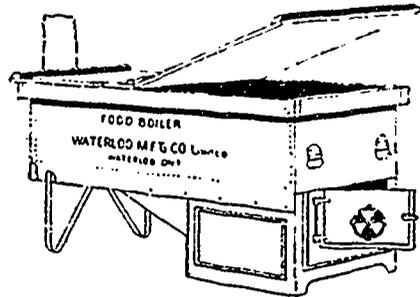
Western Dairy School,

STRATHROY, ONT.

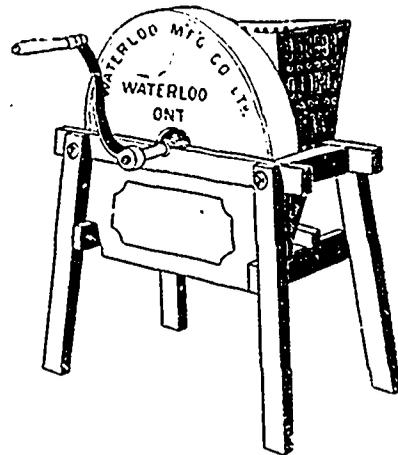
School will re-open for Factory Courses Jan. 4th to March 31st. Special Creamery Course, Dec. 4th to 22nd. Instructors: Chas. O. Luton, cheese-making; G. R. Johnson, separators and butter making; Arch. Smith, milk-testing and home dairy. The best of attention will be given to makers and others who want instruction. Send at once for circular and forms of application to

ARCH'D SMITH,
perintendent Dairy School,

Food Boiler



Root Pulper



Side Wheel or Cylinder—Steel Shafts fitted with roller bearings—Reversible Knives. Can be used as Slicer or Pulper.

Write for circulars.

WATERLOO MANFG. CO.

LIMITED

WATERLOO, ONTARIO

Market Review and Forecast

Office of FARMING,
Confed. Life Building,
Toronto, Dec. 11th, 1899.

This week brings the same old story in regard to business generally. Trade continues brisk and in wholesale circles a good business is passing. One of the features is the expansion of trade in British Columbia, Manitoba and the Lower Provinces. Orders from those districts show large increases over last year. Money continues firm and call loans are reported at 6 per cent. Discounts on mercantile paper remain at from 6c. to 7 per cent.

Wheat.

The wheat situation shows considerable improvement on the week. There has been an advance of 1c. to 2c. at Chicago which caused a firmer feeling in the situation here. The visible supply of wheat in Canada and the United States last week shows a decrease of 58,000 bushels, as compared with the week previous. This is the first time this has occurred for many weeks and may indicate a check in the increase of supplies. The world's wheat supply in sight is 79,218,000 bushels against 80,796,000 bushels the week previous and 50,818,000 bushels this time last year, showing an increase of 29,978,000 bushels. The Argentina crop is being eagerly watched by those in the trade. Should it meet with any mishap there would likely be a rapid rise in prices. So far, however, the indications are that the crop will be harvested in good shape. Interior wheat movement in the United States is light. There has been little speculation on the market of late though some "bullish" reports are noticeable. At Montreal the feeling is better owing to improvement in outside markets. Red winter wheat is firmer at Ontario points. The market here is steadier. Red and white are quoted at 65c. west. Goose wheat is in demand for export at 67c. to 69c. west. On the Toronto farmers' market red and white brings 67c. to 68½c., spring sife 68c. to 69c., and goose 68c. to 69c. per bushel.

Oats and Barley.

There have been liberal receipts of Canadian oats in England of late and business continues steady. Business at Montreal is quiet, though throughout Ontario a fair amount has been done, the quotations reported being 25½c. high freights and 26c. low freights. Oats are steady here at 27c. for white east and 25½c. to 26c. west. On the Toronto farmers' market oats bring 28½c. to 29½c. per bushel.

Barley rules quiet. Quotations here are 38c. for No. 2 and 39c. to 40c. for No. 1 west. On the farmers' market barley brings 42c. to 43c. per bushel.

