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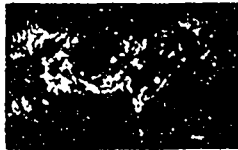
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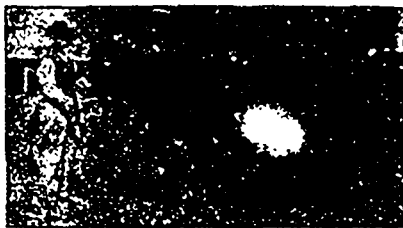


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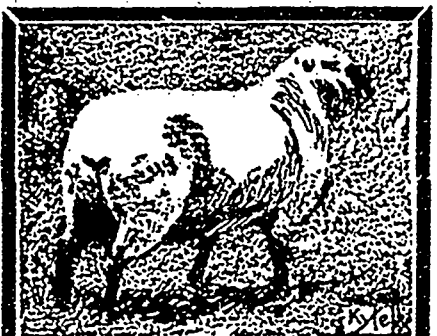
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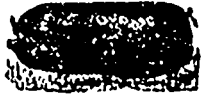
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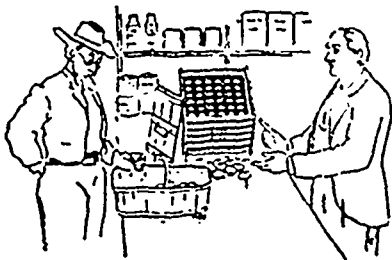
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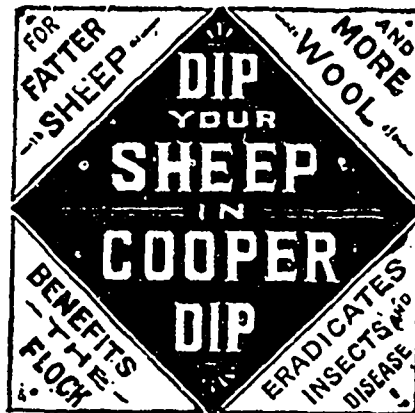
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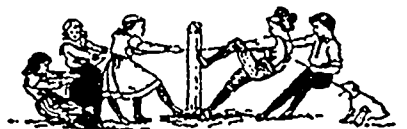
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We pack our twine in bags of the size of ordinary grain bags, and we are not ashamed to put our name upon it. Don't take any other

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FARMING

VOL. XVI.

MAY 30th, 1899.

No 39

Do Not Procrastinate

In conversation with a business man the other day he stated that the quality in mankind known as procrastination was more prevalent among farmers than among any other class of citizens. When asked his reason for thinking so he stated that the farmer's occupation gave him more opportunities for procrastinating than that of any other class. In other words, the farmer could put off doing a certain piece of work longer without any serious results following than the business or professional man. This being so, the farmer was more liable to fall into the habit of putting off doing things, which habit often became chronic, resulting in serious loss of both time and money.

In thinking over that conversation, we have come to the conclusion that there is some foundation for the statement made. There is no doubt but that a great many farmers fail to accomplish what they otherwise would because of this habit of putting off doing things. Many do this unintentionally or without knowing that they are really doing so. The way to overcome this is to plan the work of the farm beforehand and to have everything in readiness to begin operations at the time laid down in this plan. For example, if you intend to cultivate the corn on a certain day, have everything in readiness so that the work may be begun at the appointed time. If an hour or so has to be spent in getting the cultivator ready, the work will lag and valuable time will be wasted. One of the essentials to successfully carrying out the work of the farm is regularity in following some definite and prearranged plan. If every farmer, who is not already doing so, would try this plan for one month, we are sure he would on no consideration attempt to carry on his farming operations in any other way.

Mould on Butter

Remedy for It. Butter Injured by Packages Made of Green Wood

At a meeting of the Butter and Cheese Section of the Montreal Board of Trade recently held, Prof. Robertson discussed the question of mould on butter and the remedies for it. He strongly recommended the use of formalin in conjunction with brine. If the parchment paper were soaked before being used for packing purposes in a solution composed of $1\frac{1}{4}$ ounces of formalin to one gallon of brine it will be found to be an absolute preventive of any vestige of mould. Formalin is not in the least poisonous, is almost odorless and tasteless and has absolutely no ill-effects upon the butter. He also emphasized the efficacy of formalin vapor in keeping anything free from mould for an indefinite period. Formalin will, however, not preserve the butter or meat.

In the general discussion which followed it was pointed out by some exporters that one of the greatest troubles they have to contend with at present is that the butter so frequently tastes strong, from 1 to $1\frac{1}{2}$ inches deep all around the package, of wood sap. This was due to the fact that the boxes were constructed of green wood. This is something our creamerymen can easily remedy by having the butter tubs and boxes made only of perfectly dry wood. The remedy to prevent mould in the butter boxes

is very simple and can be easily applied by dairymen when packing the butter.

In connection with the packing and shipping of eggs, Prof. Robertson said that he had not made any tests along the line of preventing mould in egg cases. He would recommend, however, that the empty boxes should be put in a chamber and subjected to the fumes of formalin for two days. He stated that he had kept a number of eggs last year in small lots to test the relative keeping qualities of fertile and unfertile eggs, and he found no difference at all. In reference to the cheese trade he advocated the use of ventilated, cool chambers for carrying cheese and eggs, so that they would not get heated in the hold of the ship. Steamship companies had promised the Government to put in these chambers, but the matter should be strongly agitated by the trade. While keeping cheese at a temperature of seventy-five degrees for twenty-four hours in transit would hardly spoil it, yet it would cause the starting of an undesirable flavor. The members of the board urged the Government to send out a circular to the creamerymen in regard to the use of dry wood in butter boxes and other matters.

New Zealand Dairying

What Competition Canadians may Expect from that Quarter

Canadian dairymen are interested, or should be interested, in what their competitors are doing in other countries. Last fall Mr. J. A. Ruddick went from Canada to New Zealand as Dairy Commissioner, and since then more than usual attention has been aroused in regard to dairy matters in that far-off colony. In a letter recently published in the *Trade Bulletin*, Mr. Ruddick gives some idea of what competition we are likely to have from that country in supplying butter and cheese for the British market. We quote as follows:

"Perhaps your readers would be interested in knowing that the shipments of cheese from this colony will be smaller for the current year than they have been for some years, not because the output is less but because more is going to Australia, which country does not now make enough cheese to feed her own people. There is also a direct trade now from here to Cape Colony. Formerly the cheese were shipped to England, and then re-shipped to the Cape. Some of the South Sea Islands are beginning to take cheese from us. The present indications are that the export of cheese from New Zealand to Great Britain will not increase. Indeed it would not be surprising if the southern hemisphere took the whole output in a short time. There is no other country south of the equator which can compete with New Zealand in the manufacture of mild, cool-flavored cheese.

"The make of butter is increasing, and Canadians will have to look sharp if they expect to keep ahead of their cousins under the Southern Cross. The butter is made here for the most part in large factories, turning out from one to three tons daily. No money is spared in the building and equipment of these factories, and good salaries are paid to secure first-class makers. The best factories are all fitted with mechanical refrigeration. Every few days the butter is shipped to the Government cool stores, where

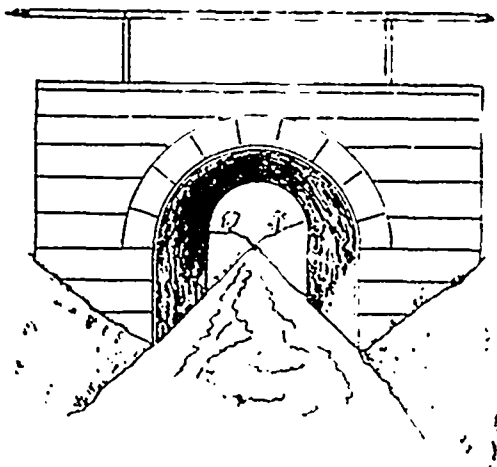
it is graded and held at a temperature of about 20 degrees F. until it goes on the direct steamer for London."

What he says in regard to cheese is encouraging, but not so his remarks in regard to New Zealand butter. Canada will have a strong competitor from the colony in the British butter market. The advantages which mechanical refrigeration in the creameries will give will enable them to preserve the product in a perfect condition from the time it is made till it reaches the consumer.

Good Roads

Some Advice on Operating the Statute Labor System

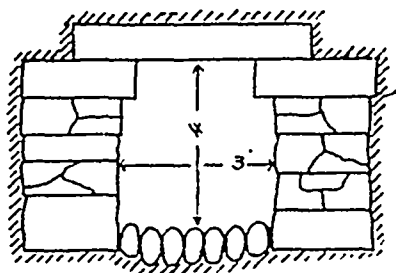
The question of good roads is of more than passing interest just now when the time for performing the statute labor is at hand. Elsewhere we publish extracts from the by-laws of a township where the statute labor has been commuted, showing what method of procedure it is following in maintaining and improving the roads. But, as nearly all the road-making in this province is done on the



A Concrete Culvert, with wing walls of concrete

statute labor plan, particular attention should be given to having the work planned and done in the very best way. The great drawback to the system is that no definite or uniform method of doing the work is followed. As many different systems of road-making are to be found as there are different pathmasters. This has resulted in good and bad kinds of roads in very short distances, and, instead of procuring permanent roads, outlined after some definite and durable plan, has furnished us with a kind of patch-work road-making that is unsightly to begin with and totally bereft of staying power.

