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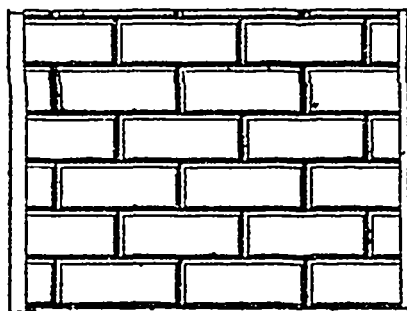
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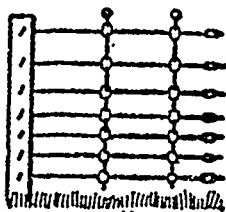
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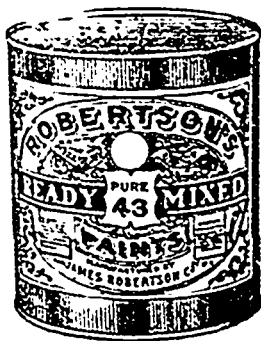


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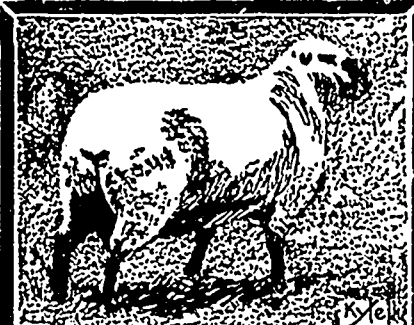
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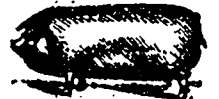
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Clydesdales for Canada.

From the issue of the *Scottish Farmer* for May 6th we take the following: Mr. Robert Ness, jun., Howick, Quebec, the well-known purchaser of Clydesdale horses, sailed from Glasgow last Saturday with three choicely-bred animals, two of which were purchased from Mr. James Kilpatrick, Craigie Mains, Kilmarnock, and one from Mr. Peter Crawford, Dargavel, Dumfries. The two horses purchased from Mr. Kilpatrick were Durward Lely (9900) and Full of Fashion (10345). Durward Lely was bred by Mr. John Fleming, Cookston Farm, Paisley, and was for some time owned by Mr. Andrew Bruce, Jordanstone. He was got by the Glasgow champion horse, Sir Everard (5353), and his dam was Mr. Fleming's well-known mare, Maggie of Crookston (2219), the dam of Mr. Wilson's noted mare, Jeanie Wilson (5153), which gained first prize at the Royal and Paisley some years ago. He is a horse of great weight and substance, and when put on the scales at Kilmarnock Station on Saturday turned them at no less than 19¾ cwt. The younger horse, Full of Fashion, was bred by Colonel Stirling of Kippendavie, and is three years old. He was got by the celebrated Cawdor Cup champion horse Prince of Kyle (7155), and his dam Heroine (11081) is a noted prize mare in the Kippendavie stud. Full of Fashion was also put on the scales at Kilmarnock on Saturday and turned them at 16¾ cwt. Full of Fashion has been a distinguished prize winner, having been first at Stirling as a yearling, and as a two-year-old fourth at Spring Show, Glasgow; third at Kilmarnock; fourth at Ayr; first at Mauchline, and second at Dunlop. The horse purchased from Mr. Crawford is Merchiston (10236), bred by Mr. Henry B. Howie, and owned successively by Mr. Alex. Scott, Greenock, and Mr. William Renwick, Meadowfield, Corstorphine. Merchiston is a short-legged, thick compact horse, got by the Cawdor cup champion horse, Prince Alexander (8899), and his dam, Lothian Lassie (12188), is a particularly well-bred mare, got by the noted prize horse, Lothian King (6985). His granddam, again, was by the fine horse, Glendale (1668), which gained first prize at Edinburgh as a two-year-old many years ago. Merchiston gained several prizes when in the hands of his different owners, a full list of which is not known to us; but amongst them were first at Linlithgow, Bathgate, and Mid-Calder as a two-year-old. He was also well placed in the short leet at Glasgow Stallion Show as a three-year-old, and was second at the Border Union Show as a yearling. An examination of his pedigree shows that probably no better bred horse than Merchiston has ever been exported to Canada. All three horses are of the type which Mr. Ness has all along fancied, being short-legged, very thick, and very stout, and they are likely to be popular in Canada.

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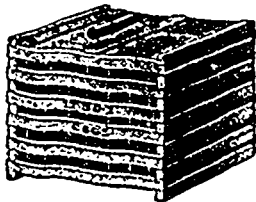
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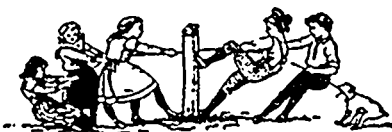
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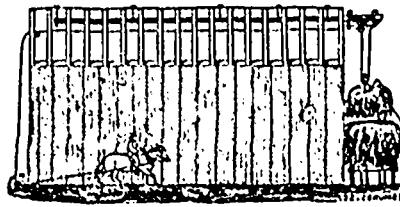
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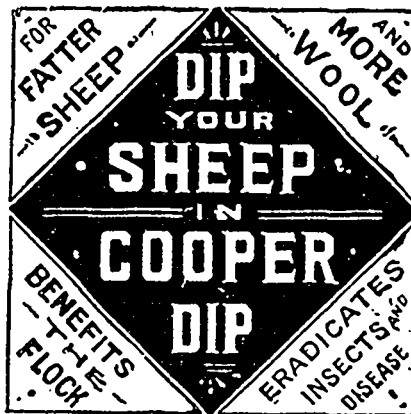
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FARMING

VOL. XVI.

MAY 23rd, 1899.

No 38

Quality Counts

In no other business or calling does the quality of the product produced count for so much as in farming. We are afraid that many farmers do not realize the importance of this. The farmer is differently situated in this respect from the manufacturer or producer of other than purely farm products. A manufacturer may decide to make an inferior quality of goods which he can afford to sell at a lower price because they do not cost as much to produce as the best quality. But the farmer cannot do this. If he produces an inferior product he has to take an inferior price, but with this difference, that it costs him as much to produce a poor quality as the best quality. For this reason the farmer cannot afford to produce an inferior article and should aim to produce only the quality that will command the highest price. Unless he does so he cannot hope to make his business a profitable one. It costs as much to raise a poor horse, an inferior beef animal, a scrumpy sheep, and a second-class hog as the very best of these animals, and they will not bring nearly as much on the market. So we say the keynote to successful farming in this country is to produce the highest quality of product. This accomplished and the success of the agriculturist is assured, and instead of having to look for a market the market will come to him.

Dishonest Apple Packing

Dishonest fruit packers came in for a well deserved and timely exposure at the hands of the Hon. Mr. Fisher and Professor Robertson, before the Agricultural Committee of the House of Commons last week. The latter gentleman told the committee that the Canadian apple trade in Great Britain was in a bad way owing to lack of care, lack of skill and lack of honesty in packing the fruit, and in proof of this showed samples of fruit found on board a disabled ship in which at either end of the barrel were choice specimens of apples, while the centre was filled with inferior windfalls of small size and quality. Mr. Fisher also stated that thousands of barrels of dishonest Ontario apples were sent to England last year, much to the disgrace of Canada and to the ruination of our prospects for further trade in this line.

These statements, coming from such authoritative sources, cannot be gainsaid. That such gross frauds have been perpetrated is a lasting disgrace to this country and a libel on the fair name of Canada. Effective measures should be put in operation to prevent their occurrence the coming fruit season. Legislative action should be taken and the chief offenders located and severely punished. There is a law on our statute books that imposes a fine upon persons who fraudulently expose goods for sale, such as having the good strawberries on the top and the inferior ones at the bottom of the basket, and why could it not be used to punish offenders found guilty of sending goods to Great Britain which are not what they are represented to be?

This may seem somewhat severe treatment, but there is no other effective way of dealing with persons who perpetrate such frauds. Moral suasion or sentiment does not carry any weight when such dishonest actions are in question. When an individual has no higher sense of honesty than to deliberately water the milk he sends to the cheese

factory or creamery, or to practise such frauds in packing apples as has been stated, nothing will prevent his continuing to do so other than the strong arm of the law. The difficulty will be, however, to trace the offender. As Mr. Fisher pointed out it would be practically impossible for inspectors to look up fraudulent cases at the seaboard, as the inspection of the fruit before shipment on the vessels would entail the opening of every barrel and dumping the apples out, which would mean a great loss to honest packers. If every packer were compelled to put some distinguishing mark upon each barrel by which the dishonest packer could be traced up and punished, the practice would soon cease. During the apple season, when thousands of barrels are being packed and shipped every day, it would take a whole army of officials to see that every barrel was honestly packed. The difficulty then of getting at these dishonest parties is therefore very great, but, nevertheless, some method should be adopted to prevent their repetition the coming season.

It must not be taken for granted from the foregoing that all the fruit-packers in this province are dishonest. There may be only a few guilty of dishonest packing, but the actions of these few are sufficient to bring the whole trade into discredit, and to make it almost impossible to develop it further. For this reason it is more urgent that summary measures should be taken and that these dishonest parties, who are not only robbing the British consumer of what he pays for and the Canadian producer of the good name which he has acquired for upright dealing, but are also robbing their neighbor who packs his apples in an honest way, in that they prevent him from getting the price for his goods which he would get if every barrel sent out of the country was honestly and carefully packed. There are times when the ordinary farmer comes in for censure because of putting the best potatoes on the top of the bag or the poorest fruit at the bottom of the basket. In connection with the export apple trade, however, it is not the farmer who has a few barrels of apples to sell, but the one who makes fruit-growing a business, who is the more guilty. And from a purely business standpoint it is hard to understand why he should be so dishonest when in the end it will react against himself. He is in the business to stay and its future success will depend upon the permanency of the future market, and which cannot possibly be developed and held if such dishonest practices as are here outlined are carried on.

Live Stock Importations

Mr. Alfred Mansell, of Shrewsbury, Eng., in Canada in the Interests of the Trade

We had a very pleasant visit last Friday from Mr. Alfred Mansell, of Alfred Mansell & Co., live stock agents, Shrewsbury, England, who is on a visit to this country in the interests of the live stock trade. Mr. Mansell, before coming to Canada, visited many of the leading cattle and sheep breeders in the United States, and speaks very encouragingly of the outlook in that country. He will visit some of the leading breeders in Canada, chiefly the Shropshire men, in whom he is more particularly interested. Last Saturday he spent at Brooklin looking over the Hon. John Dryden's stock

farm. From there he intended to go to John Miller's, Brougham, and John Campbell's, Woodville, having previously paid a visit to Mr. Richard Gibson, Delaware, Ont. Before returning he will spend a day with the Hon. Sydney Fisher at Ottawa, and while there will visit the farm of W. C. Edwards & Co., at Rockland.

Mr. Mansell has already received a number of orders for imported stock, chiefly Shropshire sheep. He has also one large order for Hereford cattle for a Canadian breeder and expects to have more orders of this nature. He says that Canadian sheep and cattle breeders are confident as regards the future, and are looking forward to a very large business in these lines in Canada.

Mr. Mansell thinks that the regulations regarding the tuberculin test at the port of entry into Canada too stringent and a great hindrance to the importation of purebred cattle into this country. As he aptly pointed out, we cannot hope to improve our beef cattle trade without bringing in imported stock, and to have this trade hampered by these regulations, when there is a difference of opinion in regard to the reliability of the tuberculin test, is a serious matter. Of course, Mr. Mansell speaks in regard to this question as a layman and not as a veterinary authority. But, even so, his wide and practical knowledge of the cattle trade makes his opinion on matters of this kind very valuable. He expressed the view that many leading veterinary authorities did not fully understand the test, and while this was the case it would be unwise to adopt stringent laws that might mean a wholesale slaughter and destruction of some of the best herds in Great Britain. This view is also held by many of those who have the making of the laws in the Old Land.

Cheap Money for Farmers

With the advent of better times the farmer may not feel so pinched for a little ready money to buy good stock and carry on his farming operations in the very best way as a few years ago. While this is true in a very large measure, there is still a need in this country of some easy means whereby the farmer can obtain loans of small amounts of money at a reasonable rate of interest when the occasion demands. To make the most out of his farm the farmer must have good stock and be in a position to work his land so as to produce the very best results. A great many Canadian farmers are so situated at the present time—though it is likely the improved business conditions throughout the country have improved matters very much—that they are unable to procure the ready money to buy the right kind of stock, etc., and consequently are not able to take advantage of the improved demand for good horses, cattle, and other kinds of stock. If means were provided whereby the honest but struggling farmer could obtain a few hundred dollars at a reasonable rate of interest for the purpose of procuring first-class stock, etc., it would not be long till we should see a marked improvement in the material position of the farmer in this country.

This question is receiving some attention in the agricultural press of Great Britain, where it is thought the assistance of a little capital would enable the smaller farmers to conduct their business in a much more profitable way. On the continent there is what is known as the Agricultural Banks System, established for the benefit of the farmer. A new law has recently come into force in Denmark, the object of which is to enable agriculturists to procure capital for working their farms. The operation of this law is outlined in a recent issue of the *London Rural World* as follows:

It appears that a demand for the formation of such a society must be sent in by not less than fifty proprietors, owning at least 500 head of cattle, to the General Council of the province, which nominates from among them a president and four members of council; the latter only serve provisionally until a council can be duly elected at a

general meeting. At this general meeting, also, the statutes are drawn up for sanction by the Government. These statutes must, if the society is to benefit under the law, contain certain provisions, of which the following are the more important: The sole object of the society is to lend money to its members, in order to defray the current expenses of farming. Members may not belong to a similar loan society. The total amount which a member can borrow is determined by the council, and is based upon the normal number of cattle which his farm can support, but the members are free to fix their "borrowing capacity" at a lower sum. Members on joining pay 1 krone (about 1s. 1½d.) per head of cattle to the reserve fund; this sum bears no interest. The sum to be borrowed by any member may not exceed 56s. per head of cattle, or £167 in all. The amount of the loan is determined by the administration. The loan must be repaid in nine months; additional sums may be granted up to the above-mentioned limit, but with this exception no fresh loan will be granted within a month after repayment of the previous one. The money is lent upon a simple bond. The rate of interest must be the same for all the members, and may not exceed 4½ per cent. per annum. Any profit during the year goes to the reserve fund; any loss is defrayed by the members, according to their borrowing capacity, up to 50 ore (6¼d.) per head of cattle, any further deficiency being met out of the reserve fund. The reserve fund must not exceed 11s. per head of cattle; a surplus beyond this amount must be treated as capital, and the interest utilized in reducing the rate charged to members. Members can withdraw from the society at any time, remaining, of course, liable for any loans not repaid; but their entrance money is not returned, except in case of death, or unless the society is wound up. The society's funds must be deposited in a savings or other bank. The statutes cannot be modified without the consent of the Minister of Agriculture, and the society is subject to his inspection. The dissolution of a society must be voted at two general meetings, at fifteen days' interval, by a majority of the whole number of members.