Peas and Corn.

The English market for peas is quiet. The Montreal market is steady. Quite a lot of peas are reported to be in farmers' hands. Peas are firmer here at 58½c. east and 57½c. west. On Toronto farmers' market peas fetch 60c. per bushel.

There is little change in the corn situation. Corn is in demand by American feeders. American corn is quoted here at 40c. to 42c. on track.

Bran and Shorts

Ontario winter wheat bran is quoted at Montreal at \$15 to \$15.25 in car lots. Manitoba bran at \$14.50 to \$15 in bags and shorts at \$16.50 to \$17 as to grade. City mills here quote bran at \$14 and shorts at \$16 in car lots f.o.b., Toronto.

Eggs and Poultry.

Canadian eggs continue in good demand in Great Britain and prices have advanced a 6d. during the week. On this side the market is firm for both fresh and dry-pickled stock. New laid eggs are quoted at Montreal at 21c. to 23c. in cases and higher for smaller lots. Receipts are fairly large here. Fresh eggs bring 18c. to

19c. and held stock 15c. to 16c. in large lots. On the farmers' market new laid eggs fetch 30c. to 35c. per dozen.

The colder weather has improved the trade in dressed poultry. A good demand exists at Montreal for choice dry-picked turkeys at 8½c. to 9c. and 9½c. in large lots. The quotations for choice dry-picked chickens are 7c. to 7½c., ducks 8c. to 8½c., and geese 5c. to 6½c. per lb. in large lots. In a wholesale way chickens here bring 25c. to 40c. and ducks 45c. to 65c. per pair, and geese 5½c. to 6c. and turkeys 8c. to 9c. per lb. On Toronto farmers' market chickens bring 40c. to 75c. and ducks 50c. to 80c. per pair., turkeys 9c. to 10c. and geese 6c. to 7c. per lb.

Potatoes.

The cool weather has created a further stillening of values for potatoes, and carloads are now quoted at Montreal at 45 to 50c. per bag. Car lots are offered here at 38 to 40c. per bag. On the Toronto farmers' market potatoes fetch 40 to 50c. per bag.

Apples.

The apple market continues somewhat dull and unsatisfactory owing to the continued arrival at the large centres of poor fruit. This is especially the case at Montreal, where sales are reported as low as 35 to 75c. per bbl., and in one case 15c. per bbl. for wasty, rotten shipments. Until these are cleared off the market for good apples will be somewhat dull. Some lots of sound fruit have changed hands at Montreal during the week at \$2 to \$3 per bbl. Cable reports show little change from that reported last week, and there is a good demand for choice fruit. On the Toronto farmers' market apples bring \$1 to \$2 per bbl.

Hay and Straw.

The general hay market is still active and steady, though it is reported that the high prices paid for hay for South Africa have made it difficult for dealers to do business. \$6.50 f.o.b. country points east is the quotation reported for No. 2 quality. Quotations at Montreal are: No. 1, \$9.50 to \$10.50; No. 2, \$7.50 to \$8; and clover, \$7.50 per ton. No. 1 timothy is quoted here at \$8.50 to \$9.50 for cars on track. On Toronto farmers' market hay brings \$9 to \$11.50 per ton as to quality; sheaf straw, \$8; and loose straw, \$4 to \$5.

Seeds.

There is a large export movement in American seeds. Prices at Montreal are: Red clover, 8 to 9c. per lb.; flax seed, \$1.25 to \$1.50; and American timothy, \$1.25 to \$1.50 per bushel. On Toronto market red clover brings \$4.25 to \$5; alsike, \$5 to \$7; and white clover, \$7 to \$8 per bushel.

Cheese.