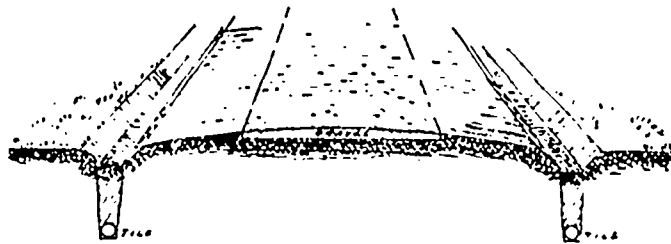
Mr. A. W. Campbell, Provincial Road Instructor, recently addressed a meeting at Oakwood, Ont., and gave some sound advice to the farmers present on the working of the statute labor system and general road making. From



A Cheap Stone Culvert.

his address, as published in the *Lindsay Post*, we take the following. "The great majority of the roads in Canada are under the control of township councils, and are built by statute labor, supplemented by money grants. The statute

labor system is suited to a pioneer age. It spits the abilities of the people making a home in a new country, and it suits the spirit of their circumstances. They feel keenly the need of improving their roads, and work with a will earnestly and faithfully. That was the history of statute labor in the pioneer days of what are now the populous



Plan for the average country road.

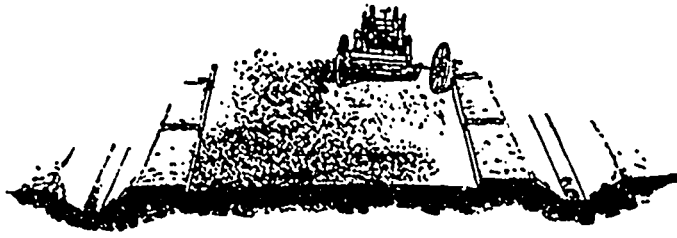
districts of Canada. But, where the townships have grown wealthy and well populated, a different condition exists. To such an extent has statute labor degenerated that some townships find that they can do more work by commuting all the labor at thirty-five cents per day. If statute labor has not outgrown its usefulness, there is certainly need for reform when a man's labor is worth less than thirty-five cents per day. A feeling in favor of statute labor still holds in some localities, but is growing weaker. There is not another country in the world, characterized by good roads, where a system of statute labor is in use. To a slight, but very slight extent, it may be said to be used in France, but with very different methods of applying it. If it is to be retained in Ontario, the present feeling of the people strongly indicates that it will have to be placed on a basis whereby satisfactory results can be obtained.

Councils commonly appropriate an amount of money each year to be spent on the roads. If this money were spent in making complete and durable work it would be of the greatest assistance in improving the roads. We find, however, that the money is distributed in small sums among the pathmasters, is spent in small sums for repairing temporary culverts; in doing a little drainage in front of the farm of some discontented ratepayer to appease him, in doing no particular work at all, but merely to give some voter an opportunity to earn a few dollars. In such ways as these is the money which should be spent on durable improvements scattered, wasted and misapplied."



A gravel roadway with under-drain.

When the statute labor system is followed, Mr. Campbell advised a large reduction in the number of pathmasters, and the appointing of a supervisor by the council to have the oversight of the pathmasters and all the work and expenditure on the roads and bridges, and who should be required to report to the council at each meeting. Road divisions or beats should be from three to four miles in length, and the pathmasters should be permanent officers. The changing of pathmasters every year is one of the great drawbacks to the system. Statute labor can best be utilized in hauling gravel. In this work there is less opportunity for wasting time. For the grading and ditching there is machinery made, which every township should have. Special attention should be given to the drainage and crowning of the road. A great deal of money is wasted by building culverts of timber. A cement concrete pipe is an excellent thing for a culvert, and can be made in any gravel pit under the direction of the municipal engineer. Wider



A road machine at work.

tires should be used on waggons. By the use of six inch tires the roadway will support, without yielding, twice the load which it could support with a three-inch tire.

The Commuted Statute Labor System

Every farmer in this country has had some practical experience with the working of the statute labor system of road making and should be able to judge as to its good and bad points. There can be no doubt that the system in many ways can be made to do effective work in improving the roadways in our rural districts. But the system has undoubtedly got into disrepute because of the slipshod and unsatisfactory way in which it has been managed and the careless way in which the statute labor has been performed. Under the plan in which the statute labor in this country is performed, there has been no uniformity of method or definite scheme for permanent road-making. This being so some municipalities have been looking out for some better and more effective method of road making, and have found it in what is known as the Commuted Statute Labor System.

This commuted system has been in operation in the Township of Barton, Wentworth County, for the past two years, and the clerk of the municipality, Mr. H. Bryant, writes us that it is giving general satisfaction. We asked Mr. Bryant to send us some particulars as to the plan of operation and he has kindly forwarded a copy of the by-law governing it. The essential clauses of this by-law are as follows:

(1) That the whole of the statute labor of this municipality shall be commuted for at a rate or rates under one dollar, to be struck when the township and other rates are decided by by-law, and such commutation tax shall be added in a separate column in the Collector's rolls, and shall be collected and accounted for like other taxes.

(2) That the amounts received from the Collector of Taxes shall be kept in a separate account by the Treasurer of the Township, and shall be called the Statute Labor Fund.

(3) The township shall be divided into as many divisions as the Council from time to time may deem expedient and an overseer shall be appointed for each division, and also an engineer for road machine when deemed advisable. All monies collected in each division shall be expended in that division under the supervision of the overseer of that division directed by the Council.

(4) It shall be the duty of the overseers to see that all noxious weeds are destroyed on the highways in their respective divisions.

(5) It shall be the duty of the overseers to repair any bridge or culvert in their division that may be dangerous without any direction of the Council, but when such bridge or culvert is not in an immediate dangerous condition then the overseer shall con-

sult the Reeve or Council as to the repairs necessary.

(6) For the purpose of keeping roads open during the season of sleighing in winter the overseers shall be paid ten cents per hour, and also the others employed; teams, \$2.50 per diem.

(7) It shall be the duty of the overseers each to keep an accurate account of all work done, and the amount expended, in a book supplied to him for that purpose, which book must be produced to the Council at any of their sessions, and the Council must be satisfied as to the correctness of the account prior to paying any monies.

(8) It shall be the duty of the engineers to work the road machines when called upon to do so under the direction of the several road overseers, and each engineer shall be responsible for the safe keeping of his road machine, and the said road machines shall not be loaned to any one without the consent of the Reeve, and the party to whom the machine may be loaned shall employ the engineer at his own expense to work the machine.

(9) Overseers shall commence operations not later than the first day of May in each year, and shall work continuously, weather permitting, until work in their several divisions is completed.

In a separate by-law the commutation tax for statute labor was fixed at 50 cents per day for the first four of the six divisions into which the township is divided, and 25 cents per day for the last two divisions. These rates seem comparatively low, and no farmer should complain of having to pay 50 cents per day to get his statute labor commuted, though many of them do not give that much value when they do the work themselves. If it prove successful in procuring better and more permanent roadways no one should begrudge paying the usual allowance of \$1 per day. The fact that better results can be obtained by commuting the statute labor at 50 cents a day than by the old plan is a very strong argument in favor of the new method.

Short Rules For Pathmasters

By A. W. Campbell, Provincial Road Instructor

1. Carefully plan and lay out the work before calling out the men.
2. When preparing plans, keep the work of succeeding years in view.



Road East of Brockville—"Made good years ago and still good."

3. Call out for each day only such a number of men and teams as can be properly directed.
4. In laying out the work, estimate on a full day's work from every man, and see that it is performed.
5. See that all the gravel hauled is clean.
6. Every wagon box should hold a quarter of a cord of gravel.
7. Specify the number of loads to constitute a day's work.
8. Properly grade and crown the road before putting on gravel.
9. A fair crown for gravel is one inch of rise to each foot of width from the side to the centre.
10. Give the roadway on hills a higher crown than on level ground, otherwise water will follow the wheel tracks. One and one half inches to the foot from side to centre will be sufficient.
11. Spread the gravel evenly over the road, and keep it raked or scraped into the wheel and horse tracks until consolidated. A road roller should be used for compacting the gravel.
12. On all gravel roads, crown the roadway by cutting off the sides, putting new material in the centre. Do not cover the old gravel foundation with earth from the side.
13. Make the width of the road as uniform and the grade as easy as possible.
14. Remember that good drainage is absolutely necessary.
15. Whenever water stands on the roadway, or by the side of the road, or whenever the ground is seen to remain moist, better drainage is needed.
16. See that drains are free from obstruction, that they have a good fall and proper outlets.
17. Surface water should be disposed of in small quantities. Great accumulations are hard to handle and are destructive. Obtain outlets into natural watercourses as often as possible.
18. Instead of having deep ditches to underdrain the road, use tile.
19. Give culverts a good fall and free outlet, so that water will not freeze in them.
20. Make early arrangements for having on the ground when required, and in good repair, all machinery and implements to be used in the performance of statute labor



Road West of Brockville—"Never Good."

Building a Stave Silo

The usefulness and practicability of the silo is now established beyond doubt. The question now discussed is which is the best kind of silo to build. Of late years the round or stave silo has come into prominence and in several ways is considered to be superior to the square silo. Cornell, N. Y., Experimental Station after three years' careful study and observation of the stave silo pronounces it the most practical and successful silo which can be constructed. It presents no corners which may pull apart, admit air and cause the silage to settle unequally. The original cost is very slight as no expert labor is required. The material used in construction is the minimum amount for obtaining the maximum capacity.

A silo should be located with reference to facility in feeding. If stock are kept in a basement, the floor of the silo should be on a level with that of the basement. It is cheaper to elevate the silage at the time of filling the silo, when it can be done on a carrier by steam power, than to elevate it in baskets at time of feeding, when it must usually be done by hand power. Whether the silo should

be placed inside or outside of the barn will depend upon each individual case.