Such loan societies can borrow from the State a circulating capital, not exceeding 33s. 4d. per head of cattle, at 3 per cent. per annum. This loan must be repaid if the society ceases operations, and in any case ten years after the law comes into force. Members are liable for its repayment in proportion to their borrowing capacity. Bonds of members are exempt from stamp duty. Provision is made in the Budget for the inspection of societies, which is organized by the Minister of Agriculture.

Dairy and Beef Forms

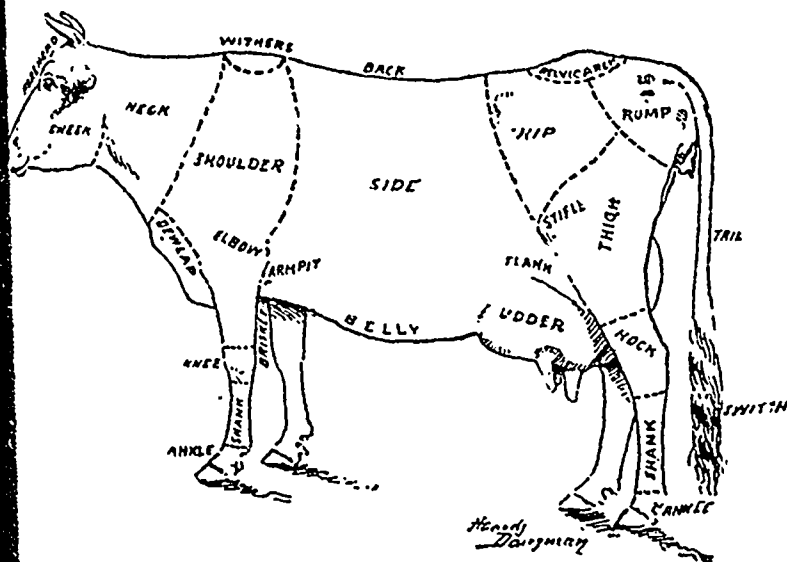
We reproduce in this issue two diagrams, the one representing the dairy form being taken from *Hoard's Dairyman* and the other outlining the beef form from the *Breeders' Gazette*. The diagram of the dairy form and the data connected with it were prepared by C. L. Beach, of Storrs Agricultural College, Conn., to show the outlines and points for judging and selecting the dairy cow. He outlines a score card, which we reproduce below, and in which an attempt has been made to incorporate the following ideas:

- 1st. The dairy cow must have a large digestive capacity, and hence a long, deep and well sprung barrel.
- 2nd. Milk is a manufactured article, and the need of roomy laboratory or udder is apparent.
- 3rd. Milk is secreted in the udder from the blood, and hence the size of the milk veins becomes an indication of the amount of blood that can be carried through and away from the udder.
- 4th. The digestion of a large amount of food and its subsequent manufacture into milk must class the dairy cow as a hard-worked and wonderfully active animal. The need of a well developed nerve system to guide, superintend and control the functions of the highly developed organs of digestion and secretion is imperative.
- 5th. The dairy cow must then be spare, depleted of all superfluous flesh, in order to be an economical and persistent milker.

STRUCTURAL POINTS FOR JUDGING THE DAIRY COW.

Indications of a Large and Economical Producer.

- | | | |
|--------------|---------------------|---|
| FRONT,
13 | } 6 | Wide between eyes. |
| | | Eyes prominent and bright. |
| | | Wide juncture of brain and spinal cord. |
| | } 1 | Muzzle wide. |
| | | } 6 |
| | Fine neck and head. | |
| | | Brisket V not U shaped. |



OUTLINES AND POINTS FOR JUDGING AND SELECTING THE DAIRY COW.

- | | | | |
|---------------|------|---|---|
| MIDDLE,
20 | } 10 | Barrel long and deep, with well sprung ribs | |
| | | } 4 | Milk veins prominent, extending well to front, eye-let large. |
| | } 4 | | Backbone prominent. |
| | | | |
| | | Ribs and vertebrae wide apart. | |
| | | Chest deep. | 2 |
| REAR,
34 | } 17 | Udder { Extend well to front and up behind, must not be too fleshy, teats even and squarely placed. | |
| | | | } 4 |
| | } 8 | High arching flank and cat ham. | |
| | | } 4 | |
| | | | |
| | | | 67 |

Indications of a Persistent Milker.

- | | |
|---|-----|
| Lean, spare, light front and rear quarters, scant crops, lacking superfluous, flesh | 33 |
| Total | 100 |

The data connected with the diagram of the beef form were originally prepared for Bulletin No. 71, "Some Essentials in Beef Production," U.S. Department of Agriculture, by Prof. C. F. Curtiss, Director of the Iowa Experiment Station. In explanation of this diagram Prof. Curtiss says:

"The location of the crops is indicated by No. 14. They lie on either side of the spinal column, just back of the top of the shoulders. They should be full so that the back and shoulder will be evenly joined at this point; the front ribs should also be well sprung in the region indicated by No. 12 below the crops in order that there may be no marked depression behind the shoulders and that the heart girth measured around parts 12, 14 and 31 may be full. The location of the twist is at the back part of the thigh, at about the point indicated by No. 21. The desirable conformation here is a thick, full thigh as viewed from the

rear, of good width and prominence, giving a symmetrical quarter. The dairy breeds are always very deficient in twist, being thin and what is termed "cat-hammed." This conformation affords ample room for the development of a good udder.

"The term 'fore-flank' is not used in this diagram, but it is represented by the part just back of the elbow joint which is located at the upper line of No. 28. It also extends back for some distance to about the point indicated by No. 31. The top and bottom lines as well as the side lines should be nearly parallel in a model beef animal. In reality, however, this is seldom attained in the lower line. Fullness at both front and hind flanks and at heart girth (31) will insure a good lower line, and fullness and evenness of neck, crops, back, loin and rump will give a good upper line; this is what is meant by good top and bottom lines. Fullness and evenness of the parts at 9, 12, 13 and 19 will give a good side line."

A close examination and comparison of these two forms will, we think, give a good idea of what are required in dairy and beef animals. Whether it would be possible to combine these two in a dual-purpose animal we will leave our readers to judge. A spirited discussion took place during the past few months in the two journals mentioned above, the editor of the former championing the special-purpose cow, and Prof. Thos. Shaw in the latter upholding the dual-purpose cow. Aside from producing an exceedingly interesting and in many ways a profitable discussion, no definite conclusion was reached, and so the question is still open for settlement.

How Minnesota Dairying is Regulated

We in Canada pride ourselves upon the strictness of our laws regulating the dairy industry. But we are safe in stating that we can lay no claim to anything more exacting than the following, taken from a circular recently sent by the milk inspectors of Minnesota to the dairymen of that State:

The milk and dairy laws of the State forbid, under penalty of a fine from \$25 to \$100, or imprisonment from 30 to 90 days, the sale of milk that comes under any of the following descriptions:

- 1—Taken from cows that are kept in filthy, unventilated stables.
- 2—Taken from cows that are unclean or filthy.
- 3—Taken from cows that are diseased.
- 4—Taken from cows within fifteen days before or five days after calving.
- 5—Which has been watered or skimmed, or which has less than 3.5 per cent. butterfat.
- 6—Which is contained in unclean cans.
- 7—That is watered, impure, unhealthful, adulterated or that is skimmed or sour.

With this circular is a statement in which the commissioner notifies the dairymen that an inspector has reported him for having violated one of these provisions and that he must desist at once or become liable to the penalty the law provides.

Farm Cream Separators

By T. C. Rogers, Late Instructor in Butter-Making, Ontario Agricultural College

"I have recently looked over the average results of 150 trials made at the Ontario Agricultural College at intervals during a period of five years, to ascertain about what the actual loss of butter fat in skim-milk is when the cream is separated by gravitation, that is, when the milk is set in shallow pans, or in deep cans set in water and ice, or when separated by centrifugal force applied with the cream separator. About 7,600 lbs. of milk was skimmed by each method during the five years. The milk was mixed, weighed and divided before it was set or skimmed. Every

precaution was taken to get as good a separation of the cream as possible. The shallow pans were set in a cool cellar having a cement floor and the milk skimmed carefully at the end of thirty-six hours. Plenty of ice was used at all times to cool the milk in the deep cans below 45° F., and it was let stand twenty four hours before skimming. The portion of milk to be run through the separator was separated while the animal heat was in the milk.

The following table will show the loss of butter-fat in the skim-milk by each method of separating the cream :

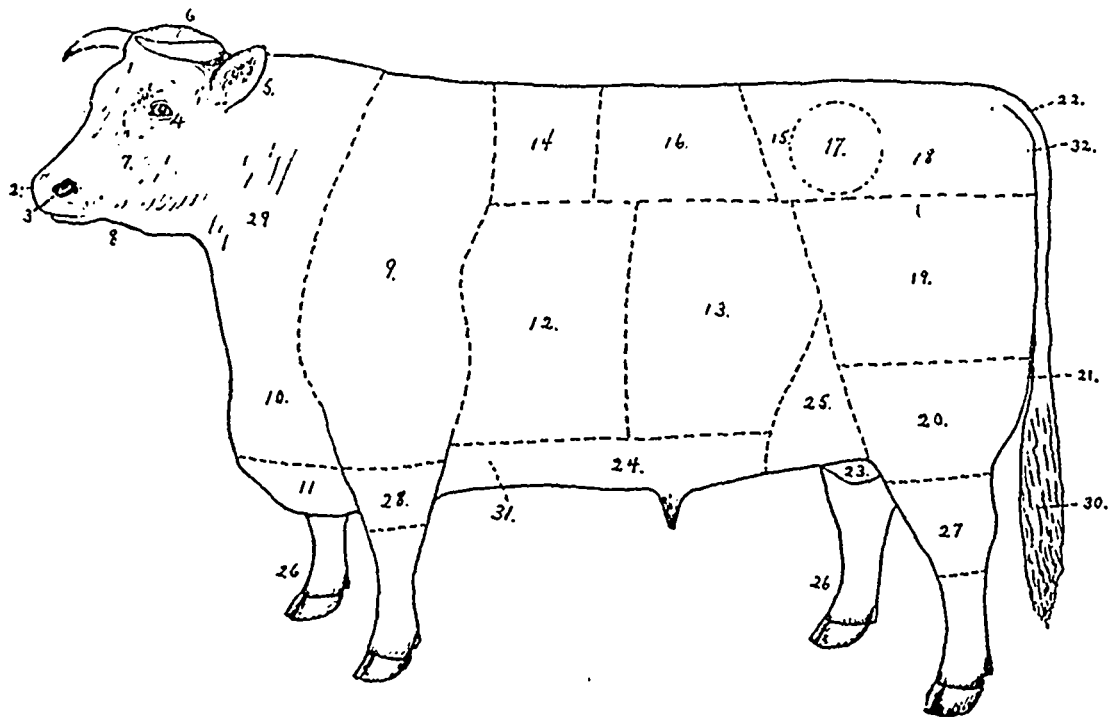
No of tests.	Lbs. of milk skimmed.	Method of skimming.	Average of butter-fat lost in skim-milk.
150	7,600	Shallow pans.	.38 p. c.
150	7,600	Deep setting.	.31 p. c.
150	7,600	Separator.	.10 p. c.

Investigations were also made to determine the loss of butter-fat in skim-milk at thirty-six farm dairies. Ninety-six samples were tested, and we found an average loss of .90 per cent. of butter-fat in the skim-milk, which was equal to one-quarter of the total fat in the milk before being skimmed. I have tested a great many samples of

No.	19 tests	.055 %	butter-fat left in the skim-milk.
" 2	40	.072	" "
" 3	31	.025	" "
" 4	16	.030	" "
" 5	14	.068	" "
" 6	19	.05	" "
" 7	17	.056	" "
" 8	15	.057	" "

This shows that the average leading cream separators, properly handled, will skim very close. A separator that will not skim down to less than one-tenth of one per cent. is not considered by separator men nowadays to be a good skimmer.

Another experiment was conducted to test the merits of the Hydro-Lactic Cream Separator for raising the cream. This separator, as it is called, is simply a small well-constructed vat, into which the milk is poured, and an equal quantity of well water is mixed and allowed to set three or four hours to raise the cream. We made thirteen trials and allowed the diluted milk to set from six to twelve hours before skimming it. The average loss of butter-fat



POINTS IN THE BEEF FORM.

1. Forehead and face. 2 Muzzle. 3. Nostrils. 4. Eyes. 5 Ears. 6 Poll. 7. Jaws. 8 Throat. 9. Shoulders. 10. Chest. 11. Brisket. 12. Fore ribs. 13. Back ribs. 14 Crops. 15 Loin. 16. Back. 17. Hooks. 18. Rump. 19. Hind quarters. 20. Thighs. 21. Twist. 22. Base of Tail. 23. Cod Purse. 24. Underside. 25. Flanks. 26. Legs and Bone. 27. Hocks or gambrels. 28. Forearms. 29. Neck vein. 30. Bush of tail. 31. Heart Girth. 32. Pin bones.

skim-milk for farmers, at different times, that were not included in these experiments, and found the loss averaging about the same. If this is a true indication of the loss of butter-fat in skim-milk at farm dairies, then throughout the country the cream or butter-fat in every one-fourth of the milk is wasted, because one-quarter of the butter fat in the milk of all the cows is lost in the skim-milk.