The cheese situation has assumed a decidedly firmer tone, and English buyers are raising their cable limits considerably, showing that they are willing to come up to prices asked by holders on this side. The abnormal shortage in the English make, and the light stocks held in Canada, are responsible for the firm condition of the market. 100 tons of New Zealand cheese have arrived in England, which is a month earlier than usual. It is not likely, however, to leave any depressing effect upon the market. At Montreal values are about ¼c. better than last week, and sales of finest Septembers and Octobers are reported at 12c. and other grades at 11½c. to 11¾c. per lb. Holders are now asking 12¼c. for finest western Septembers, and 11¾c. for finest eastern Septembers.

Butter.

The butter market continues firm and active, with an advance in prices over last week. Stocks on this side are light and the supply of milk at the winter creameries is reported in many places to be fully 50 per

cent. less than at this time last year. With this prospect of light supplies of winter creamery it is expected that there will be no more than enough made to supply the local trade. The English market is firm, as the *Trade Bulletin's* London cable of December 7th shows. It reads thus:

"The market is firmer and 3s. to 4s. higher. Choice Canadian creamery is quoted at 101s. to 104s., and fancy lots 105s. to 106s. Good to fine, 96s. to 100s."

Montreal prices have advanced ½ to ¾c. per lb. on the week, sales of choice to fancy creamery having transpired at 21 to 21½c. and 22c., per lb. and secondary grades, 20 to 20½c. Exporters claim that these figures are too high for export business, and that 20½c. is the outside limit. Western dairy butter is hard to obtain at Montreal, where selected lots bring 18 to 19c. in large quantities.

Prices continue firm here, owing to light receipts. Creamery tubs bring 21 to 22c. and prints 22 to 23c. per lb. Choice dairy tubs bring 17 to 18c. and lb. rolls 18 to 19c. in large lots. On Toronto farmers' market lb. rolls bring 20 to 25c. each.

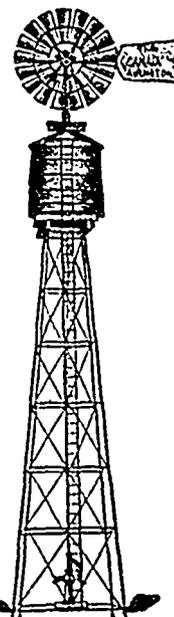
Wool.

The spurt in wool circles ten days ago slacked off somewhat last week. Holders as soon as the advance came, immediately raised their figures with a consequent falling off in business. Some country dealers are reported to be asking 5c. per lb. more than exporters can pay. The market generally speaking is firm and active. Local prices here ranged from 15 to 16½c. per lb. At Montreal Canadian pulled is quoted at 21 to 22c. and fleece at 19 to 20c. per lb.

Cattle.

Generally speaking the cattle situation is about the same. There is a good demand at all the leading American markets for prime beef cattle and for Christmas beef with the supply below requirements. Under-grades have as a rule been dull and in some cases lower. What the market wants is real prime well-finished cattle. The receipts of live stock at the Toronto cattle market on Friday were not large. There was an improvement in the quality of the fat cattle offered and there were several lots of good cattle which sold readily at firm prices. Trade was fairly steady

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Pumps, Tanks, Grind-
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Basins.

Ont. Wind Engine and Pump Co., Limited
TORONTO, ONT.

all round with a few Christmas cattle bringing higher prices.

Export Cattle.—Choice lots of these sold at \$4.50 to \$4.80, and light ones at \$4 to \$4.25 per cwt. Heavy export bulls sold at \$3.80 to \$4.35, and light ones at \$3.25 to \$3.50 per cwt.

Butcher's Cattle.—Choice picked lots of these, equal in quality to the best exporters but not so heavy, sold at \$4.25 to \$4.50. Good cattle at \$3.70 to \$3.85; medium at \$3.35 to \$3.50; common at \$3 to \$3.20, and inferior \$2.60 to \$2.80 per cwt.

Feeders.—Choice well-bred steers, weighing 1,050 to 1,200 lbs. each, were scarce with prices firm at \$3.75 to \$3.85 and \$4 for short-keepers. Rough steers of the same weights were more plentiful and sold at \$3.40 to \$3.60 per cwt. Light steers, weighing 800 to 900 lbs. each, sold at \$3.20 to \$3.40 per cwt. Feeding bulls for the byres sold at \$2.75 to \$3 per cwt.