The size of the silo will depend upon the quantity of stock kept. It is customary to estimate that a 1,000 lb. cow will consume about 40 lbs. or one cubic foot of silage per day. If one cow be fed a full ration of silage, say, from November 1st to May 1st, she would require 7,240 lbs., which would need a storage capacity in the silo of 181 cubic feet. At this rate 20 cows would require a storage capacity of 3,620 cubic feet. The following table, compiled by the Cornell Experiment Station, shows the approximate capacity, in tons, of silos of various depths and diameters for well-matured corn silage:

Depth feet.	Inside Diameter in feet.											
	12	15	16	17	18	19	20	21	22	23	24	
20	45	70	80	90	101	113	125	138	151	167	180	
21	47	74	84	95	106	118	132	145	159	173	190	
22	49	77	88	99	111	124	138	152	166	182	198	
23	52	81	92	104	117	130	144	159	174	190	207	
24	54	84	96	108	122	135	150	166	179	199	216	
25	56	88	100	113	127	141	157	173	189	207	225	
26	59	92	104	118	132	147	163	180	197	215	235	
27	61	95	108	122	137	153	169	187	205	224	244	
28	63	98	112	126	142	158	175	193	212	232	252	
29	65	101	116	131	147	164	182	200	220	240	262	
30	67	105	120	136	152	170	188	207	227	249	271	

In making out this table the mean weight of a cubic foot of well-settled silage has been taken at 40 lbs. If the silo is filled but once, and is not refilled after the silage has settled not more than two-thirds, the capacity of the silo can be obtained in settled silage. The table, however, will be a guide to those building silos.

When a stave silo is to be built the soil should be dug out to the depth of three or four inches, and with a diameter at least two feet greater than the proposed diameter of the silo, and drainage should be provided if the conditions seem to warrant. The excavation should be filled with stones, with gravel as a filling, and the whole pounded down. The finishing should be done with cement. A thin mortar made of one part cement and four parts of fine, sharp sand should then be poured over the whole lot. After this first coat has set, a finishing coat made of one part cement and three parts of sand should be put on and worked down with the trowel. Then finish off by dusting

some clear cement before the other is thoroughly dry. This will give a hard finish, and will give a foundation that is cheap and durable. While the cement is soft it is a good plan to strike the circle which will mark the line upon which the staves are to be set.

Hemlock, white and yellow pine, make very good staves. Perhaps hemlock is the cheapest and most satisfactory wood that can be used. It should be sound and free from loose knots. If the silo is to have a diameter of twelve feet or less, the staves should be made of either 2 x 4 material, unbevelled on the edges and neither tongued nor grooved, or of 2 x 6 material bevelled slightly on the edges to make the staves conform to the circular shape of the silo. If the silo is to have a diameter of more than twelve feet the staves should be 2 x 6 material, and neither bevelled nor tongued and grooved. If the staves are left perfectly plain, then when they are set in place and drawn together the first point of contact will be the inner edge, and the tighter the hoops are drawn the closer will become the contact of the staves at the inner edge. The staves should have a smooth inside surface.

There are several methods which may be followed in setting up the silo. Bulletin 167 of the Cornell Station, from which most of the facts in this article are taken, gives a method by which four 6x6 posts are set upright to run the height of the silo. These should be securely stayed in place and when they can be safely used as part of the scaffolding. The work of setting up and preserving the circular outline may be materially aided by the use of old barrel staves. For a silo 12 feet in diameter the curve in the stave of the sugar barrel is best adapted, for a 16 foot silo the flour barrel stave is best and for a 20 foot silo or more in diameter the stave of the cement barrel is recommended. The first stave setup should be made plumb and should be toe-nailed at the top to one of the posts and in like manner succeeding staves should be toe-nailed to the preceding stave. When a silo stave is set in place nail to it on the inside a barrel stave at bottom or top with shingle nails. This is one plan. When small silos are built the same plan might be adopted as in building a cistern of any kind. Where staves are not long enough to reach to the top of the silo they should be carefully spliced by squaring the ends and toe-nailing securely together and by breaking joints.

The hoops for the stave silo are usually made from five-eighths inch round iron or steel rods. When these are used it is recommended to have each hoop in three or four sections. If the four posts are used as described then the hoops would need to be in four sections. The ends of the sections could pass through the posts and have a thread and nut for tightening purposes. The bottom hoop should be about six inches from the base of the silo, the second one two feet from the first, the third two-and-one half feet from the second, the distance between the hoops being increased by one-half foot until they are three and one-half feet apart, which distance should be maintained except at the top, where a hoop every four feet will be sufficient. The hoops should be drawn tight enough to draw up the cracks before being filled. Suitable doors can be made by cutting the staves between hoops at convenient distances apart. The staves should be sawn so that they can only be put into place from the inside and a piece nailed across on the outside to keep them together. The places where the doors are to be should be known when the silo is building when, by sawing one of the staves for the door, then the others can easily be cut afterwards. When constructed in the barn no silo roof is needed. If constructed outside some kind of a roof is needed. If the silo is at the end of the barn a lean-to roof will serve the purpose. A plan of hooping a stave silo with fence wire is described by John Gould, Ohio, which seems to work well at least on small silos.

The above will give those who contemplate building a round silo some idea of how to go about it. Cheaper methods can no doubt be found. But it is well not to build too cheaply if permanency is required. A good foundation is necessary as well as a good bottom or else there will be a big waste.

Ensilage for Poultry

A good way to provide green feed for poultry during the winter months is a small silo. For this purpose a barrel, tank, hogshead or box will do if good pressure is provided. The *Poultry Keeper* gives the following advice in regard to making ensilage for poultry:

"Corn, clover, alfalfa, grass, bean tops, pea vines, or anything may be put in this silo, but all materials must be packed in firmly and then weighted. All materials must be as near maturity as possible; that is, corn is used when the ears are about beginning to glaze, and clover is cut when in blossom, before the blossoms turn brown. This is because very young plants contain too much water. Everything that goes into the silo must be cut as fine as possible so as to pack well. The material will then be ready for use for poultry in the winter season. The contents will keep for a year or more provided the pressure is sufficient to exclude the air. If the air enters fermentation will result. Cabbage and such watery substances are not suitable for ensilage.

"A silo should be about 8x8 and eight feet deep, though it may be smaller. A barrel is too small, as the top and sides of the ensilage spoil first. To explain how to give pressure suppose that a barrel is used. Have the head of the barrel a trifle smaller than the opening. Pack the contents into the barrel, put on the loose head, and then put heavy stones on the head, the more the better. Keep on filling in the material until the barrel is full, leave the head on and set a heavy stone on it. When using the material always replace the head (or top), and the contents should be so closely packed as to require picking out with some instrument. A silo four feet deep and 4x4 feet will hold more material than will be wanted."

Dairying and Beef-Raising

In this country there is plenty of room for both beef raising and dairying to be carried on with profit. While there may be some farms better adapted for one line of practice than the other, yet whether beef raising or dairying will be carried on depends more upon the inclinations of the individual farmer than upon any special fitness of the land for producing milk or fattening cattle. The question of profit is an important factor in enabling the farmer to decide which line he will follow. For the past five or six years dairying has, perhaps, been a more profitable line for the average farmer to follow than beef-raising, and, as a result, the milk-producing qualities of the common cattle throughout the country have been given prominence at the expense, perhaps, of the beef-producing qualities. Because of this tendency during recent years there is a dearth of really choice beef cattle in the country at the present time, when prices for these are higher than they have been for years.

Of course we do not wish it to be inferred from this that this improvement of the milk-producing quality should not have taken place. Far from it. The farmer who keeps cows for milking purposes should aim to keep only the very best cows, and those that will give him the largest amount of profit. On the other hand, where beef-raising is carried on, the aim should be to produce the very finest beef cattle possible. Whether it is possible to produce good beef and to keep good milch cows on the same farm there may be a difference of opinion. The fact is, however, that a great many farmers in this country who supply milk to the cheese factory or creamery also raise beef cattle. And it is this class of beef cattle that has deteriorated very much in quality during recent years. The specialist in beef-raising, as a rule, either raises good cattle or none at all. He realizes that there is no money in raising any other kind, and he makes it his particular business to fit and prepare his cattle properly for market, a quality that is very much lacking in the general farmer.

The situation is very well summarized by Mr. John Campbell, Woodville, Ont., a well-known cattle feeder in a

recent interview with a representative of the *Lindsay Watchman and Warder*. In this interview Mr. Campbell is quoted as follows: "Beef-cattle pay better than dairying. They have for twenty-five years. They are likely to, for we produce enormous quantities of fodder in one form and another. On broken and rougher soil dairying can be carried on just as well as on land like this, while beef-raising cannot. However, there is a decided boom in dairying now and it is paying better than the way a good many farmers have handled their stock heretofore. Those that have a good line of dairy cattle had better stick to them and they can make good profits. Although co-operative dairying will not give as good returns as well-managed beef-cattle, it will pay well, and a man who is in it will make no mistake by keeping on. The creamery is a great improvement on the cheese factory. You can't raise cheese and beef together for you won't have the milk to feed the calf, and unless the calf is well fed you can't do much in raising beef. The creamery does better, for you have the skim-milk. Beef and butter go together fairly well. Raising beef is like raising the bacon hog; both ought to be rushed for the market as rapidly as possible. It is easy to lose a year's growth through insufficient feeding.

"There is a poorer class of cattle in the country now than for years before and the fat cattle have been more poorly finished. The reason is to be found in the recent depression of the cattle market. It looked as though grain was worth too much to feed them. Farmers got careless and raised inferior stock. Crosses of dairy blood were allowed and it will take some time to get the herds up to the standard we ought to have. When the breed gets down the trade is ruined. Poorly-bred cattle cannot be nicely finished. It is all-important to use thoroughbred sires and the commoner the dams the greater is this need.

"The farmers in this part of the county ought to finish everything they raise. Back north they have not the feed to do it and the stocker trade is a good thing for them. The phenomenal values of this year have made the stocker trade fairly profitable for anybody, but these prices cannot last. Last year I raised eight calves. At an average age of eleven months I sold seven of them for \$460. Of course, some of them were valuable on account of their breed. I would not advise farmers to go wholly into fancy breeding but it pays even for beef purposes to have well-bred animals. Mr. Edwards, of Manila, sold one fourteen-week-old calf for \$37 on the Toronto meat market, so you see breed pays even for veal. I would say breed well and feed well: stock up, but put quality first. I would rather take my chances with one animal well bred and cared for than three poor ones."