Average normal milk contains about 3.6 per cent. of butter-fat, and 100 lbs. of such milk will make 4 lbs. of butter. If the butter is valued at 15 cents per lb., the butter-fat would be worth 16.66 cents per lb. If we value the butter-fat lost in the skim-milk according to its value for making butter sold at 15 cents per lb., the loss of butter-fat from the separator method would be 1.66 cents; deep-setting, 5.14 cents; shallow pans, 6.3 cents; and from the farm dairies 14.9 cents per 100 lbs. of skim-milk.

The butter-fat lost in the skim-milk has a feeding value, but it is doubtful if it is worth more than good linseed or oatmeal that may be bought for 2 or 3 cts. per lb. It is certainly more economical to recover or separate all of the cream or butter-fat from the milk to make butter, and use good meal as a substitute to feed the young stock.

The following table will show how the leading separators will recover the butter-fat :

was .6 per cent. Another lot of the same milk was diluted in the same way and set in ordinary cooling cans, but not set in water, the loss being .62 per cent of the butter-fat; and in a third lot, not diluted with water, but set in water and ice, we found the loss to be .68 of one per cent. of butter-fat.

This experiment shows that there is no advantage to be gained by using this separator, or vat, but that it is a disadvantage because the skim-milk is inferior for feeding purposes, especially for young animals. The young animal that should have a gallon of pure milk at one drink would have to drink two gallons of diluted milk to receive the necessary nourishment. Then there are bacteria in some waters which produce very bad flavors, and the flavor of the cream and the butter would be injured just in proportion as the water added to the milk was pure.

These experiments will show your readers that there is a great loss of butter-fat when any kind of method is adopted to raise the cream by gravitation, and that by the use of the centrifugal cream separator there is practically no loss.

Persons using the shallow pans must provide a cool, clean place in which to set the milk. Many have not such a place. With the deep setting method, an abundance of ice must be used to cool the milk below 45° F., other-

wise the cream will not rise. Then, at the time of skimming, great care must be exercised or there will be considerable loss of cream even when the cream has risen.

With these methods the farmer is liable to continual losses, but by the use of the centrifugal cream separator these losses are prevented, and the skim-milk from the separator is warm and in its best possible condition for feeding the young stock. These machines will yield from half-a-pound to one-and-a-half pounds of butter per cow each week more than if the cream were raised by gravitation. Many can testify to the truth of this statement. The following table will show what this gain will amount to in one year from one or more good cows :

No. of Cows.	Gain of Butter per week. Lbs.	Value at 15 cts. per lb. of butter. Cts.	Gain of butter for 40 wks. or about 9 m'nths. Lbs.	Value of the butter at 15 cts. per lb. \$
1	1	15	40	6.00
2	2	30	80	12.00
3	3	45	120	18.00
4	4	60	160	24.00
5	5	75	200	30.00
6	6	90	240	36.00
7	7	105	280	42.00
8	8	120	320	48.00
9	9	135	360	54.00
10	10	150	400	60.00

This table will show those who are making butter on the farm, or sending the cream to a creamery, the value of a cream separator, according to the number of cows they keep, the quantity of milk the cows give, the price received for the butter, the way they have of setting the milk, and the expense of storing ice.

The best advocates of cream separators are those who are using them on the farm. These will find it to their advantage to take not over 1-7 of the milk as cream when separating. The cream will have less skim-milk in it, and it will churn at a lower temperature; thus giving better body to the butter. By making rich cream one churning each week may be saved. Some are taking 1-5 of the milk as cream and some manufacturers recommended this, but it is a mistake, as there is more cream to churn than is necessary, besides it is harder to churn at the proper temperature. The cream should be cooled immediately after separating to 58° or 60° F., so that the butter will have a firm body. The cream not being cooled properly after separating, and before it is churned, is the cause of the butter being soft in body.

With some exceptions all of the hand separators are close skimmers, so that those who are considering the advisability of purchasing one should get the one that requires but little time to put it together, take it apart, and clean it, one a boy 10 to 12 years old can run at proper speed. Some require a half more time to set up, take apart and clean, while others are so heavy to run that a man must be about the house at milking time to operate them, otherwise they are of little use. Some are simple in construction and do not cost as much as others.

The cream separators should be carefully handled and should be covered while not in use. I suppose, however, they will suffer from bad care, as other machinery does in many places. They will be found as durable as any other machinery a farmer has to buy.

The main part of the separator is very durable, and the parts most liable to wear can be replaced at a trifling cost. I would judge from my own observation that a separator, carefully handled, will last at least 20 years.

Cannot Do Without the Market Review

Brussels, April 20th, 1899.

Please find enclosed order for subscription to January, 1900. I like FARMING well. Could not think of doing without it as a market review.

ROBT. NICHOL.

Good Roads

A bill has been introduced into the Illinois Legislature for building hard roads. The bill provides for a State engineer to oversee road construction. The State is to pay fifty per cent. of the cost of the roads built under the law, the county thirty-five per cent., and the property owners who petition for the road fifteen per cent.

Some of the farmers in the legislature are against the bill on the ground that it will make taxes too heavy. It is claimed that the objectors are the large land-holders, and that the renters should have some consideration. One of the rural representatives in supporting the bill, among other good things, said :

"To-day it costs the farmer more to get his grain to town than to send it to the market at Liverpool. I say to you, gentlemen, that in my district we farm by the sweat of our brows and not by the sweat of our hired man's brow. The statement that this is not a farmers' bill is not true. This is a farmers' bill, and when you kill this bill you kill a measure that is in the interest of the agricultural classes of our State. The farmer on his little forty acres of land is glad to pay his share of taxes for good roads, provided this rich State will do its part in the work. We know that good roads will increase the value of our property—not alone our real estate, but our personal property as well. The man in town will be benefited. There will be a freer intercourse between the man in the country and the man in town."

Raising Young Turkeys

By Mrs. Jos. Yuill, Carleton Place, Ont.

Some years ago I tried raising turkeys, but had very poor success, so I gave it up for a time. Three years ago I made another effort by purchasing a few turkeys in autumn and feeding them extra well during the winter, thus obtaining the desired effect, that of getting them to lay early in the spring, before the snow was off the ground, and making it necessary for them to lay in the house they occupied during the winter. I find that when a turkey makes her nest it is difficult to move her with satisfaction, and if they get to the fields before laying they are very apt to hide their nests, and, should the season be cold, the eggs are liable to become chilled, which is almost sure to prevent them hatching. If a turkey is well fed she should lay from twenty to twenty-two eggs, which should be gathered as soon as possible after being laid, placed on wool and turned over every day.

When the turkey hen becomes broody provide her with a box two feet square and ten inches deep, cover the bottom of the box with a sod which has been dug the previous fall and kept in a dry place. Over this spread a few handfuls of cut straw or chaff and give her two or three china eggs for two days. By this time she will have the nest prepared and warmed. I give each turkey sixteen eggs, set the remainder under a hen at same time as setting turkey, then when the young ones are hatched give them all to the old turkey, as I find they thrive better with their own than with a foster-mother.

About two days after the turkey becomes settled on her nest, dust the nest and turkey all over with sulphur. This should be repeated three times while she is setting. When the young turkeys are hatched allow them to remain in the nest twenty-four hours, then give each one one grain of unground black pepper. Then feed with a mixture made of the following ingredients: equal parts each of oatmeal, wheatmeal, cornmeal and shorts. For every quart of this mixture add one teaspoonful of soda and one of salt, damp with buttermilk, and bake in a moderately hot oven. When cold crumble fine and feed them all they will eat of it. To every twenty turkeys give one tablespoonful of ground meat per day, also all the sweet skim-milk and clean cold water they can drink.

The old turkey should be enclosed in a large, airy

coop, not less than four feet square and three feet high, placed, if possible, on a fresh plot of grass. In this coop there should be a muslin bag of sulphur hung so that the old turkey will touch the bag with her head, thus dusting the sulphur on herself and young. I keep the old turkey confined during the first week, but always allow the young ones their liberty. When the young turkeys are one week old repeat the dose of black pepper and allow the old turkey her liberty, one hour in the heat of the day. When the young turkeys are two weeks old give two grains of black pepper, when three weeks old give three grains, and at four weeks repeat the last dose. During this time lengthen the time of the old turkey's liberty so that she may have perfect liberty when her young are three weeks old. To encourage them to come home at night I feed them in their coop until they are six weeks old; by that time they have formed the habit of coming home, and we have no trouble with them staying away. Do not shut them in at night, but allow them to catch the early worm.

I do not feed any more until the middle of October, when I commence fattening them for Thanksgiving. Since adopting this method I have not lost one turkey.

The Cultivation of Corn

By H. R. Ross, B.S.A., Gilead, Ontario

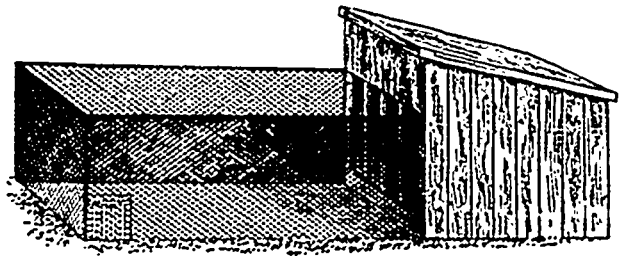
There is no truer saying than that the proper time to cultivate corn is before it is sown or planted. This fact, however, must not be interpreted too literally, as it applies forcibly only to the matter of securing a seed bed free from all other vegetation, and thereby lessening the labor of caring for the growing crop. The experience of successful corn growers everywhere is strong testimony for inter tillage and plenty of it. Moisture, so necessary to all plant growth, is especially valuable in the case of the crop which we have under consideration. We know that a bare, encrusted soil-surface is very favorable for evaporation, and nowhere are these conditions more noticeable than in a cornfield for the first few days after planting, more particularly if it is on a clay soil and a light rain has fallen.

In order to do its very best, corn requires more water than is likely to fall as rain during the main period of its growth, and to properly husband the crop it is desirable to maintain a surface mulch from the very first. There are, however, more closely associated reasons for intensive tillage, as soil soon dries out in the surface layer, and a young corn plant cannot reach moisture as required unless, by maintaining a mulch, we keep down the excessive evaporation. One of the elementary points observed in the study of soil physics is the tendency for water to distribute itself in soils, moving always from moist to dry earth in the effort to maintain equilibrium. Now, if the corn plant uses water from the soil immediately surrounding it, and, by tillage, we keep the bare space between the drills moist, we have a more thrifty growth and find the teaching of science directly supporting practice. Not only this, but in the effort to improve its conditions, the plant throws out roots in the direction of the moister earth, and is thus more firmly established, in addition to having its feeding ground increased.

The proper depth to cultivate is a point on which the last authoritative word has yet to be said, but it is quite safe to state that most farmers allow a scuffler to run too deeply. There is no apparent necessity for going down three, four or five inches, and the draft of any cultivator is far greater at those depths than if the surface only is loosened. Far more stress should be laid upon the necessity for working the whole surface, and, in the writer's experience, going twice in a row pays every time for corn during the first three weeks. No risk is incurred in running quite close to the plants for the first week or so, and if "double work" is being done so that only one side is left to watch, work fully equal to hand-hoeing may be performed. As the season advances the plants will shade

more ground, and less thorough work is required. Older plants throw out their roots through the whole soil and close to the surface, so that unless care be exercised fully as much harm as good will be done. After the first of July there can be no risk of too shallow tillage, the shallower the better, by all means, so long as a loose layer of soil is maintained.

I am by no means in sympathy with the advocates of extra late inter tillage. It may be that there is logic in their argument, but there is a profit and loss point in corn growing as well as in anything else. After the plants shade the ground fairly well, especially if the drills run east and west, the soil is kept cool enough to render excessive evaporation unlikely, and the amount of moisture which can rise to be wasted through the dense layer of roots must be light enough. It is certainly true that a loss exists, but, if the plants are thrifty, I have yet to be convinced that it will pay to add to the expense of producing the crop by sending the scuffler through again.



BROOD COOP FOR POULTRY.

There was a time when men prided themselves upon getting a bank of earth heaped round each hill of corn. Just what they expected to gain by this is rather uncertain, but from the physicist's standpoint they did a positive damage. A mound offers more surface than an area of equal dimensions on the level, hence the evaporation will be increased in the same ratio, and not only this, but the lower level would obtain moisture from below first, and the soil nearest the stalk would therefore be driest in the case of the hill method.

Docking and Castrating Lambs

The season of the year has approached when this necessary piece of work has to be done. Though it is not a very difficult task when the proper utensils are at hand, yet, if it is not done in the right way, great injury and loss may result.

The age and time when this should be done are important. Different districts have different customs, but lambs are generally castrated at all ages from two to ten weeks old. The success of the operation will depend to some extent upon the weather. Frosty weather with cold east winds and very wet weather should be avoided. Moderately warm weather is preferable to excessive heat. It is advisable to have the operation performed before midday. As to the operation itself we cannot do better than quote the following from the *London Live Stock Journal*:

Keeping in view the development of the lambs and reducing the danger to a minimum, the safest age is when lambs are between three and four weeks old. When lambs are castrated before this age, the testicles are soft and flabby, which renders clean cutting next to impossible, and when much beyond four weeks the testicles become covered with fat, which increases both the difficulty and danger of castration.

The best place in which to castrate lambs is in the open fields where they are grazing, because they are cleaner than any enclosures about farmsteadings. Occasionally, to save trouble, lambs are driven into fold yards and there operated upon without the least consideration being given to sanitation, with the result that a high death rate follows.

Microbes abound in myriads about fold yards compared with the open fields, and the severed glands of freshly castrated lambs are favorable receptacles for their entrance and development. A close-meshed wire net, with plenty of stakes to keep it in position, should be put up in a convenient corner of the field. Where there is a gateway to run the sheep through into the net it is an advantage, as they are much more easily enclosed. As soon as the gate is opened they rush through and are caught by the surrounding net before they realize the trap that has been laid for them. In this way the lambs are not run and heated, a matter which should always be carefully guarded against, and in addition much time is economized by the strategem.

The only instruments required for castration are a couple of knives and a pair of pliers. They should be scrupulously clean, and well smeared by an antiseptic before using, and even occasionally during use. The blades of the knives should be long, broad, and sharp. One should be used for the removal of the tails, and the other for slitting the scrotums. The pliers, which have recently been invented by an interesting firm, are lined with india-rubber on one jaw, so as to lessen the risk of bursting the testicles when pressed between them.