Stockers.—Supplies of Canadian stockers at Buffalo have been smaller of late and the market has ruled stronger and higher. At Toronto market on Friday yearling steers, weighing 500 to 600 lbs. each, were easy at \$2.60 to \$2.75, while heifers and black and white steers of the same weight sold at \$2 to \$2.60 per cwt.

Milk Cows.—The cows offered on Friday were generally of fair quality. Prices were firm and ranged from \$30 to \$50 each.

Calves.—Receipts have been light at Buffalo during the week and values rule high, there not being enough coming forward to overstock the market. At this season of the year there is a usual decline, but this season, on account of light offerings, a good demand exists. Prices at Toronto market on Friday ranged from \$4 to \$10 each.

Sheep and Lambs.

Erick Bros., live stock commission, East Buffalo, in their weekly market circular, have this to say in regard to Canadian lambs:

"On Monday the good to choice lambs sold at \$5.40 to \$5.50, with the bucky and coarse lambs at \$5.25 to \$5.30; since then values have strengthened fully 10 to 15 cents a hundred and to-day the bulk of the good Canadas sold at \$5.65. The buck lambs are strong at \$5 to \$5.25 and the feeling at the close was firm with a good clearance affected. There has been a good export demand for heavy lambs, but now that the weather has turned cool the trade will want the lambs a little heavier here, and I believe that shippers will not make any mistake by shipping their lambs to the market.

As far as the future is concerned, would say that the outlook is favorable; within the next two or three weeks I think the bulk of the Canada lambs will be marketed and from that period on we will have higher prices."

At Toronto market on Friday prices were easier for lambs at \$3.50 to \$4 per cwt. with a few choice export ewes and wethers selling at \$4 to \$4.25 per cwt. Prices for sheep are firm at \$3 to \$3.25 for ewes and \$2.50 per cwt. for bucks. Butcher's sheep bring \$2 to \$3 each.

Hogs.

The deliveries were heavy on Friday with prices firmer. Best select bacon hogs, weighing not less than 160 nor more than 200 lbs. each, unfed and unmatured (off cars) sold at \$4.37½, an advance of 12½ cents over last week's quotations, and thick and light fats at \$4 per cwt. Unculled car lots sold at \$4.20 to \$4.25 and Essex and Kent hogs at \$4 per cwt. Too many thick fat hogs are coming forward. The leading grades of hogs sold at Chicago during the week at \$3.90 to \$4.17½ per cwt. At Montreal packers are paying \$4.25 for all light average hogs. The *Trade Bulletin's* London cable of December 7th re Canadian bacon reads thus:

"The market for Canadian bacon is firmer and is higher, and at the improved value there is a good demand. Pea-fed lean sides 39 to 42½."

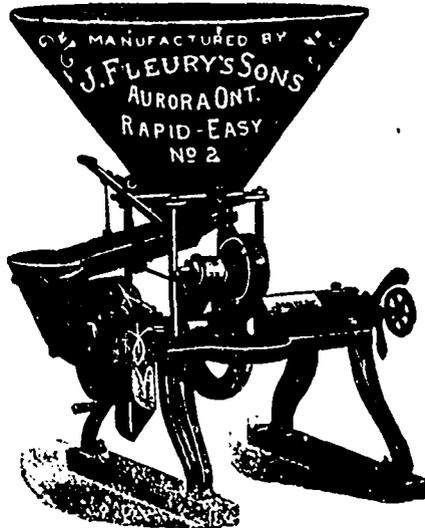
SEE OUR ...MAMMOTH WHITE TURKEYS

At Hamilton Poultry Show

H. C. GRAHAM, AILSA CRAIG, ONT

RAPID-EASY GRINDERS

Will do for YOU all that they are doing for OTHERS. We guarantee this. Read what others say. Do you ask more? Machines of TWO SIZES—either of them with 10 or 12 inch head reversible plates. Prices, terms and other information on application.