Mature Breeding Animals

By Theodore Louis

There is an ever growing tendency to breed from young, immature stock, the breeders being roused by the demand of the markets for lightweights of tender age. We should bear well in mind that, while the art of breeding has developed hogs of all leading strains which at the early age of from eight to ten months fill this requirement, this early maturing falls far short as to maturity for breeding. In no line of live stock is this law of maturity for breeding so much disregarded as in the breeding of swine. The frequent complaint that this or the other kind of breed does not respond properly to feed in the line of growth, and seems to be subject to difficulty in gestation, deficiency in number of pigs to the litter—these and many other complaints are seldom charged to where they properly belong, viz., to immature breeding, injudicious selection, and the indifference in the selection of food to develop them. If more mature sires and dams were retained, those that have proven themselves capable of reproduction and improvement, as to uniformity, prolificacy, good mothers and milkers, that have been perfected and developed to full size and vigor by age—only by the use of these can we expect to retain the im-

provements handed down to us by master breeders. When indifference is replaced by proper selection and retention of the best, improvement is the sure result. Is it not the duty of the farmer and feeder to acquaint himself with the laws of breeding which tend toward steady improvement? The above recommendation in regard to the retention of sires is most necessary to success and improvement, and carries most weight without further comment.

Another practice that has a tendency to depreciate the standard of excellence is to allow hogs liberty to serve sows *ad libitum*, and to be turned out with the herd or confined with a number of sows in a yard. Is excessive service less harmful to future offspring of swine than of other livestock? One service as a rule will give satisfactory results as to the number of vigorous pigs, while when the other system is followed small litters, dead pigs, deformed pigs are the result, but in swine breeding this is ascribed to bad luck, while the horse-breeder would charge it to excessive use of the sire. Build a paddock or yard four or five rods square, with a shanty like house seven by eight feet, seven feet high in front, five feet to rear, with a door two and one half by four feet high to permit of entrance when cleaning it, a half drop or swing door on hinges, attached to the upper part to keep out beating storms and cold, and a tight board fence, high and strong, which will prevent teasing the sows, and will also prevent fretting and irritating the boar. This often has disastrous results, the boar becoming impotent by self-abuse, especially in the case of young sires. There should also be a feeding floor in one corner of the yard, eight by eight or ten feet, so that a large boar can stand in front of the trough—a V-shaped trough of three feet in length—securely fastened to floor and wall. A plank should be securely fastened edgewise with spikes to end slippers; and stakes firmly driven home to guard against his natural propensity of root hog. At the corner a slide gate, two and one-half by three feet, should be placed, to permit the entrance of sows. At the further end of the floor build the pen. This may seem like extravagance, but, when we take into consideration that a yard of this kind will last from fifteen to twenty years by simply reposting it, this will lose its force, and furthermore to have a boar under control and use him at will is worth a great deal. If the yard can be situated so as to give natural drainage it is an advantage, but it is essential that a hand rake, shovel and fork should frequently be used to prevent contamination. But while secure and under control, the boar should never suffer for a food ration calculated in its nature to develop him; he should not suffer for the want of green food and succulent food when the season permits, and in fall and winter squash, pumpkins and roots should not be wanting. Nor should he be deprived of charcoal, ashes and salt—in fact no hog should.

If it is of importance to retain the boar to a greater age and until further development, it is of equal importance in the case of the sow. Too many do not deem it essential that they should have a system of breeding; if not, why not? Why can we not have a note book, a list, and a record of the sows that have proven themselves superior in all respects? Why not retain her as long as she proves satisfactory, instead of using a young, untried one that has not been selected with regard to heredity and the virtues of a mother, a breeder, and her milking qualities, but because she is pretty and she is a sow? If sows are selected yearly to replace those weeded out—those that have proved unsatisfactory—they should be selected from only the best and most profitable mothers, so that improvement will keep pace with reproduction. This selection should be deferred until the pigs are from three to four months of age, as we can then better judge their development and disposition, and they should be fed on the very best growing and developing food available. We have found it a good practice not to breed the sow for a second litter the first season but to give her a chance to recover from the strain so as to fully develop in size and vigor. Thereafter we breed her twice a year. We have an inflexible rule that no young sow is bred before she is eight months of age. It will also

be found of practical advantage when having a list of sows in a note book either with name, mark or number; or for convenience put a ring in the right or left ear, the upper or under side, to note the time they come in heat, say in October; any farmer knows that this will occur each three weeks. In this way he will not waste time in watching when to breed the sows or be disappointed in missing her, but one who never practised it will find to his astonishment that he is becoming master of the situation.

With the boar in the enclosure, able to regulate the service, and knowing that the gestation period takes place within 110 to 112 days, he will know that by March or April first, as the case may be, he must be ready to accommodate ten or twelve sows with breeding-pens and play midwife day and night. As a compensation for labor and system he has a lot of pigs of nearly the same age and size to feed and care for, a uniform lot to put upon the market, not to mention the advantage of being weaned at one and the same time. This is not a fine-spun theory, but has been the practice of the writer for a long series of years. The sows can then be turned out to pasture and receive a liberal allowance of feed once or twice a day, at stated time, according to their condition, in order to have them fully recover from the strain of nursing and breeding. All that have proved deficient are weeded out for fattening, and young sows are put in their place as heretofore stated. But sows having their first litter should not be condemned for having a litter of but five pigs, if they are otherwise satisfactory and are uniform breeders. A twelve or fourteen teated sow, of roomy build, generally responds with sufficient numbers at her second litter, unless heredity on her dam's side is wanting in this quality. But should there be small and uneven litters with the larger number of sows, the sire may be at fault.

Tuberculosis

The Slaughter of the Innocents

By T. C. Wallace

As it has been frequently demonstrated that most if not all of the diseases of our plants can be prevented by proper manuring, by which I mean nourishment, protection and cultivation, and that in fact they can in some cases even be eradicated by a similar attention, it naturally occurs that the diseases may largely result from improper manuring or at least neglect. Unfortunately experiments which might go far to solving this question often prove valueless because the means adopted fall short through attempts at exactness, or, in other words, trying to feed in perhaps unnatural forms just what is considered the quantity of ration which analysis of ordinary plants suggests as possibly necessary, and going it blind on soil action. Also experimenters seem prone to dwell upon and work out minutely little matters of detail instead of studying the experiment in its bearing towards principles.

As the domestic animal's food is entirely composed of vegetation it becomes worth while, considering to what extent the condition or make-up of the food may control, the development of animal diseases. Often we think we are feeding an ideal ration when in fact the very materials from which it is compounded are themselves wanting in proportions of the various elements to produce the best results. It has been contended against this, that the proportions of alimentary substances taken by plants are fixed. In answer it may be said that in vegetable as in animal life there are monstrosities and mal-formations showing extraordinary development and want of development of parts and functions, and that with such mal-development there is a greater secretion of this, or a lesser secretion of that, necessary ingredient. Besides, it has been demonstrated by actual experiment and analysis that the per centage content, for instance, of phosphoric acid can be considerably increased. We frequently see large, bulky whole crops of grain which carry but little

grain seeds and even are scarcely able to stand before ordinary wind and rain storms. It was once contended by some that these bulky crops, including corn, were quite as valuable fodder as the crops producing plenty of grain, but that bubble was soon burst by analysis.

Turning to our animals which are intended to be the real subject under discussion, it has been demonstrated with at least fair precision that abortion among cows is mainly caused by the lack of phosphatic food, and that usually the trouble is readily corrected by feeding finely-ground bone meal or bone ash with a little salt mixed with it to make it more easily digested. Abortion is not prevalent on farms where plenty of phosphate is obtainable to the crops grown for feeding unless there is the grossest neglect in selection of feeding materials. Many cases diagnosed as rheumatism originate from the same cause. The savage sow actually devouring her young may clearly be traced to a deficiency in the make-up of her food during the trying stage of pregnancy. The curious theory of ascribing it merely to feverishness and giving medicines to deplete rather than build up will hardly recommend itself to thoughtful farmers. It seems something like the plan of starving a growing tree because it is growing wood too fast, instead of balancing up the soil to supply the necessary food to meet the wants of reproduction.

I have previously raised the question as to the possibility that even the spread of tuberculosis may not have an original cause in this same inattention to the maintaining of proper balance in the food.

It is generally admitted that the decaying of teeth in the human race is due to the want of sufficient phosphate in their food. The want of toothbrush and toothpick will not account for the loss at an early age, neither does it meet the matter of the failing of teeth so often during pregnancy. I have had great satisfaction from feeding cows on foods which were well supplied with phosphates and neither abortion nor tuberculosis developed with Jerseys under such feeding. The recent researches of Dr. Somerville point strongly to the increased value of both turnips and grasses enriched in phosphoric acid. I believe I have seen a whole herd of valuable animals slaughtered, nearly every one of which could have been cured and saved.

I have had some practical knowledge in feeding dairy stock at least, and what I know of treating cow diseases I had to learn in self-defence, as the local veterinaries seemed to have almost entirely neglected to study the cow and could not be trusted with valuable animals with much more safety than the baneful "cow doctor" or village quack. Nowadays I think the veterinaries are giving more attention to the "farmers' banker." I think the development of tuberculosis and the denudation of fertility are more closely allied than is generally recognized. The whole history of our farming, whether for grain or for stock growing, has surely and steadily denuded the soil of its available strength, until in many parts of the world we find what has been aptly termed "chronic deterioration of fertility." As a result we find a greater prevalence of disease among our crops, our animals and, indeed, even the human race. But man, always imperious over the lower animals, has discovered a menace to his existence in the development of bovine tuberculosis, and, instead of looking for the prime cause, attacks the result in sight, and decrees "a slaughter of the innocents." He confines cattle in poorly ventilated barns tied up with chains or stocked in stanchions, and he feeds them on fodder and grain grown without the necessary "phosphatic heart."