A strong man should be procured to hold the lambs, with two active lads to catch them in addition. The former should place the back of the lamb against his chest, with the fore and hind legs doubled firmly in the grasp of either hand. The holder should lean his back against a net stake, which gives him more power over the lamb; and the pressure of the rump of the latter against the chest of the former has the effect of causing the testicles to project favorably. For convenience the operator may pierce a hole in the ground at his right hand, and turn the mallet upside down with the handle in the hole, the square head of which serves as a handy table on which to lay the knives and pliers alternately as required. As soon as the lamb is in position the operator seizes the scrotum between the thumb and fore-fingers of both hands to feel if the testicles are in a natural position. If satisfied on this point, the lower portion of the scrotum should be held between the thumb and fore finger of the left hand, and the end removed from right to left by one draw of the knife. Generally the points of the testicles will protrude, and the edges of the scrotum should be pushed back by the left hand, while the testicles, one at a time, should be steadily and carefully drawn away with the pliers by the right. Care should be taken to avoid catching wool in the pliers, or the difficulty of extracting the testicles will be increased. It is very important that they should be drawn cleanly out, as broken portions frequently fester and retard healing. As soon as this is accomplished the lamb should be turned down to the ground upon its feet, and the tail severed at the required length, which is generally about 4 inches, or an ordinary handsbreadth, from the body. Drawing the testicles by the teeth is an unpleasant and antiquated custom, which will soon be numbered among the things that were. Slitting the scrotum on either side of the central division is an old and dangerous method of castration, as the blood congeals and lodges at the bottom of the scrotum, causing great pain and not infrequently death.

The antiquated system of searing with hot irons is still practised in certain districts, as well as dressing the lacerated parts with oil, etc., but, in the opinion of the writer, the less handling lambs get the better when castrated. Gentle exercise is a good preventive to ill effects following castration. The shepherd should keep moving among the lambs during the afternoon of the day on which they are castrated to prevent them lying too long, which stiffens them. By removing the end from the scrotum, very few cases of lodgment of blood occur, as it escapes easily through the open end. When it does occur, however, great stiffness in the hind-legs of the lamb is observed generally within forty-eight hours after the operation. The scrotum should be reopened, and the congealed blood pressed out, and the parts well rubbed with oil, otherwise death from inflammation may very speedily follow. It is better to bury the tails, etc., of the lambs, as when left lying about they

putrify and attract dogs, and much evil may result from such carelessness.

Sheep, Good and Bad

From Address by Prof. J. A. Craig before the Minn. Agricultural Society

To form a basis for estimating the good and bad qualities of sheep, it is best to first consider the carcass and that from the butcher's point of view. The different parts of the lamb from the butcher's standpoint show a wide variation. The neck has a value of one cent per pound, the shoulder two cents and the shanks the same. The rib running from the point of the shoulder to the loin has a value of nine cents per pound, and the same is true of the loin, while the leg of mutton, or the "giggots" as they are sometimes called, have the highest value per pound of any part, as they are quoted at ten cents. The breast, however, has the low value of two cents in Chicago markets. From these facts it will be seen that the back and the development of the leg are the most important points to criticize in the form of the fat lamb. In what has preceded, attention has been given particularly to the perfections but there are many defects worthy of being mentioned that are characteristic of fat lambs. Very often the top of the shoulder is not covered sufficiently with flesh, letting the top of the blade come out too sharp and bare. This part, for at least the length of the hand, should be flat and well covered with flesh in the fatted sheep. The ribs should spring out from the body and all should be well covered with firm flesh. The backbone should not stand prominent at any point, as it is sometimes at various points along the back. Frequently it is grooved on account of the development of flesh along it, but it is better to be perfectly flat and smooth. The loin in some lambs rises and this is specially a bad defect when it is also bare of flesh. The hind quarters frequently shrink away toward the tail head and down the high. This should not be, as the hind quarter should continue straight and full. From the hip to the hock the fat sheep should be especially strong. Not only should the leg be full and plump with the muscle on the outside, but between the legs in the twist the flesh should run well toward the hock and compel the hind legs to stand wide apart. Badly set hocks often interfere with the development of the hind quarter, and they also are as bad an eye-sore as broken pasterns.

After the form of the sheep has been gone over the quality should be noted. The cleanliness of the bone, the strength of it, and the nature of the hair which covers the face and legs should be noted. These are important features in either breeding sheep or fat sheep. It is, perhaps, most valuable from the butcher's standpoint, because the waste is less from a sheep of good quality than it is from one that is inferior, but sheep of the best quality will not dress much over fifty per cent. of their live weight. In examining the fleece the chief points to consider are the quality, quantity and condition. The best way of arriving at an estimate of the nature of a fleece is to open it first just over the shoulder. It is in this region that the finest and best wool of the fleece is found. By using the hands in a flat position, instead of sticking the fingers into the wool, the fleece may be parted in a nice way. After looking at the wool and skin in the region the thigh should be chosen for the next examination. This part usually grows the poorest and coarsest wool of the whole fleece. Then the covering of fleece on the belly is also noticed. By examining the fleece in these three parts a fair estimate of the quality may be made. In judging of the good and bad qualities in purebred sheep in the breeding classes, the subject of breed type should receive careful consideration. While it has a bearing on the judging of all classes of purebred stock, yet it is of double importance in the purebred classes of sheep. The type of the breed having been decided upon by all the breeders, it should be the aim of the breeder and the judge to recognize it; for, aside from an acknowledgment of the wishes of the breeders, it is a

point of direct value to do so. When a breeder has been uniformly bred to a type for a period of twenty years or so the type has become so fixed, that is, uniformly transmitted. Two of the most powerful factors aiding the fixing of the type of a breed are the breeders seeking to produce the animal of ideal type as represented by the scale of points and the judges conforming to it in the show ring. The result is of value to the breeding interests, as it assists in making the breed prepotent or able to transmit its characteristics with a greater degree of certainty.

As a result of our consideration of the good and bad qualities of sheep, there arises the more important problem of breeding to reproduce the former and to remove the latter. In studying the life histories of the eminent breeders I fail to find mention of a single breeder of note who was not considered in his day a good judge of stock. They may each have followed a peculiar system of breeding, but the universal fact is that they were all versed in the good and bad qualities of the animals they bred. While Blakewell, Collins, Bates, Booth, Cruickshank, Watson, Price, and many others followed some method of breeding, yet I believe their success to be due, in the largest measure, to their judgment of the good and bad qualities of domestic animals. I have failed to find up to this date that where success has been obtained by in-and-out breeding, cross breeding, or any other form, but that there was a man behind the system who knew well the merits and demerits of the animal he was breeding. And, further, knowing these, he made his selection to get the best blend. This is the basis of a method of breeding that arises from what has gone before. For want of a better term I have named it balance breeding, and I believe that this method has been the means of developing the good qualities and at the same time lessening and removing the demerits of our domestic animals.

The Farmer as a Horse Producer

By Professor Davenport at National Horse Breeders' Meeting.

While the farmer who is not a horseman cannot produce breeders, and should let fast horses alone, he has certain advantages as a horse producer that ought to be recognized, and that ought to shape his course.

These advantages are: First, a large amount of cheap feed, which puts this feature of the industry on much the same basis as beef production, and leads to the common statement that it costs but little more to grow a horse than to grow a steer. Second, abundant range for proper exercise of growing animals, and, third, he is himself an extensive user of horse labor. Here is an important matter.

The market calls mainly for geldings, and I take it that, broadly speaking, our farm work should be largely done by mares that are fully able also to produce a foal each year. The feasibility of this plan has been abundantly shown by experience. Farm labor is not so severe nor so constant as to preclude the use of breeding mares. In fact, the farm horse should be a breeding animal to fully occupy her time and pay for her maintenance during the long periods of short work and comparative idleness.

On a farm of moderate size I like at least one span of geldings that are always ready for any kind of work, but it is expensive to keep a horse a year for what he can do during the working season, and I have found breeding mares entirely satisfactory and far cheaper. Besides, one can afford a surplus of this kind of horse power which is frequently almost a necessity for a limited time.

I expect to meet with the objection that it is too much trouble to raise foals from working teams, but that matter is greatly magnified in men's minds. To be sure, many farmers owning both smooth and rough lands may be able to let the mares run idle and do the work with geldings, but it is possible only on cheap lands. Putting it from the

other side, the mare that is to devote a year to giving birth to a horse that will go upon the open markets to do the ordinary work of the world—that mare must do something besides all this; she must work or the horse will cost too much, and farm work is well adapted to her conditions. The farm horse that does a year's work upon the farm and produces a foal has performed no more labor than the horse that works every day in the city, or the cow that has been developed to the point of yielding two or three times as much milk as her calf would need.

Not being a horseman, this grain farmer should confine his efforts to the production of such classes of horses as require only plenty of good feed and care, but little or no artificial development. He is admirably adapted to the business of raising heavy horses, though he will not care to keep 1,800-pound mares for farm work. He can use 1,300 to 1,500-pound mares, which, if good milkers, with the proper sire, will produce an excellent class of heavy horses. With the right sires he can keep and profitably use a class of mares that will produce good delivery horses, hack and 'bus horses, and a fair grade of gentlemen's drivers. All these horses will need to be developed after leaving the farm, but it can produce the raw material and ought to do it.

Pure Air in Poultry Houses

Pure air is just as necessary in a poultry building as in any other on the farm. A great many farmers who keep poultry lose sight of this fact and wonder why their hens do not thrive as well as their neighbor's. One of the best ways to get rid of bad odors and impure air in the poultry houses is to disinfect them, and for this purpose nothing is better than a generous supply of whitewash. To make it do its best it should be used without stint on the inside and on the ceiling, on the nest-boxes, and on the roosts, and the floor may have some of it without doing any injury to it. In addition some good prepared disinfectant generously sprinkled over the roosts and the yard will destroy foul odors and will prove fatal to disease germs.

CORRESPONDENCE

Commercial Fertilizers

To the Editor of FARMING:

It is important that the introduction of new ideas, principles or materials affecting the interests of farmers should obtain prominence in the agricultural press, and be discussed in all their bearings. Mr. Wright's letter, therefore, relating his experience with the Thomas-Phosphate Powder is valuable, even though not encouraging, to those contemplating the use of this growingly famous material. However, as it is a matter of interest to hear all sides of the question, I wish to merely add a few notes from my observation and experience during the season of 1898.

I was one of a number who used part of the carload sent to Madoc. I sowed the phosphate during May on wheat, peas and oats, on both sandy loam and stiff, clay soil. I used about 125 pounds per acre in each case, and noticed quite a difference in all the crops. I took time, however, to determine particularly the results on the oats which I wished to preserve for seed. I set aside two acres of clay land for oats and sowed the seed at one bushel per acre and 125 pounds of Thomas-Phosphate Powder. The resulting crop realized 150 bushels from the two acres or seventy-five bushels per acre. I am yet looking for further results from what I have sown, although it is only one quarter the amount recommended, but I learn that when properly applied in sufficient quantity it lasts about four years.

I hope that others will give their experience.

Yours very truly,

JAS. B. AVLESWORTH.

Madoc, Ont., May 10th, 1899.

The Farm Home

Domestic Science.

A movement is on foot in the United States for the establishment of a Bureau of Domestic Science in the Department of Agriculture at Washington and in the various State agricultural fairs, colleges and institutions where best methods and appliances for the preparation of food may be presented in connection with best methods and appliances for production. Why should not something be done along this line for the Dominion? A bureau of domestic science would form a valuable adjunct to the Department of Agriculture at Ottawa or to such departments in all the provinces.

The Country Home

A Paper Read by Mrs. F. M. Carpenter
Before the Saltfleet Woman's
Institute.

(Continued from last issue.)

Americans here and there have realized that good fathers, good mothers, good children and good citizens cannot be raised in foul cupboards, which is what many of the cheap tenements in their large cities amount to, and have been investigating Europe's methods in wiping out filthy nests of dwellings and erecting in their places houses which provide comfortable homes for human beings. But here, we in the country, have nothing of that with which to contend. And yet a great deal has been said lately about unhappy marriages and the drudgery of being a farmer's wife. How uncalled for the charge—unless love, the essential of marriage is wanting. But any sensible wife, with the vows she has taken upon her, will accept cheerfully the position of housekeeper and matron, and making a home for her husband and children, whose happiness is her own. As the poet so beautifully expresses it,—

"They are my ain, and dear to me
As the heather bell to the honey bee,
Or the braird to the mountain hare."

Men and women regard too lightly the marriage tie, and too lightly break the bonds. For no cause but one should the bond be broken. Trials of temper and disposition are but part of the discipline of life, and must be met with cheerful boldness and with the strength which comes from above. Mrs. Henry Ward Beecher said, "For the woman who complained of lack of career or of a husband's neglect, she had little sympathy." Husbands might be to blame, but women, she maintained, were equally blameworthy. Home was their kingdom, where they might reign supreme if they held the sceptre with a gentle hand. "The love of kindness in the heart and the word of love on the lips." Mrs. Beecher's

work has by no means been confined to her house. Her sympathies are as wide as the world. Housekeeping and home-keeping were to her the most important work a woman could engage in, and housewives the world over have profited by her writings on the subject.

A woman's daily work should be to her a delight. Work is honorable and duty holy, but when the whole heart is in the work, and when duty is inspired by love, they rise to a higher plane, that of free, joyous activity. As for drudgery and monotony, is there none in man's work? What of the clergyman in his pastoral work, the doctor in his daily rounds, the solicitor always drawing up legal documents in the hideous legal jargon, the artist mixing his colors, the farmer and the laborer? In all walks of life there is a certain sameness day after day; but necessary work should never be drudgery to the worker. Henry Ward Beecher said: "Work is not a curse, but drudgery is when it degenerates into spiritless routine." It is not hard work or lack of money that draws lines in the face and brings the nerves to the surface; it is the way we take it and the circumstances.

"When you think your troubles hit laugh a little bit;
Look misfortune in the face,
Ten to one it will yield its place,
If you have the wit and grit just to laugh a little bit."