Thurso, Quebec, November 29, '09

The No. 2 R. E. Grinder which I bought from your agent here is giving me the best of satisfaction. I can grind 14 bushels of mixed grain, peas and oats, per hour with two horses weighing 1,500 lbs. than two thousand pounds, on a two horse tread power. I consider this good, and can recommend your Grinder.
PETER McATEER.

Thornton, Ont., November 29, 1899

The Rapid-Easy Grinder made by J. Fleury's Sons is everything the name implies. At Mr. Torrance's we ground 200 bags in eight and a half hours, and it did not run much heavier than a Cutting Box. I have ground over three thousand bushels with one pair of plates and they seem none the worse yet. The machine is easily set, runs quiet and never heats. There are a large number of Grinders around here, but it is acknowledged by all that the Rapid-Easy takes the cake.

D. HOLDSWORTH.

We should be glad to have your enquiry by letter or card.

On application we will send a beautiful lithographic hanger of the Rapid-Easy Grinder No. 2.

J. FLEURY'S SONS, Aurora, Ont.

Gold Medal for Plows, etc., at World's Fair, Chicago

ALEXANDRA AND MÉLOTTE CREAM SEPARATORS

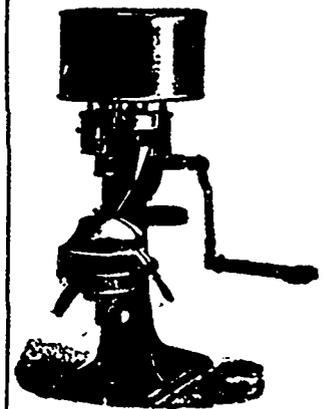
We ask all intending buyers of Cream Separators to study the merits of the "Melotte," if they want to get the best results. The "Melotte" has beaten all competitors in public working trials. Takes one-third less power. Sent on free trial.

For full particulars apply to

R. A. LISTER & CO.,
Limited

578 & 581 St. Paul St., MONTREAL, QUE.
Agents wanted in unrepresented districts

SENT ON FREE TRIAL



SATISFACTION GUARANTEED

To the Farmers

of this Canada of ours:

WE heartily thank you for the liberal and increased patronage which has made the past year a record breaker in our business.

The Dominion Report of Mineral Production for 1898 shows that the farmers and stockmen of Canada used during the year

More Queenston Cement

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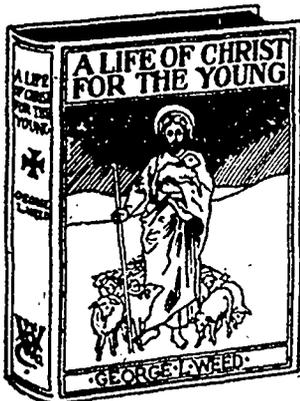
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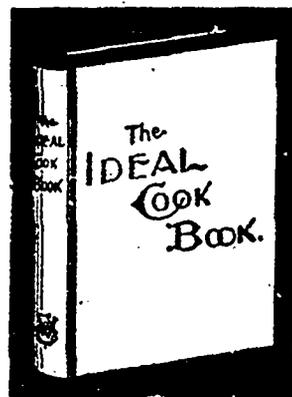
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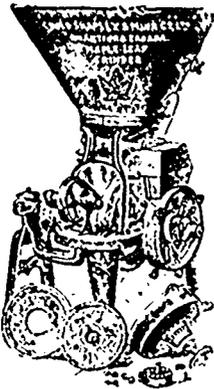
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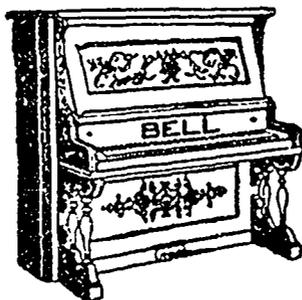
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