Or he imprisons them in fields from which the "phosphatic heart" has been practically removed by the growth and ripening of animals, grain and other crops, and drained away in the milk. Unable to free themselves and by the exercise of natural instinct and craving seek the food they require they easily fall a prey to the various microbes of disease which are on hand to gobble up their weaker brethren. They have been thrust into the arena against their will in an enfeebled state and weak at heart they put up but a poor fight and as they weaken and succumb to the tyranny of the unequal struggle, the onlooking public fran-

tically cry "thumbs down." Young animals, except in cases of straight heredity, never have tuberculosis, and it is well known that a properly nourished man may carry the germs of consumption through life and never develop them. Phosphated foods may not cure any case, but surely it is proved that they will tend to a general strengthening of the stock of animals and human beings nourished by them.

Co-operative Poultry Farming

This plan is followed to some extent in Ireland, France, and Denmark, and works out very successfully. There are two ways of carrying on the business. One plan is for several farmers in a locality who keep poultry to co-operate in the marketing of the eggs. Some one of the number is appointed to receive the eggs and forward them to market and to receive the money for them and divide it amongst those who have sent in goods. Arrangements can be made where necessary to purchase feed at wholesale prices and effect a great saving in the cost. One good feature of this plan is that the eggs can be sent forward in a fresh condition and in large enough quantities to secure reduced freight rates. This plan, however, is not real co-operative farming. The latter is a rather more complicated matter. In real co-operative poultry farming, as carried on in Ireland, a society is formed to which a membership fee is charged. A central depot is secured, at which one of the officers of the society keeps boxes for packing the eggs and fowl. The goods are sent forward in the same way as in the other plan, except that the officer in charge first pays all expenses, then pays an agreed-on price to each member, and then gives one-half the balance in proportionate shares to those who supplied the produce, and the other half he puts to the credit of the society, and at the end of the year a dividend is declared and paid to each member in proportion to his supply of goods. This officer also sells to the members food and appliances at reduced rates.

CORRESPONDENCE

Preserving Eggs

The Results of Some Experiments Conducted at the Central Experimental Farm

To the Editor of FARMING:

Having received numerous enquiries from farmers during the past two months respecting the merits of "water glass" as a medium in which to keep eggs, we are led to think that certain conclusions drawn from an experiment, lately brought to a close, with this and other preservatives will be of interest to your readers.

The investigation was commenced last September, perfectly fresh eggs from the Farm poultry house being used for the test, which consisted in immersing the eggs for varying lengths of time, from a few hours to six months, in (a) lime-water, and (b) 10 per cent. solution of "water glass." Those eggs which were treated for a few hours, days, or weeks, as the case might be, were subsequently placed, together with the untreated eggs to be used as a check, in a rack within a drawer in the laboratory till the close of the experiment, March 30th, 1899. All the eggs were at a temperature from 65° to 72° F. throughout the trial.

The testing consisted in breaking the eggs into a glass and noting the appearance of the "white" and yolk, whether the yolk was stuck to the shell, size of air-space, odor, etc. The eggs were then poached and again the odor, appearance, etc., noted. Without giving in detail the results of the various trials, it may suffice for present purposes to summarize the conclusions reached, as follows:

CONCLUSIONS.

1. In no instance, either of treated or untreated eggs, were any "bad" eggs found.

2. In all cases where the eggs were not kept covered throughout the period of the test with the preservative solution, shrinkage of the contents had taken place, as shown by the larger air-space, the less globular form of the yolk, and in many instances by the adherence of the yolk to the shell. The eggs treated for seven days and less with lime-water showed somewhat less shrinkage than those treated a similar length of time with silicate of soda.

3. It would appear that lime-water and "water-glass" used continuously are equally efficacious in preventing shrinkage. They may also be said to give practically the same results as regards both external and internal appearances, flavor, etc., of the eggs preserved. Since "water glass" (silicate of soda) is more costly and more disagreeable to use than lime-water, we could not from the present results recommend the former as the better preservative.

4. The albumen or "white" in all the preserved eggs was very faintly yellow (though not to the same degree in all the eggs), the tint becoming deeper on boiling.

5. No offensive odor was to be perceived from any of the eggs when broken, but in all instances a faint but peculiar musty or stale odor and flavor developed on poaching.

6. It is probable that no preservative will prevent the loss of flavor possessed by the fresh egg, but those which wholly exclude the air (and thus at the same time prevent shrinkage from evaporation) will be the most successful. Continuous submergence is evidently better than treatment for a few days.

"Water glass," known chemically as silicate of soda, is a fluid quoted at 60c. per gallon. It is highly caustic, due to excess of soda, and consequently is more disagreeable to use than lime-water.

The lime-water may be made by putting 2 or 3 pounds of good fresh lime in 5 gallons of water, stirring well at intervals for a few hours, and then allowed to settle. The clear supernatant fluid can then be poured over the eggs, which have been previously placed in a crock or water-tight barrel. Some authorities recommend the addition of a pound or so of salt to the lime-water, but the writers are of the opinion that this is unnecessary, and probably leads to the imparting of a limey flavor to the eggs by inducing an interchange of the fluids within and without the egg.

The all essential points to be remembered are: (1) that the eggs to be preserved shall be perfectly fresh, and (2) that they shall be covered with the preservative fluid.

FRANK T. SHUTT,
Chemist Dominion Experimental Farm.

A. G. GILBERT,
Poultry Manager Experimental Farm.
Central Experimental Farm, Ottawa, May 22nd, 1899.

A Much-Needed Measure

Mr. John McMillan, M.P., has introduced a bill into the House of Commons to amend the *Weights and Measures Act* so that all eggs sold in this country shall weigh at least a pound and a half to the dozen. Such a piece of legislation has our hearty approval. There are eggs and eggs, and it is simply absurd to contend that a dozen small eggs weighing no more than a pound are worth as much money as a dozen eggs weighing one and one-half pounds. But still this is what the present law upholds, and it is time something were done to remedy matters. Under existing conditions in this country there is no incentive to the poultry-keeper to produce large eggs. In fact, everything considered, it will pay him better to produce small eggs, as he can get as much per dozen for them as for large ones, and does not have as large weight to handle.

The Farm Home

The Country Home.

A Paper Read by Mrs. F. M. Carpenter
on March 30th at the Saltfleet
Women's Institute.

(Continued from last Issue.)

Health is one of the first requisites towards a happy home. With pure drinking water, dry walls, dry cellars and good drains that carry off refuse without letting in foul gases half the battle for good health is won. If we could moderate our hurry, lessen our worry, and increase our open air exercise, a large portion of nervous diseases would be abolished. A home is like a piece of music where all essentials are in harmony. Every mind has its hidden light and each member of the family brings its radiance to the breakfast table, where the keynote of the day is sounded. It may be a low growl on the bass notes, a shrill falsetto or a sweet clear sound, but from it the strain of the day largely takes its tone. Some one has said, "every meal should be a love feast."

It is true our stomachs have much to do with our tempers, our digestion with our ability to bear burdens and withstand temptations. One can hardly wonder that the man who rises from an unsatisfactory, ill-cooked breakfast is unfit for his day's duties and finds himself before night or at nightfall hastening to the saloon after something which (he thinks) will brace him up. It is a false delusion. However, let us look well to the keynote, that it be strong and bright and thus make it easier to keep the whole strain melodious. Who are the men and women, the rulers, statesmen and governors, of the coming century? The children of to-day who are now the spirit and inspiration of the home and so the parents' first duty is to them.

The Frœbel system teaches "that the little child is like a delicate plant needing sunshine, fresh air, nourishing and care to be brought to blossom and there could be no better brand of psychological light than cheerfulness and no finer fresh air for a child's soul than the atmosphere of kindness and kinship with nature. Character building with children should begin in infancy and be founded in the solid rock of truth between parent and child. Establish trust and confidence, and never deceive a child; no eyes can see through a sham quicker than those of little children. If there is the least discrepancy between the teaching and the life of the mother they know it long before they can formulate it even in thought; but the observer of child life can see it in the defiant eye, the curling lips, the shoulders braced back to repel the meaningless aphorism of elders who never apply their rules to themselves. We are

loath to believe our daily lives are honey-combed with shams, but our little children often bring us to that conviction.

Of all that happens in the home to grieve the little ones and weaken the mother's moral hold on them, broken promises are the most fruitful. In our association with adults a promise is held sacred, and "his word is as good as gold" is the highest recommendation that can be given, but a promise is made to children and never thought of again unless they bring it to our mind. Carelessness on the part of parents in this respect is a source, not only of pain, but of evil influences that warp the character of children and sometimes result in life-long injury. Young children, and hearty, merry, happy children, too, are capable, if properly guided, of possessing as high a standard of honor as their eiders, and when they do not possess it there is something very wrong somewhere. The mother who does not or cannot trust to her children's sense of honor would do well to pause and examine the situation and see if it may not be bettered. The watchfulness that does not seem to watch, the power of commanding absolute obedience without employing harshness are assuredly worth trying.

Let the children share some responsibility. It drives a man to toil and brings out his best gifts. Johnson wrote his immortal *Rasselas* to raise money to buy his mother a coffin. Hunger and pain drove Lee to the invention of his loom. Left a widow, with a family to support, in mid-life, Mrs. Trollope took to authorship and wrote a score of volumes. The most piteous tragedy in English literature is that of Coleridge. Wordsworth called him the most myriad-minded man since Shakespeare, and Lamb thought him an archangel slightly damaged. The generosity of friends gave Coleridge a house and all its comforts, without the necessity of toil. But ease and lack of responsibility, together with opium, wrecked him. Hunger and want would have made him more famous and enriched all English literature. It is responsibility that teaches foresight, prudence, courage, and slowly but surely turns feeblings into giants.

(To be continued.)

Foods for Children.

By Anna Virginia Miller.

(Continued from last Issue.)

Zwiebach, broths, rice, milk, tapioca and custard are excellent foods. Eggs may be given occasionally, but their highly concentrated nutritive value renders them a food to take the place of meat rather than to be given in addition to meat at any meal.

Never give children pork, veal, shellfish, crustaceans or any of the internal organs except sweet-breads.