The country home is the ideal home. Cowper says: "God made the country, man made the town." In the country we get the pure, fresh air, the lungs are not cheated, and the eye and heart are both gladdened by the beauties of nature. What better company could be found anywhere than awaits us here? The restful verdure of grass and shrub and vine, the fragrant bloom in the garden bed and border, the sheltering trees, the fleecy, wandering clouds, the refreshing breeze, the soothing sounds of insect life, the sweet notes of birds, the butterflies chasing each other from calyx to calyx, the mysterious and incessant whispering and nodding of the leaves! Where else can one discover a scene so full of variety, animation and surpassing interest? Many people find botany a dull study, but in the country home, with the fields around and the woods near by, it will prove a source of perennial delight.

(To be continued.)

Food for Children.

By Anna Virginia Miller.

(Continued from last issue.)

When a baby is nursed it should take nothing but milk for twelve months, and when it is artificially fed this should be remembered also. The important

thing is to attain as far as possible nature's standard. A child is nourished not by what it swallows but by what it is able to digest. Giving too much food, or food in too concentrated a form is never wise. The delicate system cannot stand it, and even the strong system will sooner or later rebel.

After a child is a year old it may be allowed a grated biscuit soaked in milk or a gruel. Barley-water is good. It contains a large proportion of nitrogenous principles besides phosphates which are of great value to the growing child.

Avoid all foods containing cellulose or starch till the child has at least from four to eight teeth, for it is not till the teeth appear that the property in the saliva having the power to act on starch is developed. Cellulose cannot be digested by grown people and should never be given to a young child. A little oatmeal porridge strained, a boiled custard, cocoa, and cracker-crumbs soaked in milk may be given. But remember while the chief occupation of a child for the first few years is to eat, sleep and grow, its little stomach cannot work all the time, and therefore it is wise to feed it at regular intervals. The best proof that a child is doing well is a gain in weight, a good, healthy appearance and cheerfulness.

After the child is eighteen months old a little powdered chicken, mutton or beef broth, baked potatoes with beef juice poured over, toasted bread or crackers, rolled crumbs soaked in broth, simple puddings, as cream of tapioca and arrowroot and a boiled egg may be added to the dietary.

An exceedingly simple diet should be given up to the seventh year. School children should not be burdened with food that they cannot digest, at a time when much strength is called upon to meet mental demands. If on going to the other extreme a child cannot receive the required amount of nutrition it is in no condition to attend school, and the case should be referred for medical investigation.

The following menus will serve as guides to suitable combinations to give young growing children during the first few years of school:

BREAKFAST.		
Oatmeal.	Oranges.	Cream.
Baked Fish.	Whole Wheat Bread Butter.	Stewed Potatoes.
	Cocoa.	
DINNER.		
Broiled Beef Steak.	Mutton Broth with Rice.	Baked Potatoes.
Fruit Jelly.	Stewed Celery.	Water.
	Grapes.	
SUPPER.		
Sponge Cake.	Cream Toast.	Baked Apples.
	Milk.	

BREAKFAST.		
Wheat Germ.	Apples.	Cream.
Gems.	Broiled Beef Steak.	Butter.
	Scalloped Potatoes.	
	Milk.	
LUNCHEON.		
Whole Wheat Bread.	Cream of Celery Soup.	Butter.
Rice Pudding with Apple Sauce.	Cocoa.	
DINNER.		
Roast Beef.	Clear Soup.	Mashed Potatoes.
	Lettuce Salad.	
	Tapioca Cream Pudding.	
	Water.	
(To be continued.)		

How to Starch a Shirt.

After they have become "bone dry" put the shirts, collars and cuffs through a wheat starch made by pouring foaming hot water over a smooth batter obtained by stirring wheat flour and cold water together until it is the consistency of thin cake batter. This should be boiled slowly for two hours and then strained through a cheesecloth to leave it perfectly free of lumps. Add to each quart of boiling starch a teaspoonful of white wax, such as is especially prepared for laundry use.

The secret of a good smooth finish to stiff-starched clothes is in the method of starching. This must be carefully done. Spread a shirt-bosom over a clean board, and with a piece of thin cloth rub the starch into the bosom with strong, firm strokes. There should not be a wrinkle in the linen after it is thoroughly wet and starched, and all superfluous starch is wiped off with a cloth. The wristbands and neckbands are treated the same way, and the shirt is again hung out to dry. When it is thoroughly dry—"bone dry" again—the shirt and collars and cuffs are dipped for a moment in boiling water and quickly wrung through the wringer, with the rollers pressed as tight together as they can be turned. The pieces should now be left to stand for at least two hours before they are ironed.—*The Gentlewoman.*

Care of Woollens in Summer.

This is the time to put away heavy furs and woollens, for the moths are already beginning to fly. If furs and clothing are put away with moth eggs in them, all the odors in the world will not save them, as any furrier will tell you. The time when the eggs are laid is when the warm spring days come and the heavy garment is hung in the closet, but not put away for fear it may be needed again. Then perhaps it is worn once or twice and then hung up again, and in the hurry of spring work forgotten until the moths are noticed. Then the furs are taken out hastily, perhaps brushed a little, and put away smothered in camphor or something else as useless and expensive. In the

fall, when the clothes are taken out, there is a wailing, and nobody can understand how it happened, when the clothes were put away so carefully and such a lot of moth stuff used.

The proper way is to lay the heavy clothing in a chest as soon as it is not in daily use, but so that it can be taken out and worn when cold days come. When the cold weather is quite gone, then every article should be taken out and hung on the clothesline on a clear day; if there is any wind, so much the better, as the dust will blow away. After beating with a light switch of some kind brush the clothes carefully. Never put clothes away with soiled spots on them. Scour them all out. When all the clothes are beaten thoroughly and brushed and cleaned, fold each article separately, and with care as to the folding. Then see that the chests are absolutely tight, that there are no cracks in them anywhere. If there are, paste newspaper over the cracks and see that there is not even the smallest crevice for the moth to enter, for if there is one she will surely find it. Wrap up each article separately, either in old sheets or in old towels or in papers; see that all are absolutely clean. Pack them in with care, so that they will not be crushed or wrinkled, and spread a sheet over the top and tuck it in closely all over the things. Close the chests, and, if there will be no need to open it during the warm season, paste paper over the edges of the cover. But if it closes tightly there will be no danger from moths. That is the whole secret of keeping woollens safe from moths.

Everyday Recipes.

LOBSTER SALAD.—Cut one pint of lobster meat in dish, season with a French dressing and keep it on ice until ready to serve, then mix with half of the mayonnaise dressing. Make nests or cups of the crisp lettuce leaves. Put a large spoonful of the lobster in each leaf, with a tablespoonful of the mayonnaise on the top. Garnish with capers and pounded coral, sprinkled over the dressing, and with lobster claws and parsley round the edge.

CREAMED OYSTERS.—In a saucepan put two tablespoonfuls of butter, four tablespoonfuls of flour, one scant teaspoonful of salt, one-third of a teaspoonful of white pepper and a dash of cayenne. Place all over a moderate fire until thoroughly blended; add gradually one and one-half cupfuls of scalded milk and stir until smooth and thick. Cover and set aside. In a clean saucepan put one tablespoonful of butter, an eighth of a teaspoonful of mace, an inch of thinly pared lemon rind and fifty oysters which have been picked over, washed and drained. Shake over the fire until the oysters are well plumped and ruffled. Draw forward the sauce, add to it the oysters with the juice which has exuded from them, stir all together for a moment, and serve.

TOMATO SOUP.—Boil together for a half hour a quart of tomatoes and a pint of water. Have ready in a double boiler a quart of milk heated to the boiling point. Mix together a tablespoonful of flour and two of butter, mix with a little of the hot milk and

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Isaac Usher & Son, Queenston, Ont.

stir gradually into the whole of the boiling milk. Cook ten minutes. Add to the tomato a half teaspoonful of soda. Stir well and rub through a strainer fine enough to prevent the seeds going through. Add salt and pepper, then pour the tomato into the milk and serve at once in hot plates. A little whipped cream added when serving is an improvement.

VEGETABLE SOUP.—Scrape and slice three carrots, three turnips and three onions. Fry in a little butter until they turn yellow. Add two pieces of celery sliced and fry a few minutes longer. Add a clove of garlic, a sprig of parsley, a bay leaf, two cloves, salt and pepper. Cover with three quarts of water and let the mixture simmer slowly for two hours. Strain and serve.

CREAM CANDY.—Take one pound of white sugar, one cupful of water, one-half teaspoonful of cream tartar, two teaspoonfuls of vinegar, two teaspoonfuls of vanilla, butter the size of an egg; boil until it hardens when dropped into water. Pour upon a buttered platter and, when nearly cold, pull.

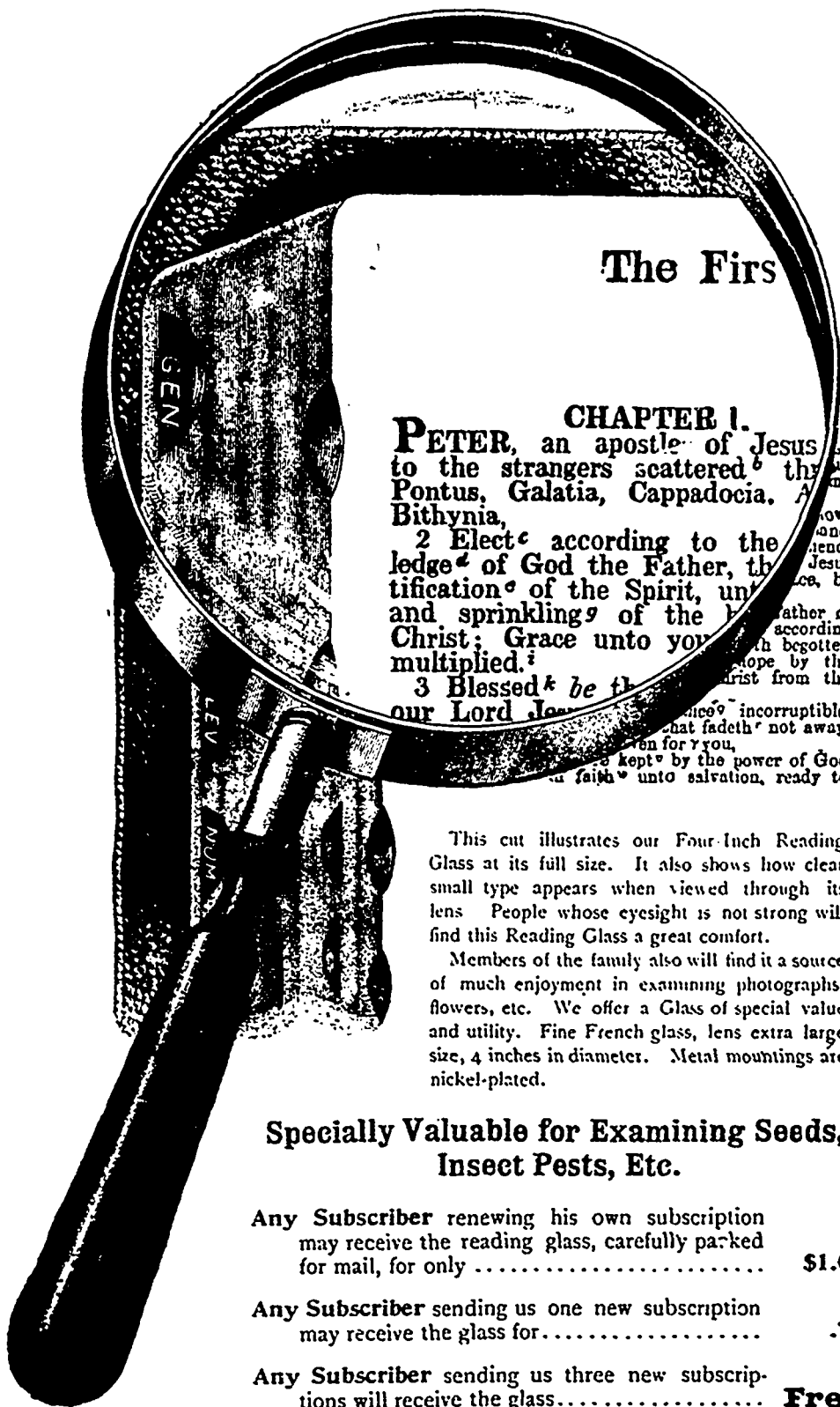
RHUBARB PIE.—Pour boiling water over two teacupfuls of chopped rhubarb, drain off the water after four or five minutes, and mix with the rhubarb a teacupful of sugar, the yolk of an egg, a piece of butter and a table-spoonful of flour, moistening the whole with three tablespoonfuls of water. Bake with the lower crust only, and make a meringue of the white of the egg with three tablespoonfuls of sugar; spread over the top of the pie, and return to the oven to brown

High-Priced Herefords.

A recent issue of the *Kansas City Daily Drovers' Telegram* contains an account of an auction sale in that city, where a Hereford bull brought \$5,000. This is the highest price ever paid for a Hereford bull at any auction sale in America. It was the famous bull Sir Bredwell, which was purchased by Col. Slaughter, of Dallas, Texas. The *Telegram* says those present will never forget the scene that ensued as the bids were raised \$100 and \$500 at a clip. When the beautiful animal was led into the ring men took their hats off in deference to as fine a specimen of bull flesh as one might see in a lifetime. The Grove 3rd, 2490, grand-shire of Sir Bredwell, that was imported from England, sold at private sale for \$7,000. We are also reliably informed that there is a big demand in this country as well as the United States for Herefords, which breeders are not able to supply.

Special Prizes at the Central Canada Fair, Ottawa

This year gold and silver medals are a feature of the prize lists of the Central Fair at Ottawa. The lists comprise no less than thirty gold medals, five silver medals, and a larger number of special cash prizes than have ever been offered before.



This cut illustrates our Four-Inch Reading Glass at its full size. It also shows how clear small type appears when viewed through its lens. People whose eyesight is not strong will find this Reading Glass a great comfort.

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FARMING

Confederation Life Building, TORONTO

HORSES.