Cheese is a very concentrated food, is difficult of digestion for an adult, and should not enter often into the dietary of a child. Occasionally a dish containing a small quantity of cooked cheese may be given.

Salads are as necessary for children as they are for adults, but they must be light and never heavy salads. Young celery chopped very fine with a French dressing served on a bed of lettuce leaves shredded will illustrate one of the many salad combinations suited to the needs of the little ones. Mayonnaise dressing should rarely be used.

Cereals should always be very well cooked; if improperly cooked they prove irritating and escape furnishing nutritive value. A cereal gruel of any kind will be found beneficial in cases of constipation.

Meats used in the nursery should always be either broiled, roasted, or boiled; never fried.

Eggs should be lightly cooked at a temperature not exceeding 175° F. If cooked at a higher temperature the whites become tough and horny and are very difficult of digestion.

Of the soups the cream soups are among the best. Never give the heavy soups highly seasoned.

Zwiebach heads the list of the bread foods. On account of its being twice baked it is easy of digestion. Pulled bread, toasted water-crackers and dry toast are all good, but the child must eat fruit with a bread diet or constipation will result.

Baked apples, raw scraped apples, or baked bananas may be given. Bananas should always be cooked.

Blackberry jam, when properly made with the seeds rejected, is an important nursery food.

For desserts nothing is better than old fashioned rice pudding. All the gelatine desserts are good and may occasionally be served with whipped cream. Floating island or any of the custard deserts, as tapioca or sago puddings may be given, or Irish-moss blanc-mange.

The occasional use of honey in moderation is not objectionable. Honey is so desirable in its natural state that there is little occasion for its culinary use. It may be substituted for sugar or molasses with good effect in many cases, and will be found delicious in combination with nut meats or popcorn.

The important thing, then, in nursery feeding is to attain as near as possible to nature's laws, by giving those foods containing the elements in the correct proportion which nature originally used in the building of the human machine, the body.

How to Pickle Eggs.

Pickled eggs are appetizing when used as an ingredient of salads or sandwiches. They are put into cold water, which is heated slowly and allowed to boil for an hour. When taken out, they are dropped at once into cold water to keep their color. The shells are afterwards removed and the eggs put into good vinegar in which beets have been kept. They should remain at least a week in this pickle, when they are ready for service as a relish. A dozen or more can be done at a time.

In Strawberry Time.

No other dressing is quite so delicious on uncooked berries as whipped cream.

Plain shortcake should be baked in two thin layers, with a little soft butter spread over the bottom one before the other is put in place; or, better even than this, cut into individual cakes with a biscuit cutter.

Cold fruit desserts are coming to be better liked for summer than warm

ones; but the one which is neither cold nor hot is robbed of half its goodness.

Nine times out of ten puddings or other desserts made with gelatine are unsatisfactory because sufficient time is not allowed for them to mold firmly. They should have six or eight hours. If short of time better depend on corn-starch.

The lower crust of a pie will not become sodden with fruit juice if it is brushed over with the white of an egg before it is filled and is not allowed to stand more than an hour after baking.

The most delicate pie is made by baking a deep shell; stand on ice, and when ready to serve fill with berries that have been sweetened for an hour and pile whipped cream over the top.

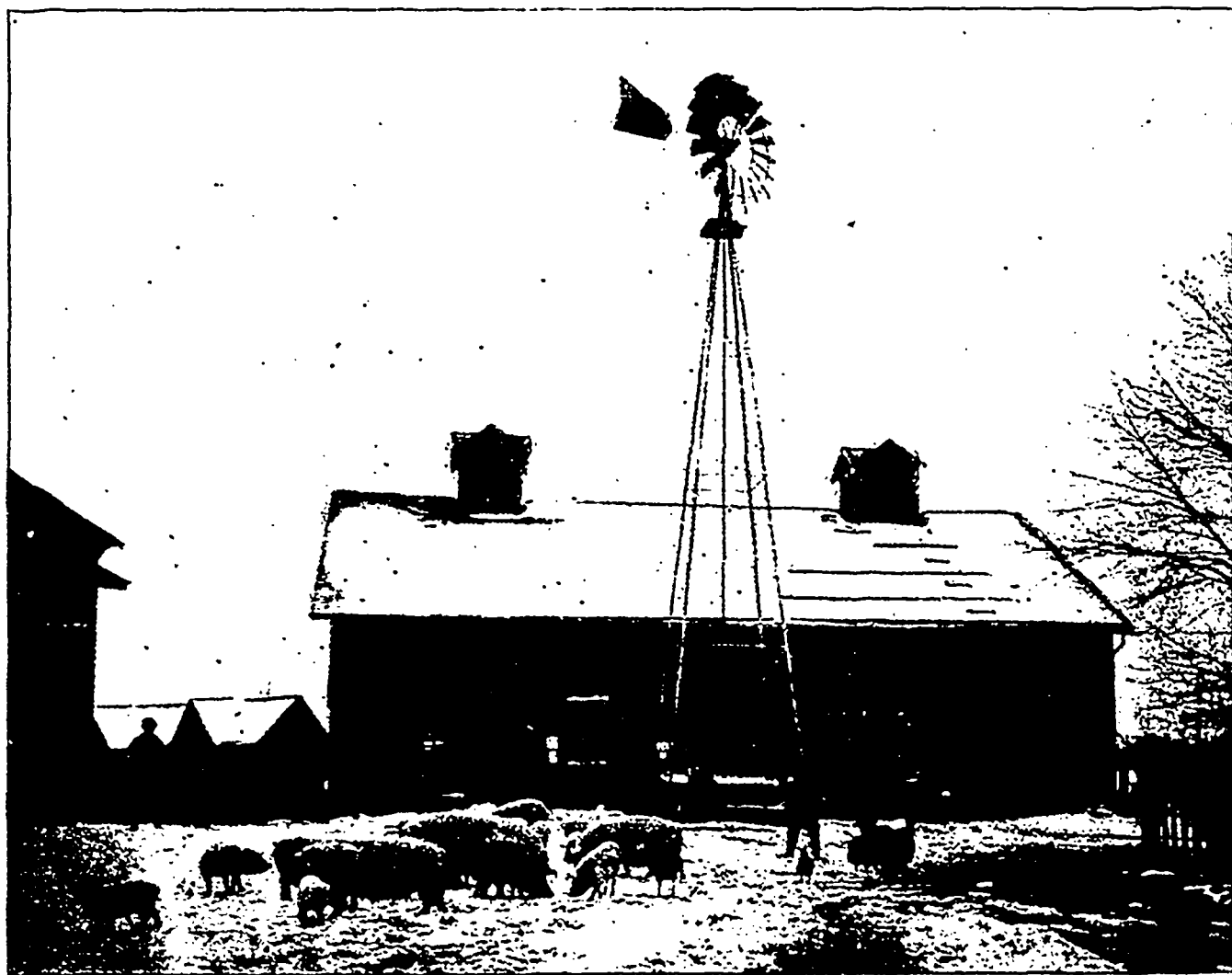
A tempting pie has a deep, baked shell filled with covered berries and boiled custard and with a thick meringue. Brown the latter slightly and serve cold.

A pretty pink boiled icing can be made by substituting berry juice for water in making the syrup. For a rich layer cake, spread first with icing, then with freshly grated cocoanut, or chop-

ped blanched almonds.—*Country Gentleman.*

Cleaning the Cellar.

The first house cleaning in spring should be done in the cellar, removing whatever is left of the vegetables and fruits put up for winter use, and after clearing away mould from the walls giving them a coat of fresh whitewash, into which a weak solution of carbolic acid has been used in making it. This will destroy latent germs, which more often originate in the cellar than anywhere else. After the cellar is cleaned and whitewashed place a few lumps of unslaked lime in any places that seem to be somewhat moist. Keep the cellar windows closed on warm, sunshiny days and open them at night, especially if rather cool. It is the warm air from outside in the cellar coming in contact with the cold stone walls and metal which it contains that deposits moisture and soon forms a mould on all such surfaces. Most people think it is cool air which is responsible for damp walls. On the contrary, it is the warm and apparently dry air from the



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outside which does it when this is brought in contact with any cold surface.

Questions and Answers.

How Much Seed per Acre?

To the Editor of FARMING:

Will you kindly inform me how much seed per acre it is advisable to sow of the Golden Giant Oat? The party selling them recommends one bushel per acre.

P.

Norwich, Ont., May 19th, 1899.

We would certainly think one bushel too small a quantity to sow. At least one and one-half bushels should be sown if the drill is used, and perhaps a larger quantity if sown broadcast. The quantity of oats per acre sown at the Ontario Agricultural College in 1898 was one and a-half bushels, and a very good yield was reported. In the experimental plots at the College the quantity sown broadcast was at the rate of seventy-five pounds per acre, and the yield of Golden Giant oats for 1898 was at the rate of 87.09 bushels per acre, and the weight of the measured bushel 28.14 lbs., which would mean over two and a-half bushels per acre if oats of this weight were sown.

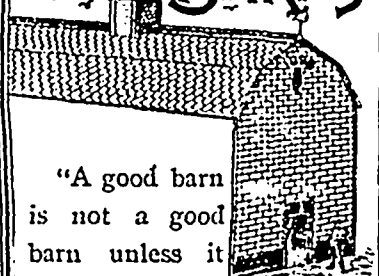
Clover Hay for the Brood Sow.

A swine raiser in a recent issue of the *Ohio Farmer* gives this experience as to the value of clover hay for brood sows:

"About a year ago we made a trial of feeding young hogs clover hay. The hay was very coarse and the work of cutting in box not first-class, some of it not being cut in as short lengths as it should have been. We would cut it and put it in buckets, dampen with water, using what water it would absorb and allowing it to soak over night. This ration we always fed in the morning; during the day they would usually consume it all excepting possibly some of the coarser parts.

"On the whole, we found the ration very satisfactory. At any rate we determined to make an extra effort to put in the mow, last year, a superior quality of clover hay, that we might test this matter further. Recently we have been feeding it to brood sows for a time before farrowing, and after the pigs have come. At present, March 2, we have four large brood sows with pigs a few days old. Once a day they have a part ration of clover. In the evening we go to the space on the barn floor where the hay is dropped from the hay mow, and gather up a four gallon bucket of clover leaves and as we put it in the bucket we put middlings and bran with it. We press the leaves down in the bucket as closely as we can, and if too much mill feed is not mixed in, it will settle considerably when dampened, showing that the bucket cannot be made too full of hay alone to make it inconvenient to handle. A peck or more of

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mill feed can be mixed in to a good advantage: a peck answers very well, and makes it more palatable. As we stop the sows in the evening with milk feed, we do not care to use so much at the morning feeding time."

United Poultry Association.

At a meeting of the committee of the Toronto Poultry Association, held last week, it was decided to recommend the formation of an organization

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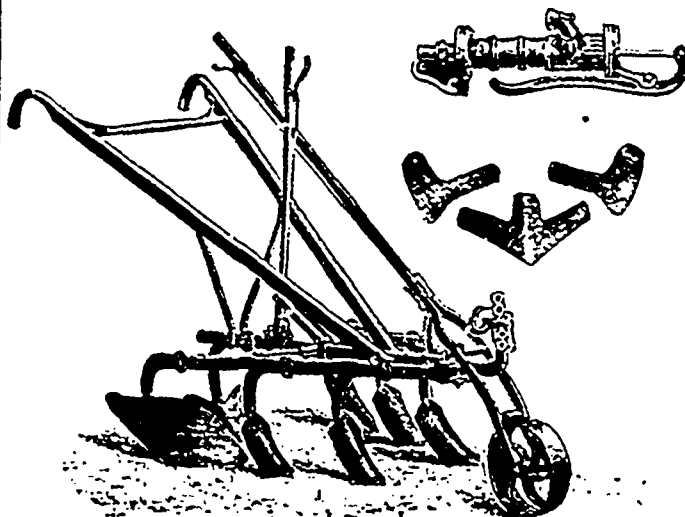
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to be known as the United Poultry Association of Canada. The object of the association will be to foster the poultry industry of Canada. It is proposed to admit to membership all local poultry associations, and the organization will be controlled by delegates from such associations. This new organization will fix dates and form a circuit of shows. The local associations throughout Canada will be asked for suggestions regarding this movement.

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O.A.C. Examinations.

The annual examination of the Ontario Agricultural College for the year 1898-99 were concluded last week. Forty-five candidates wrote on the first year examination and twenty-three on that of the second year. We have not space here to publish the complete list. The examinations on the third-year work, which are conducted by the University of Toronto, are now in progress, and the results will be published in the annual class-lists of the University.

A Dog-Proof Fence.

A writer in one of our Australian exchanges gives the following description of a dog-proof fence.

"I have erected a fence for dingoes as follows: Netting 3 ft. high, barb-wire 4 in. from netting, then black wire 4 in. from barb, and another barb-wire 4 in. above that; total height of fence 5 ft. I am surprised to find that my sheep-dogs can scale it without much trouble. They do not seem to mind the barbs. I therefore write to ask if any other method of fixing barbs would make it impossible for dogs to get over. I am aware that dingoes would be more easily frightened by the pricking of the barbs, but they are also very cunning. I found the other day that one had climbed up the netting, and as the netting gave way a little he squeezed through between the netting and the black wire to which it is attached. There are three ties at top of netting, and the netting is well hung, but this particular spot was perhaps the most bulgy in the line. I may add that the barbs are let into side of posts by saw-cut, and are lashed to post. Everyone says it is a splendid fence, but I want to make the rest of the fencing absolutely dog-proof."

If any of our readers have had any experience with fences that will keep out dogs we would be glad to hear from him. Such a fence would be a great boon to sheep raisers.

The Chicken-Mite.

This exceedingly troublesome, and often fatal, pest is the cause of many complaints from those raising chickens. The attacks of the pest are not confined to poultry, as it is often found in pigeon houses and in the nests of other birds about farm buildings. Where they are numerous they often find their way to animals confined in the infested buildings. The mites are nocturnal in their habits. During the day time they are generally in hiding about the building, but at night they abandon their hiding places and seek for food. Chickens are often prevented from sleeping at night, and not rarely forced to abandon their eggs when setting. Instances have been recorded where birds have been killed by this mite.

There is no way to receive permanent relief from the pest. The remedie; must be applied often and thor-



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.

Members of the family also will find it a source of much enjoyment in examining photographs, flowers, etc. We offer a Glass of special value and utility. Fine French glass, lens extra large size, 4 inches in diameter. Metal mountings are nickel-plated.

Specially Valuable for Examining Seeds, Insect Pests, Etc.

- Any Subscriber renewing his own subscription may receive the reading glass, carefully packed for mail, for only **\$1.00**
- Any Subscriber sending us one new subscription may receive the glass for **.75**
- Any Subscriber sending us three new subscriptions will receive the glass..... **Free**

Regular Price \$2.50

Cash Must Accompany each Subscription at the Rate of One Dollar a Year.

ADDRESS

FARMING

Confederation Life Building, TORONTO

oughly, since the insect is able to live a long time without eating. Cleanliness must be observed. The hen manure should be frequently removed, as it often swarms with the pest. If the hen house is tight, fumigation by sulphur is very effective. To prevent any accident by fire, float the metal vessel containing the burning sulphur in a tub of water. After several hours of fumigation, air the building well before occupancy. Pure kerosene is also to be recommended. The interior of the building, including perches, should be well sprayed with it. After using kerosene, remember to air the building before introducing a light.

P. J. PARROTT.
Kansas State Agricultural College.

Food Value of an Egg.

One of our exchanges has the following to say in regard to the food value of eggs :

"Six large eggs will weigh about one pound. As a flesh producer, one pound of eggs is equal to one pound of beef. About one-third of the weight of an egg is solid nutriment, which is more than can be said of meat. There are no bones and tough pieces that have to be laid aside. Practically an egg is animal food, and yet there is none of the disagreeable work of the butchery necessary to obtain it. Eggs at average prices are among the cheapest and most nutritious articles of diet. Like milk, an egg is complete food in itself: containing everything that is necessary for the development of a perfect animal. It is also easily digested, if not damaged in cooking.

Subsoiling.

The Wisconsin Experiment Station gives the following as being among the best methods of subsoiling :

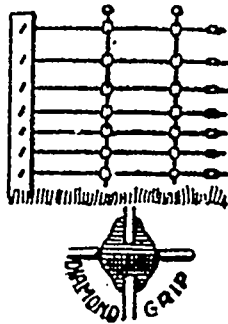
"Subsoiling to be most effective should be done in such a way as to leave the soil loose, much as the stubble plow leaves it. To accomplish this much will depend upon the character of the tool and more upon the condition of the soil when the work is done. If the soil is to be so wet as to be plastic when the plowing is done, then the effect of the subsoil plow will be to wedge the portions of the soil, which are heavily pressed, into an even more compact and close texture than before, and thus develop a condition the opposite of that sought. To simply form a long groove or channel in the subsoil by wedging the dirt aside gives little aid in the direction sought. Such work, then, if done at all, should be done when the subsoil itself is dry enough, and this is most likely to occur in the fall after the crop of the season has withdrawn the moisture from it. Subsoiling late, too, leaves no time for the soil to lose its open texture before the rains to be stored reaches it."

"To discontinue an advertisement is like taking down your sign."—John Wanamaker.

GOOD FARM FENCE
should turn all kinds of live stock and even traps; should expand and contract according to the weather so as always to be tight; should stand all storms—even fire and last indefinitely.
The Coiled Spring Page
is just such a fence.
Its virtue is attested by the fact that there is more of it in use than all other makes combined. Prices lower than ever this year.
THE PAGE WIRE FENCE CO., (Ltd.)
WALKERVILLE, ONT.

Fence Machine Free

With 100 Rods. Gold Stem-Wind Watch Free.



To introduce Diamond Grip Fence in new localities. Don't have to wind wires around each other (like old woven fences), as cross wires are gripped and protected from weather; can never slip or break; 5 times as strong and lasts 10 times as long, as any woven wire fence made; can use coiled spring, plain, twisted or barb wire. Cheapest Fence in end that was ever invented. Agents wanted; write quick to

CANADA FENCE CO., London, Ont.

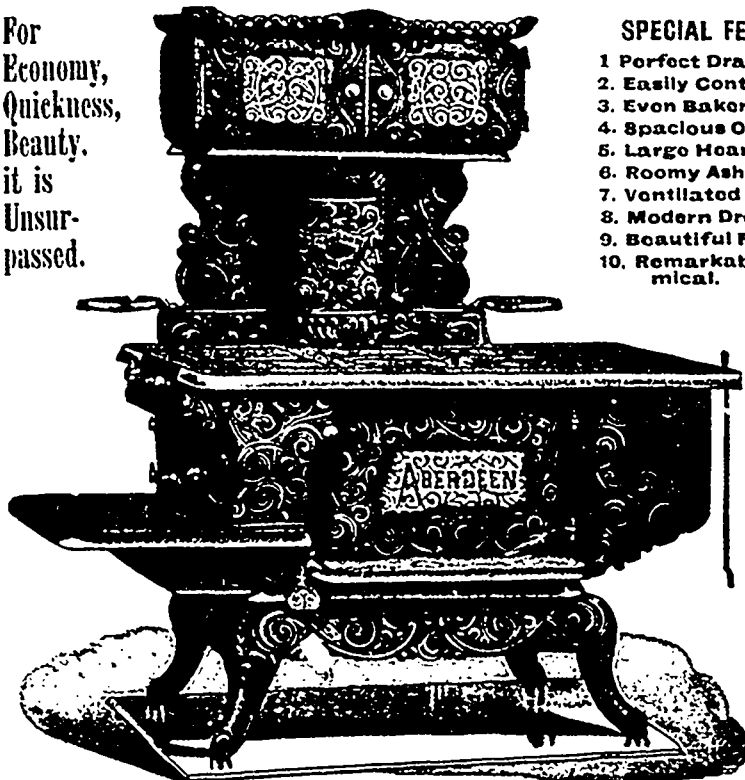
CANADIAN OFFICE & SCHOOL FURNITURE CO. LIMITED
PRESTON ONT.
FINE BANK OFFICE, COURT HOUSE & LOGGING STORE FITTINGS.
OFFICE, SCHOOL, CHURCH & LODGE FURNITURE.
SEND FOR CATALOGUE

Patent Roller and Ball-Bearing Galvanized Steel
Wind Mills Towers and Flag Staffs
"Maple Leaf" Grain Grinders.
Iron and Spray Pumps.
Send for New Illustrated Catalogue

GOLD SHAPLEY & MUIR CO. LIMITED
BRANTFORD CAN.