The special prizes for horses include three gold medals for thoroughbreds, eight gold medals for the various classes of carriage horses and roadsters, one gold medal for saddle horses, one gold medal for general purpose horses, six gold medals for Clydesdales and the other classes of heavy draught horses and a number of special cash prizes for the different breeds and classes of horses exhibited.

CATTLE.

There are gold medals to be given for Shorthorns, Galloways, Herefords, Holsteins, Jerseys, Guernseys and Ayrshires. The Dominion Shorthorn Breeders' Association will distribute \$130 in special prizes in the Shorthorn classes, and the American Holstein-Friesian Association has donated \$40 for the Holstein exhibits. W. C. Edwards, M.P. for Russell, gives a special gold medal for the exhibitor from Russell county winning the largest amount in prizes for live stock.

SHEEP.

The American Shropshire Registry Association offer \$25 in special prizes, and the Central Canada Fair Association \$20 for Shropshires.

POULTRY.

There is one silver medal and a number of special cash prizes in this department.

DAIRY PRODUCT.

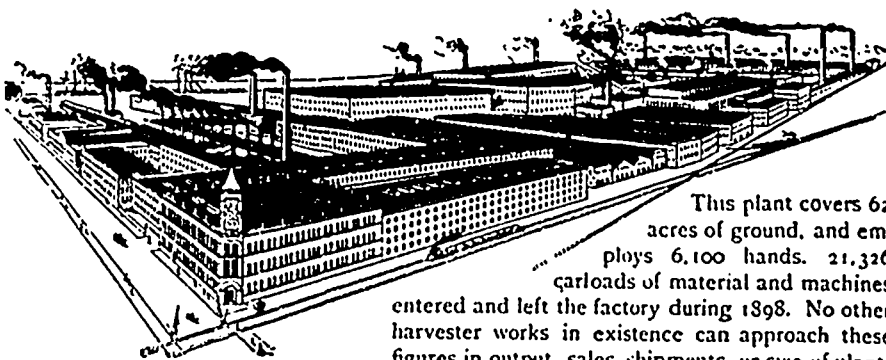
In the dairy department there are two gold medals, a silver medal, and \$25 in cash prizes offered.

The foregoing are, of course, in addition to the regular prizes given by the association, the list of which is extremely liberal, and cannot fail to attract a larger number of exhibitors from all parts of the country than ever. The excellent accommodation and fair treatment which the managers of the Canada Central Fair have always accorded to exhibitors will also be a factor in increasing the number of entries.

Canadian Hereford Herd Book

The Hereford breeders of this country will be glad to hear that the first volume of the C.H.H. Book is completed and within the next few weeks will be in the hands of all the members of the Association. It will fill a long-felt want, and to quote from the preface:—The registration of Herefords was commenced over twenty years ago by the Agriculture and Arts Association and quite a number were recorded before the disastrous fire of 1895 that destroyed all the original pedigrees on hand, and caused a great deal of trouble and work to copy over those that were sent in. A great many have never been returned, so the numbers in the first part of the book for males and females have a great many blanks in them. They are still eligible to be replaced if they are sent in. Great pains has been taken in revising all the pedigrees printed, some of

The Machines that Made America Famous



This plant covers 62 acres of ground, and employs 6,100 hands. 21,326 carloads of material and machines entered and left the factory during 1898. No other harvester works in existence can approach these figures in output, sales, shipments, or size of plant.

This is where all Deering Ideals and Deering Binder Twine are manufactured.

This great plant has to run day and night to meet the demand for Deering Machines and Twine.

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Main Office and Factory:

CHICAGO, U.S.A.

Permanent Branch House:

LONDON, ONT

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BUTTER WRAPPERS.

THE SENTINEL-REVIEW WOODSTOCK, ONT., imports Genuine VEGETABLE PARCHEMENT for butter wrappers. It is the largest house in Canada selling and printing butter wrappers. This paper is not an imitation. It is the GENUINE VEGETABLE PARCHEMENT, made to our order in Germany, especially for the Canadian market, and its purity and sanitary qualities are guaranteed. It is very strong, has a nice, silky finish, fine fibre, and will not taint the butter like cheap imitations. Highest testimonials from dairymen all over Canada. We sell these butter wrappers, 7 1/2 x 11 inches, cheaper than any house in Canada, and large dealers who have wrappers printed should get our samples and quotations. Free Samples sent anywhere. Address, SENTINEL-REVIEW, WOODSTOCK, ONT.

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No drilling holes in Mower Bar or Inside Shoe. A wrench is all that is required to attach it to any mower. Give your orders to any of our local agents, or send them direct to

TOLTON BROS.

GUELPH, ONT.

them are still deficient, but they all trace to recorded imported cattle. The volume contains 1,024 bulls and 1,403 cows, or a total of 2,427. It is edited and compiled by the Registrar of Live Stock, Mr. Henry Wade, and will be a welcome addition to the already splendid list of herd books published in our country.

Teach the Calves to Lead.

A cow that can be led easily is worth more, everything considered, than one that cannot be led. This habit should be taught during calf-hood, and, once learned, it will never be forgotten. If there is any pulling back while the calf is being taught its first lesson some one behind to urge it forward will be needed and a turn of the rope around the animal's nose so as to make a halter of it may be advisable to prevent the calf breaking away from the leader.

Western Stockmen.

At the annual meeting of the Western Stock Growers' Association, held in April, at McLeod, Alta., several resolutions were adopted of more or less interest to Eastern stockmen. They are as follows:

That the C.P.R. so reduce their tariff on thoroughbred stock as to conform with their rates from the east, in car lots or singly. (This rule is now in force.)

That the C.P.R. be requested to refuse to carry into the Territories thoroughbred stock that have not had the tuberculin test.

That the secretary request the Territorial Legislature to secure power from the Federal Government to enact that no tuberculous cattle be imported into the Territories, we having learned that this legislation is now within their province.

Some discussion took place regarding the appointment of an inspector at Winnipeg, and the following was agreed to:

That this association does not consider it necessary to have an inspector at Winnipeg, all stock to be thoroughly inspected before being shipped.

Syndicating a Bull.

The farmers of the fourth concession of the Township of Blenheim have adopted a plan for the improvement of their stock that might be copied by farmers in other localities to advantage. They have formed a syndicate consisting of eleven farmers, and have purchased a purebred Shorthorn bull which is to be kept exclusively for their own use for three years. One member of the syndicate is to keep the bull during the time and at its expiration is to be the sole owner for so doing. The bull cost \$125 or a little over \$11 each for the three years' use. The bull was selected with an eye to the feeding and milking qualities of its predecessors.

Your House

It is what the paint on it makes it. Good paint makes it beautiful—keeps it so—increases its value. Poor paint will spoil its natural beauty—suffer it to decay—lower its selling price. There is money in understanding paint enough to get the right kind and thus use the best economy.

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for painting houses are made in thirty-five attractive colors. It is the most beautiful and most durable paint made. We will give you all the assistance in our power when you paint. Send us a photograph or architect's drawing of your house. Our artists will prepare color plans for you, free. We will send you pictures of houses properly colored. We will send color cards. Our book on painting we will send free. Write to us.

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Canadian Dept.,
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MONEY!

Farmers in Ontario having first-class security to offer, can secure Money at Low Rates and on Favorable Terms, by applying to

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CREDIT FONCIER F. C.,
Wellington Street East, Toronto

Agents Wanted

We want a special representative in every township. Write for terms and full information to

FARMING
CONFEDERATION LIFE BUILDING,
TORONTO.

To Dairymen of Manitoba and N. W. T. Districts:

We beg to call your attention to our having opened a Branch of our business at Winnipeg, where we will carry a complete line of all articles required in the manufacturing of Butter and Cheese, for either Creamery or Dairy, and at such prices as will enable you to save money.

Heading lists of goods stands the full line of "De Laval," "Alpha" Power and Hand Separators, which are to-day conceded by our leading Experiment Stations and Dairy Schools, as well as advanced Creamery and Dairymen, to be the best cream separators on the market to-day, and other goods of the same standard of merit, which will appeal to all dairymen as worthy of their consideration before purchasing elsewhere.

Our object in opening this branch is to be near the dairymen of Manitoba and the N.W.T., so as to better serve those who have favored us with their patronage in the past, either direct or through local agents, and to acquaint ourselves with new customers. All of which will result to our mutual interest.

The users of any style of "De Laval" separators, who are not fully posted on operating same to best advantage, or those desiring any more information on the Separator question, we shall be pleased to hear from, assuring them that such enquiries will have prompt and satisfactory attention. Any who contemplate the purchase of a cream separator this spring, we should be pleased to hear from, so as to send them reading matter that will prove of much interest and benefit, giving experience of dairy authorities on cream separators, showing first cost is not the only consideration in a separator purchase. If what facts we produce are not convincing enough to any intending buyer that the "De Laval" "Alpha" Separators are the best, we will be pleased to place one of such separators in any dairy on a 15 or 30 days' trial, against any cheap infringing separator, to prove by practical results that the "DE LAVAL" is not only the Best but also the Cheapest. Let us hear from those in any way interested.

For further information or particulars, address

THE CANADIAN DAIRY SUPPLY CO.,
236 King St., Winnipeg, Man.

We want local agents in every Dairy District.

Keep More Sheep.

If farmers bring sheep-breeding more extensively into practice on most farms in England it will be all the better for them. The ovine animals give returns in several ways. Firstly, sheep are prolific, and the more farm animals increase and multiply, so much the more does the farmer's capital. Secondly, they give wealth in both meat and wool, and that's well. Thirdly, they tread with golden feet, and that is just what is wanted to keep the ground in good heart. Every farmer may not grow roots, because in parts the ground is too strong—*i.e.*, clayey—but all may grow "seeds," which prove excellent sheep food in summer, and provide hay for winter.

—Rural World.

Publishers' Desk.

Canadian Windmills Going Abroad.

—The Ontario Wind Engine and Pump Company have an order on hand for one of their well-known wind engines (The Canadian Airmotor) for H. M. Government in India. This is to be utilized to run a dynamo, and it is very satisfactory to learn that Canadian goods are in favor not only in England but in other parts of the British Empire. They recently made a shipment of four windmills to Cyprus, and received word that the previous outfits were giving splendid satisfaction.

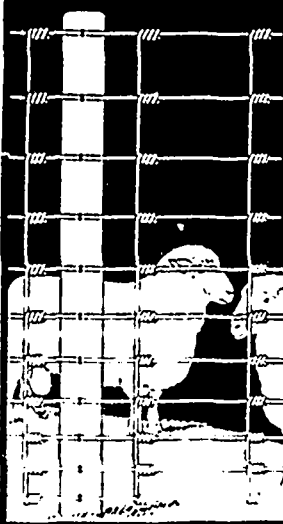
Mining Stocks.—We call attention to the advertisement of Mr. E. Gartley Parker on page 726. As will be seen by Mr. Parker's announcement he is a member of the Standard Mining Exchange, and has had a wide experience in all matters pertaining to the development of the mining industries of Ontario and the West and that he is represented at Republic (Washington) by Commissioner H. L. Percy, who has made a study of the Republic mining camp for some sixteen months. It is claimed that Mr. Percy has had an unusually large experience having mined in Colorado, Australia, Africa, California and other large mining districts. Mr. Parker deals in British Columbia and Ontario mining stocks in addition to Republic stocks.

Stock Notes

Mr. T. J. COLE, of Maple Grove Farm, Bowmanville, Ont., is advertising purebred Berkshire, Yorkshire and Tamworth swine in this issue. His Berkshire boar, Prince Lee, is a fine animal with great length and depth, and his Yorkshires and Tamworths are well bred, being the product of prize winners in well contested competitions at some of the leading fairs.

Mr. A. J. MCARTHUR, Paisley, Ont., has just made a shipment of stallions, stud colts and Shorthorns to Calgary. In the consignment was an imp. Shire stallion, a large, strong, heavy bone horse, with a capital pedigree and a good sire, one Clyde colt, rising two years, which gives great promise. In fact he will with care make a better horse than his stable mate, which was good enough to win 1st prize at Toronto Industrial in 1898. Another good colt was a Clyde rising one year old, in good shape and a handsome fellow. He was a 1st prize winner at every spring show this spring. Another nice colt was a Shire yearling which is only in ordinary condition, being a late foal and not being fitted, but gives great promise. He has grand legs with nice flat flinty bone and a nice showy appearance, which is admired by everyone. This would be a most desirable colt for some one to invest in. His sire and g. sire were two of the greatest winners in Ontario. One more two-year-old, which was a credit to the lot, completed the load. A grand two-year-old bull, bred by A. Johnston, should catch the eye of every admirer of Shorthorns. This is one of the best bulls, if not the best, that has been sent to the west this season.

SHEEP MAY BE DUMB



but it takes a good fence to keep them in bounds. The most successful fence for all sheep pastures as well as for larger and stronger animals is the

AMERICAN FIELD FENCE

either in regular style or special sheep fence.

This fence is most successful because

IT IS THE BEST AS WELL AS THE CHEAPEST.

Most durable, efficient and economical. If you can't find it at your local dealer's, write direct to us for catalogue.

AMERICAN STEEL AND WIRE CO.,
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LAND For Everybody

Free Grants of Government Lands

Cheap Railway Lands for Sale on Easy Terms

GOOD SOIL PURE WATER AMPLE FUEL

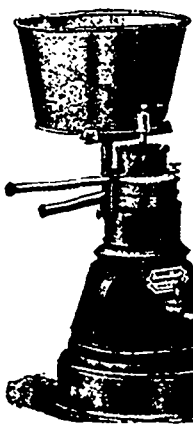
MOST desirable lands suitable for mixed farming can be obtained in the Old District along the line of the Calgary and Edmonton Railway, about fifty miles North of Calgary. Most desirable lands can be obtained in Southern Alberta in close proximity to the Calgary and Edmonton Railway and the Crow's Nest Pass Railway, suitable for mixed farming and ranching on both a large and small scale. North Saskatchewan also affords a splendid opening for intending settlers in the Prince Albert, Duck Lake and Rosthern Districts, on the line of the Qu'Appelle, Long Lake and Saskatchewan Railway.

For full information concerning these districts, maps, pamphlets, etc., Apply to

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Cap. 30 gallons per hour.

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Terry Watch Co., Toronto, Ont.

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in making Butter or Cheese can be obtained only by using the best ingredients.

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so many good butter and cheese makers always insist on having

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Sole Makers:

The North American
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BOYS FOR FARM HELP.

The managers of Dr. Barnardo's Home invite applications from farmers throughout the country for the boys they are sending out periodically from the English homes.

MR. ALFRED B. OWEN, Agent,
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Toronto, Ont.

The Ontario 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.

Vol. II.

No 32.

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

Annual Membership Fees:—Cattle Breeders' \$1; Sheep Breeders' \$1; Swine Breeders' \$2.

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' Association is 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 6,000 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. HOBSON, Secretary,
Parliament Building, Toronto, Ont.

Institute Membership.

The following is a list of the names received since the last list published:

Bruce West.....	1
Carleton.....	1
Cornwall.....	1
Dufferin.....	2
Grey North.....	6
Grey South.....	2
Haldimand.....	2
Hastings North.....	3
Kent East.....	2
Lambton East.....	7
Lambton West.....	9
Middlesex North.....	2
Muskoka Centre.....	7
Muskoka North.....	7
Peel.....	20
York North.....	2

Secretary's Report.

(Continued from last week)

In my annual report in March, 1897, the following was a clause: "It has been the practice of each association to publish in the annual report each year the name and address of each member and specify the breed he reared. This has grown to be the largest Breeders' Directory in Canada. During the last three years I have been frequently asked for these lists by parties desiring to buy purebred stock and have mailed hundreds of copies, sending them to various parts of Canada and the United States. I believe that if these lists of breeders could be revised and distributed monthly it would be of great value." It was decided at the annual meeting to place the matter in the hands of the Executive. At a meeting of the Executive in June of the same year the matter was brought up and was strongly opposed by some on the ground that the funds belonging to the associations should not be used for this purpose. It was decided, after a fair discussion, that the associations were organized for the benefit of the live stock trade, and that the officers were fully entitled

to formulate and carry into effect any plan considered by the associations to be for the benefit of the country at large, but, in order that there be no ground whatever for taking objection, it was decided that the amount spent should not exceed the membership fees of the various associations. As there was still considerable opposition it was decided to again place the matter before the Executive Committee of the Live Stock Associations. This was done in the Association tent at Toronto Industrial Exhibition in the fall of 1897, when the decision of the former meeting was sustained, and the secretary was instructed to make the best terms possible regarding the publication. This was done and the first list of stock for sale was published in FARMING on October the 12th, 1897. Since that time the list has appeared monthly.

One direct advantage which is especially noticeable is the fact that the membership for the Cattle and Sheep Breeders' Associations is kept up to the number required by the Government without special effort being made. Previously it was necessary each year to canvass and solicit the breeders in order to obtain the required number. The membership of the Swine Breeders' Association, while always being well above the required number, has increased during the past year nearly one hundred.

In addition, notices of meetings, notices regarding the Fat Stock Show, and reports of meetings were published, and it was chiefly through the notices regarding the association cars of stock for the west that the cars were made possible. It is by means of this list of stock that I am able to locate stock when requested to do so by intending purchasers, and it is the persons who are there advertised who have the first opportunity to sell, and who will sell if their stock is suited to

the requirements of the purchasers. During the past year I have received more inquiries than ever before.

(To be continued.)

Dirt in the Dairy.

We are very scientific in these days and talk of bacteria, bacilli, micrococcus, pasteurizing, sterilizing, etc., and there is danger that we shall forget that scientific dirt is just as bad as the common variety. Dirt under a Latin name is just as dirty as it is in English, and requires just as much soap and hot water, scrubbing, brush and elbow grease as the old variety that our fathers used to wrestle with before the days of washing powders and concentrated lye. We need no special sterilizers or pasteurizers to keep the milk can clean; leave all these complicated machines to the scientific fellows, and go at the cans and dairy vessels in the old-fashioned way, as if bacteria and bacilli had never been heard of, use plenty of water, soda, sunshine and fresh air. Have your milk vessels clean first, and think of bacteria afterward. If your butter or cream are off flavor, nine times out of ten the trouble is that your stable, cow or dairy is dirty, just plain dirt, that doesn't need a microscope and a chemist to find it; only a thorough cleaning and the trouble will vanish. The tenth time you may need the help of the expert, but don't ask for it till you have got rid of the common dirt; then you may look for the scientific variety.—*Hoar's Dairyman.*

An International Conference of Sheep Breeders.

We have received notice from W. W. Chapman, Secretary National Sheep-Breeders' Association, Fitzalan House, Arundel street, Strand, London W.C., England, that an international conference of representatives of the sheep-breeding industry throughout the world will be held in York, England, in June, 1900, at the time of the Royal Society's meeting in that city, for the purpose of adopting mutual arrangements for the transference of registered sheep from their record in one country to that of another, and also for devising means to prevent the substitution of unregistered sheep for registered sheep, etc. Invitations will be sent by the above association to all sheep societies whose addresses are known, and if there are any whose address is not known to him, the secretary will be glad to hear from them at the address given above. Mr. Chapman will also be pleased to hear from breeders of registered sheep who have

any suggestion or information that may, in their opinion, be desirable to bring before the said conference.

Transplanting Young Trees.

A large proportion of the trees that are lost in resetting die because they have been injured when they were taken up. Without a good root or stem a tree can make but little progress in growth. In digging up trees, the surface soil should be removed to the root system, then a trench dug around the tree outside the mass of roots; then, by cutting under the roots with a sharp spade on each side the tree may be loosened from the soil with a good supply of young growing roots. If the tree is large the trench must be made around the roots to the depth of the lowest, and the roots gradually loosened and freed from the soil.

No matter how carefully a tree is dug, many of the young, feeding roots will be injured or destroyed. Thus only a small amount of sap can be supplied to the branches and buds, which, nevertheless, continue to evaporate a large amount of water; thus the tree often starts very slowly and sometimes fails entirely. By removing the branches and buds in proportion to the injury of the roots a balance is maintained. All injured roots should be cut off clean with a knife and the wounds of large roots should be painted over with some water-proof covering.

When trees are planted the roots should have a fine mellow bed of soil, which should be pressed firmly in contact with every fibre, leaving no air space around them, and all should be spread out in natural position. The soil should be pressed very firmly around all the roots, so that the new roots will be encouraged to make a rapid growth. If the soil in which the tree is planted is the same as the one from which it was taken the tree should be set the same depth as it was before it was removed. If the soil is heavier, the tree should be shallower; if lighter, it should be placed deeper. The surface of the soil which is over the roots should be fine and light, because the capilarity is then broken up and the moisture cannot escape.—*Press Bulletin, Kansas State Agricultural College.*

Onion Peeling in Hens' Nests.

One of the best materials for making hens' nests is the outside peel of onions. It will drive away if it does not destroy hen lice. These peelings, or a piece of the onion itself, ought to be always in nests where hens are sitting on eggs. The warmth of the hen's body will scent so her feathers that the lice will be glad to clear out, and the hen will be equally glad to have them do so. With a good place for rolling in the dust, under cover, so that the dust will not be turned into mud, it is not difficult to keep hens free from vermin.

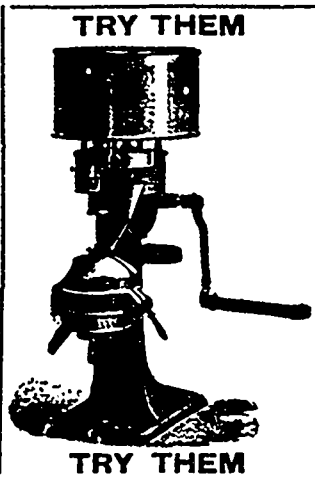
The Continent in Hand



McCormick Binders
McCormick Mowers
McCormick Rakes
McCormick Reapers
McCormick Corn Harvesters
McCormick Husker and Shredders are the best in the world

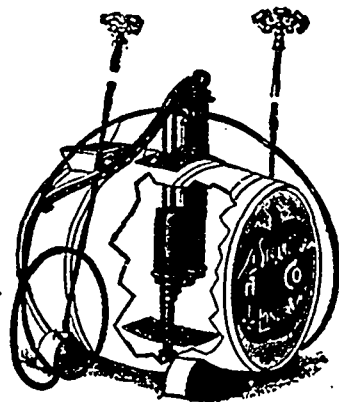
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R. A. LISTER & CO., Limited
Eastern Branch Works, 579-581 St. Paul Street, MONTREAL
Western Branch, 232 King St., WINNIPEG.
Head Office and Works, DURSLEY, ENGLAND.



ALL SPRAYING, DISINFECTING AND WHITEWASHING CAN BE DONE WITH THE SPRAMOTOR

It is the result of most careful and exhaustive experiment. Each feature was thoroughly tested before being placed on the market.



Toronto, November 9th, 1898.
Spramotor Co., London, Ont.,
Gentlemen,—The machines for spraying and white-washing you have supplied to Dentonia Park Farm have done their work well, and are quite satisfactory. I could not have believed there was so much value in spraying fruit trees. We had a good crop of apples, whereas our neighbors who used no spraying machine had practically none.
Yours truly,
W. E. H. MASSRY.

Certificate of Official Award:
THIS IS TO CERTIFY that at the Contest of Spraying Apparatus held at Grimsby, under the auspices of the Board of Control of the fruit experimental stations of Ontario, in which there were eleven contestants, the Spramotor, made by the Spramotor Co. of London, Ont., was awarded First Place.

H. L. HURT, H. PATTIT, Judges.
If you desire any further information, let us know and we will send you a 72-page copyrighted catalogue and treatise on the diseases affecting fruit trees, vegetables, etc., and their remedies.
Agents Wanted. Mention this paper.

SPRAMOTOR CO., 357 Richmond St., LONDON, ONT.

Market Review and Forecast

Office of FARMING,
Confederation Life Building,
Toronto, May 22nd, 1899.

The cold weather of the past week has lessened the general dry goods trade in the country. Otherwise general trade continues good and the outlook bright. Money continues firm but in ample supply for all legitimate purposes. The important feature in financial circles in the United States is the dullness in the banking business. Discounting has been exceptionally light and money is accumulating rapidly at all the leading financial centres in the country.

Wheat.

Generally speaking the wheat situation shows little change over a week ago, though towards the end of the week there was a jump of 2 cts. at Chicago, owing to reports of a decrease in the fall wheat acreage and yield. The actual condition of the winter wheat crop is now more definitely known and though considerable damage was done to the crop in the United States the prospects have been made better by the good growing weather of the last week or two. The Canadian winter wheat crop seems to have passed through as serious if not more critical period than that in the United States, and unless it picks up well between now and harvest will be short of last year's crop.

Notwithstanding these unfavorable conditions the market situation does not give much hope of any big rise in prices. A lot of wheat is still held in the country and there is ample to supply the world's needs till the new crop is harvested. The Cincinnati *Price Current* sums up the situation as follows:

"The general lack of advancing tendency in the wheat markets is due, not to erroneous estimates of crop conditions in this country, but to the actual plentifulness of the grain, the certainty of considerable surplus to go over to the new season, the slack export demand, the dull domestic trade for flour, and the generally favorable position of the world's supplies and prospects.

"The world's wheat supply decreased 878,000 bushels during the week, and increased 3,634,000 bushels as compared with that of last year at this time. There are signs that the farmers in England and Russia may be holding wheat. There was a slight advance at Liverpool and other European markets at the end of the week. There has been a good demand at Montreal for Manitoba wheat and quite a lot has been placed on English accounts at the basis of 81c. afloat for No. 1 hard and 77c. for No. 1 northern. The market here is firmer in sympathy with the Chicago advance, and red and white are quoted at 68½ to 69c. north and west, and goose at 65 to 66c. north and west. On Toronto farmers' market red and white bring from 72 to 74c., spring sile 67 to 69c. and goose 66c. per bushel.

Oats and Barley

The English oat markets are quiet under less inquiry, but as stocks are light holders are not anxious to sell. There has been a good demand this spring in England for Canadian oats. More business would have been done only that prices were a little too high on this side. The Montreal market has fallen off from 1 to 1½c. since our last report, and quotations are 35½ to 36c. afloat. The market here is dull at 31½ to 32c. west, but exporters claim they cannot pay these figures. On the farmers' market they bring from 36 to 38c. per bushel.

The barley markets continue quiet. Quotations at Montreal are 49 to 51c. for malting grades, and 43 to 45c. for feed. At Toronto prices are 40 to 43c. west.

Peas and Corn.

The English markets for peas are slow, but as stocks are light holders are not anxious to do business. An easier feeling has developed

at Montreal at 73½c. to 74c. afloat, which is a decline of fully 1c. during the week. 63c. to 64c. are the quotations at Ontario points. The market here is dull at 64c. to 65c. west. On the Toronto farmers' market peas are quoted at 62½c. to 63c. per bushel.

No. 2 Chicago mixed corn is quoted at Montreal at 39½c. to 39¾c. afloat. American corn is quoted here at 41c. to 42c. on track here.

Bran and Shorts.

Ontario bran is quiet at Montreal at \$15.50 to \$16.50, and shorts at \$17 to \$18 per ton as to quality. City mills, Toronto, quote bran at \$14.50 and soorts at \$15.50 in car lots f.o.b. Toronto.

Clover and Timothy Seeds.

A good demand has been experienced in seeds at Montreal. Ontario timothy, \$1.75 to \$2, and American \$1.50 to \$1.75; red clover, \$3.75 to \$4.50; and alsike, \$3.50 to \$4.50, as to quality.

Eggs and Poultry.

The *Trade Bulletin's* cable of May 18th states that the London, England, market is firm and higher, with business done at a 6d. advance. There is a decreased supply of foreign goods, and a good demand. The Montreal market continues steady at 11 to 11½c. for choice wholesale. These figures are considered to be too high. There is a good supply here, and the market is steady at 11 to 11½c. per dozen. On the Toronto farmers' market new-laid eggs sell for 11 to 13c. per dozen.

There is little doing in dressed poultry. On the farmers' market here chickens bring 40 to 75c. per pair and turkeys 12 to 15c. per lb.

Potatoes.

The Montreal market is quiet and steady at 67½ to 70c. for the best and 57½ to 60c. for inferior. On this market the demand is fair but prices are easier at 75 to 80c. for cars on track and 85 to 90c. out of store. On the farmers' market they bring from 75 to 85c. per bag.

Fruit.

The general fruit trade at Montreal is active but very little is doing in apples which are firm at \$3 to \$5 per barrel. On the farmers' market Toronto apples fetch from \$2.50 to \$4 per barrel.

Hay and Straw.

There is an easier feeling all round in the hay trade, the English markets are reported dull, with prospects of a heavy new crop. At Montreal the edge of the recent firm tone has worn off and there is a decidedly easier feeling. The offerings at country points have not been large and prospects seem to favor a good crop. Some business is yet being done on export account when favorable ocean freights can be secured. Quotations there are No. 1, \$7; No. 2, \$5.50 to \$6, and clover

\$4.25 to \$5. There is a fair demand here and cars on the track are quoted at \$7.50 to \$8.50 per ton, and baled straw at \$4.50 to \$5. On the Toronto farmers' market timothy fetches \$11.00 to \$13; clover, \$7.50 to \$9; sheaf straw \$6 to \$7, and loose straw \$4 to \$5 per ton.

Cheese.

The cheese markets continue steady, which condition is likely to remain for a week or two. From May 1st to May 17th the exports of new cheese from Montreal were 29,532 boxes, as compared with 12,761 boxes for the same period last year, which is more than double the quantity. And the prospects are that the exports of early grass cheese will be much larger than a year ago, both in Canada and the United States. The situation, however, is steady and there seems to be a good export demand for all the new goods. The British markets are steady and stocks are light and both old and new goods are being worked off without any difficulty. The market at Montreal is steady at 95-8c. for white and 9½c. for colored. Considerable business has been done on the local markets during the week. Prices at eastern Ontario markets ranged from 9 to 9½c. with the ruling figures 9 to 9½c. In the west a number of the markets went below 9c., though very few sales were reported at these figures.

Butter.

The *Trade Bulletin's* London cable of May 18th reads thus: "The market has preserved a steady tone since I last cabled, stocks being light, and holders demanding steady prices. Very little Canadian creamery here, but what there is meets with ready sale at 88s., some fancy parcels at 90s."

The situation generally is steady, with a good export and local demand at Montreal. The exports of creamery butter from May 1st to May 17th were 7,752 packages, as compared with 2,792 packages for the same period a year ago. Sales of choice creamery have been made at Montreal at 16½ to 16¾c., and 15¾ to 16c. for secondary grades, though some choice lots were sold later in the week at 16c. Western dairy is quoted there at 12½ to 13½c., with choice selected packages a cent or two more. Creamery is steady here 16½ to 17½c. for prints, and 16½ to 17c. for tubs. There are liberal supplies of dairy, which fetch from 10 to 12c. for tubs, and 11 to 12c. for prints. On the farmers' market lb. rolls bring 14 to 17c., and large rolls 13 to 14c.

Cattle.

The cattle situation on the whole is strong. At most of the American, especially the Chicago and Cincinnati markets, a strong tone has been maintained with an advancing tendency in prices. Stockers and feeders continue scarce and not sufficient for the demand. On this market the run of live stock has not been large. On Friday the quality of the fat

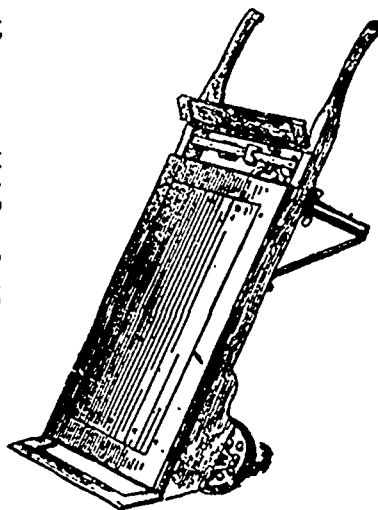
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St. Marys, Ont.

cattle was good, the bulk of which were exporters, there being hardly enough butchers' cattle to go round. Trade was fairly active for choice heavy well-finished exporters, but light or medium exporters were easy. Prices have remained about the same for all fat cattle as they have been for the past three weeks, with the exception of some few picked lots of exporters which sold at from \$5 to \$5.51 per cwt. Prices on this market for all kinds of cattle are good considering the condition of the markets abroad. But still drovers complain of losing money on what they bring here, having bought them too high in the country.

Export Cattle.—Choice, heavy, well-finished loads of exporters sold at \$4.80 to \$4.90 per cwt.; light ones at \$4.40 to \$4.60; heavy export bulls at \$3.75 to \$4.25; and light ones at \$3.40 to \$3.65 per cwt.

Butchers' Cattle.—These were not plentiful, and remained firm. Choice picked lots, equal in quality to the best exporters, weighing from 1,000 to 1,150 lbs. each, sold at \$4.50 to \$4.60 per cwt.; good, at \$4.35 to \$4.40; medium, at \$4.20 to \$4.30; common, at \$3.75 to \$3.85; and inferior, which are scarce, at \$3.50 to \$3.60 per cwt.

Stockers and Feeders.—The market for Buffalo stockers was active, and they sold all the way from \$3.75 for common to \$4 and \$4.25 for extra choice bred steers. Stock heaters sold on Friday at \$3 to \$3.12 per cwt. Heavy feeders are in good demand, with prices firm at \$4.40 to \$4.60 per cwt. for well-bred steers, half fat, weighing not less than 1,000 to 1,150 each. Feeding bulls, suitable for the byres, are worth from \$3 to \$3.50 per cwt.

Calves.—The supply of these at Buffalo has been light and the demand is active and prices higher. On Friday 25 calves sold on Toronto market at \$2 to \$8 each. Good calves are wanted.

Milk Cows.—Good choice cows are wanted

and bring good prices. The bulk of those offered on Friday were inferior in quality and brought from \$25 to \$48 each.

Sheep and Lambs.

The market for these remains about the same, though there has been an easier feeling in spring lambs at most of the American markets, which, however, was mostly recovered at the end of the week. Prices for sheep have ruled steady. There were 200 delivered on this market on Friday and prices were \$4 to \$4.25 for unclipped ewes and \$3 to \$3.50 per cwt. for bucks. Yearling lambs were a shade easier at \$5 to \$5.50 per cwt. Spring lambs are easy at \$2 to \$4.50 each.

Hogs.

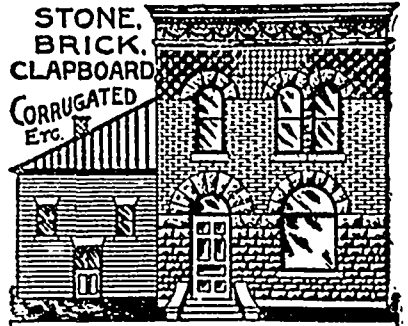
These show an advance over a week ago. On this market on Friday choice selections of bacon hogs sold at \$4.75 per cwt.; light hogs at \$4.37½ and thick fat hogs at \$4.25 per cwt. At Montreal the situation is strong and higher prices are looked for this week. During the week packers took all the light bacon hogs at \$4.85, a few choice extra ones bringing \$4.90 per cwt. The *Trade Bulletin's* London cable of May 18th, re Canadian bacon, reads thus: A good, healthy demand has set in for Canadian bacon, and prices have gone up fully 3s. per cwt. At the advance there is a good business. Sales of choice Canadian lean sides, 42s. to 45s.; seconds, 38s. to 40s.

Boston Horse Market.

Boston, May 15.—We have a continued good report as to the condition of the horse market. Several dealers expressed themselves that they wished that they had more horses for sale, as most of their arrivals were sold by Friday night, and but few left for regular Saturday's auction sales. Prices continue quite strong and many of the horses went out of city to inland cities and beaches.

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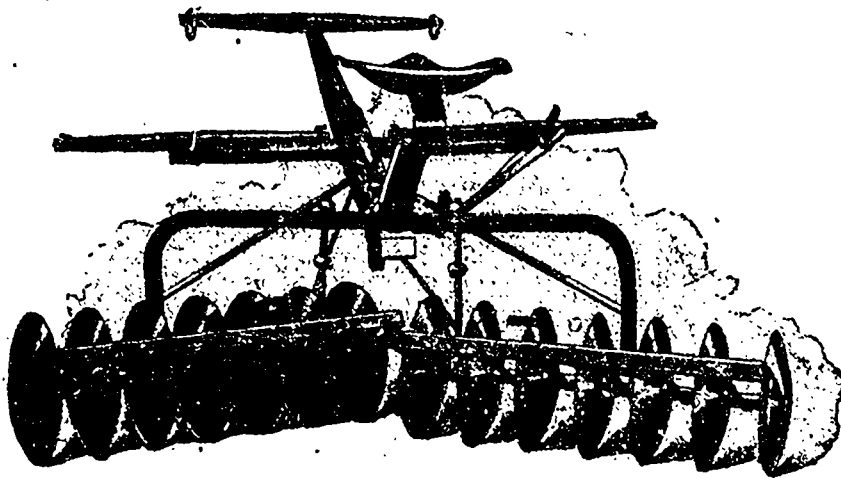
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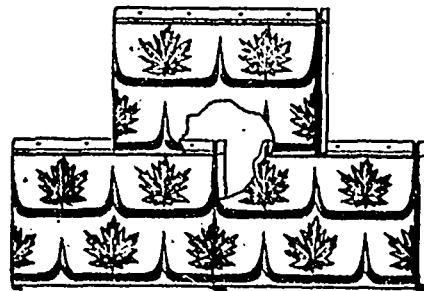
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the advantages of using metal roofing, constructed on our patent "SAFE-LOCK" principles, they would not accept a substitute.



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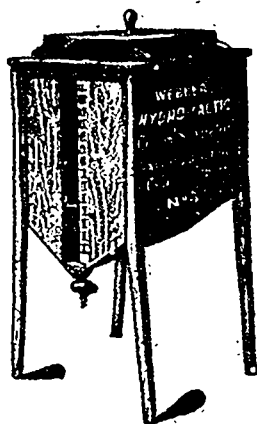
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IT SAVES \uparrow Time \uparrow Labor \uparrow Money \uparrow MAKES \uparrow More and \uparrow Better Butter

Than any of the old systems, and takes the place of the Centrifugal Separator at one-tenth the cost.

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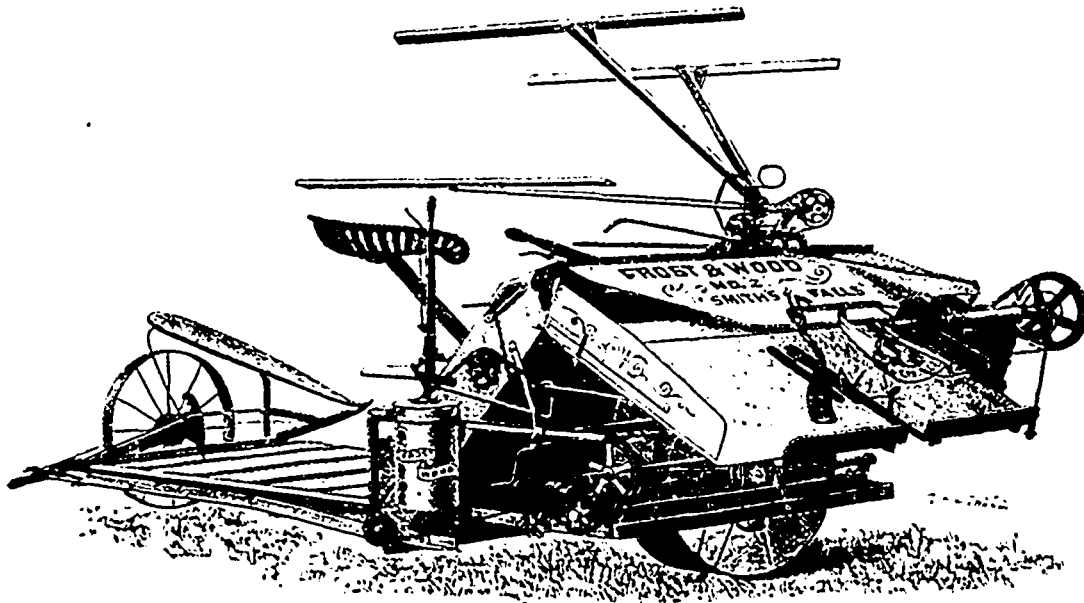
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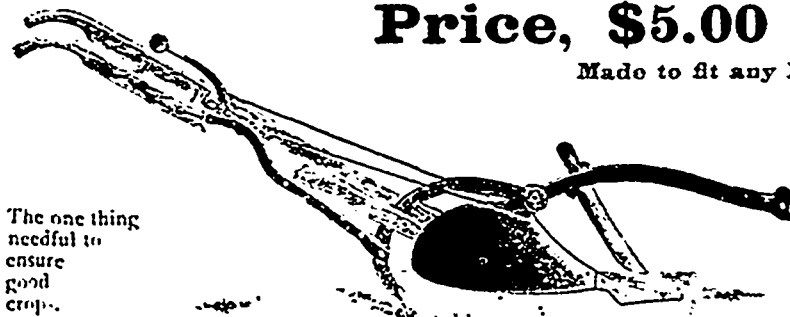
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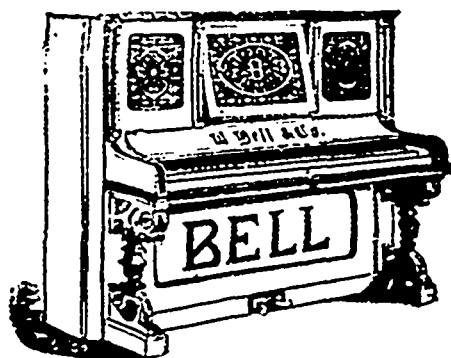
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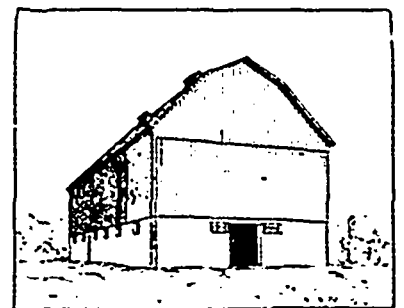
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Yours truly, BURT KENNEDY.

ESTATE OF JOHN BATTLE

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