ABERDEEN RANGE.

For Economy, Quickness, Beauty, it is Unsurpassed.



SPECIAL FEATURES.

1. Perfect Draft.
2. Easily Controlled.
3. Even Baker.
4. Spacious Oven.
5. Largo Hearth.
6. Roomy Ashpan.
7. Ventilated Oven.
8. Modern Dress.
9. Beautiful Finish.
10. Remarkably Economical.

Our Range has been an unqualified success. It has never failed, a remarkable record in itself. Buy it in preference to any other.

The COPP BROS. COMPANY, Limited, Hamilton

Shying in Horses.

The vice of shying is one of the most annoying and dangerous, and many farmers cannot understand why horses shy in the first place, and why it is so difficult to break them of this evil and dangerous habit. They do not stop to reflect that shying is simply a revival of an old habit essential to the very existence of the horse when it ran wild on desert or plain. Every horse from colthood up was obliged to be on the look-out for an enemy. Were it not for its speed the horse would be almost as defenceless as a sheep. It must depend on its legs for safety and its eye and ear to warn it of danger. Its eyes are so placed that it can see on each side and can turn its ears in all directions so as to catch the slightest sound. When a wolf is seen or the sound of a wolf heard or a snake trailing through the long grass it was ready for flight, and that habit through all the generations still continues and is strongest in the horse nearest to the original wild type and weakest in horses of the draft type, out of which it has been almost entirely bred. The horse seldom fears any object unless it appears suddenly; therefore, the way to break a horse of shyness is not to whip it when it obeys the instinct of its ancestors. This only makes it worse, for it is sure to remember that if there had even been no reason for this involuntary motion, it is liable to get a whipping for it anyway. The only reasonable way to break a horse of this habit is to require it to stop whenever it shies and let it see that there is nothing to be afraid of. Man himself is not much afraid of anything he clearly sees and understands. It is the unknown, the mysterious, that which comes suddenly and takes us unawares of which we stand in fear.—*Rural World*.

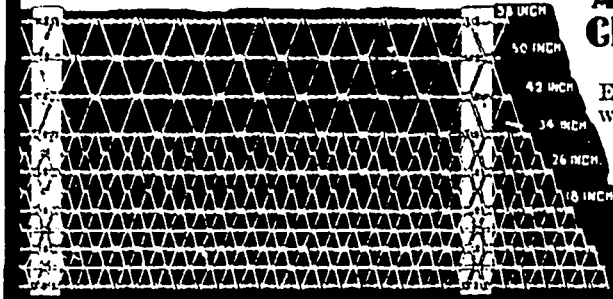
"Joe, why do you suppose that old hen persists in laying in the coal bin?" "Why, mother, I think she has seen the sign, 'Now is the time to lay in coal.'"

Western Manitoba's Big Fair.

The prize list of the Western Agricultural and Arts Association, whose annual exhibition will be held at Brandon on July 18th to 21st inclusive has been issued. Entries for all classes close on Saturday, July 15th, and must be made with the manager, Mr. F. J. Clark, Brandon, Man., from whom proper entry forms, prize lists and all information may be obtained. The fair at Brandon will be one of the great events of the year in Western Canada, and should be largely patronized by people from all sections of the Dominion. It appeals to all patriotic Canadians as affording opportunities for education and for illustrating the advantages and possibilities of one of the finest agricultural districts in the world, whose interests it is the duty of every Canadian to promote. As the directors point out in their announcement, "There is not a home, a farm, a factory or a commercial house that cannot point to some improvement or profit resulting from the holding of the fair." Manitobans can be depended upon to fill every department with the choicest exhibits their province affords and to do everything possible to ensure the unqualified success of the fair.

THE ELLWOOD STANDARD

WOVEN WIRE FENCE is only one of the 10 styles we make. We call it our standard because it is designed to meet nearly every requirement of the fence user. Made in six heights, as you see it in the illustration—for cattle, horses, hogs, pigs and general farm fencing, this is by all means the Standard Fence, outselling every other fence on the market.



AND IT'S CHEAP TOO....

If you can't find the Ellwood at your dealer's write us for catalogue

AMERICAN STEEL AND WIRE CO.

Chicago and New York.

Support HOME MANUFACTURE

CANADIAN-MADE HAND SEPARATORS



Turns easy. Open bowl. Well finished. Most durable. Price reasonable. Best investment farmers can make. Catalogue free. Dairy supplies of Every Description. Genuine Parchment Paper, for lb. prints, neatly and tastefully printed. By mail, post-paid. Prices reasonable.

No. 9—Canadian Ideal. Cap. 30 gallons per hour.

Write us.

JOHN S. PEARCE & CO.,
LONDON, Ont.

Lump Jaw

If it once gains a foothold in your herd will in all probability carry off from ten to twelve per cent.

MITCHELL'S ANTI-LUMP JAW

has proved by its effective work that a bottle of it should be in every cattle raiser's hands.

WE ABSOLUTELY GUARANTEE TO CURE ALL CASES.

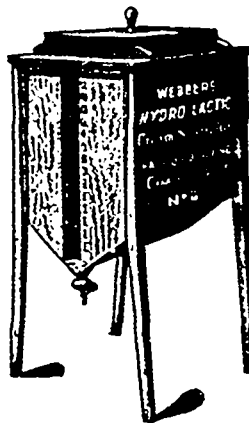
If it fails we return your money. Endorsed by Canada's leading cattle exporters, Gordon, Ironside & Fares, Montreal and Winnipeg.

Price \$3.00,

Postpaid to any address.

FREE—Treatise on Lump Jaw and booklet of Testimonials sent on request.

W. J. Mitchell & Co.,
CHEMISTS,
Prince Albert, N.W.T.
Winnipeg, Man.



Agents Wanted.

If You Keep from 2 to 15 Cows THIS IS WHAT YOU NEED

IT SAVES Time Labor Money



MAKES More and Better Butter

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

Send for descriptive circular, price list and testimonials of the

Webber Hydro-Lactic Cream Separator

Sells in Ontario and Quebec at from \$7 to \$14. Every farmer can have one.

J. F. GILL & CO., Niagara Falls, Ont.

BUTTER WRAPPERS.

GENUINE VEGETABLE PARCHMENT, 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,

THE SENTINEL-REVIEW
WOODSTOCK, ONT.,

imports Genuine VEGETABLE PARCHMENT for butter wrappers. It is the largest house in Canada selling and printing butter wrappers. This paper is not an imitation. It is the

SENTINEL-REVIEW,
WOODSTOCK, ONT.

The Ontario Agricultural Gazette

The Official Bulletin of the Dominion Cattle, Sheep, and Swine Breeders' Association, and of the Farmers' Institute System of the Province of Ontario. Vol. 11. No 33.

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 11,000 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 members which have been received since the last list published:

Bruce, Centre.....	3
Bruce, North.....	1
Bruce, West.....	1
Durham, East.....	2
Dundas.....	1
Grey, Centre.....	2
Haldimand.....	10
Halton.....	6
Hastings, North.....	2
Manitowlin, East.....	18
Parry Sound, East.....	2
Welland.....	1
Wellington, West.....	1

Secretary's Report.

(Continued from last issue)

Towards the end of last year stock throughout the Province was very scarce, and the interprovincial trade was very large. Should not THE GAZETTE, which is being received by breeders throughout Canada, be entitled to a fair share of the credit? It is impossible to make any accurate statement as to the work done by THE GAZETTE in making sales, but the opinion of the large number of prominent live stock men, who have sent unsolicited testimonials, is evidence as to the work being done through this medium. I will quote only one:

"Your advertisement of stock for sale in THE GAZETTE is a very happy one, and must be very useful to buyers." (Sgd.) SYDNEY FISHER, Minister of Agriculture.

The result of the publication of the lists may be summed up as follows:

- (1) The increase in interprovincial trade.
- (2) The increased membership of the associations.

The cost of THE GAZETTE to each association during the past year was \$69.70. Has value been received for this expenditure?

REGISTRATIONS.

Three years ago the Dominion Swine Breeders' Association took complete

control of the Swine Records, and arrangements were made by the executive whereby the association paid to the recording secretary twenty five cents for each registration certificate issued and ten cents for each transfer. Mr. Henry Wade was appointed recording secretary for the association. Before January, 1896, the Swine Records were in the hands of the Agriculture and Arts Association—the Swine Breeders' Association receiving nothing from the Records and about fifty or sixty cents from the membership fees, the balance, \$1.40 or \$1.50, going to pay for the volumes of the Record supplied to members. All we received in addition to the legislative grant was between \$100 and \$150 from membership fees.

Since January, 1896, when the

Records were taken charge of by the association, in addition to paying the recording secretary \$2,511.80 for issuing registration certificates and transfers, we have received \$2,702.90 on account of registrations, and \$1,760 on account of membership fees, or a total of \$4,462.90. Out of this sum we paid for two volumes of the Record issued, \$1,288, leaving a balance for the three years of \$3,174.90 against the \$450 (an outside limit) which we formerly received from membership fees. In other words, under the existing arrangements we are \$2,724.90 better off than we would have been had the old arrangements still been in force. Against this sum, however, may properly be charged about \$700 for printing the volume of the Record which will contain pedigrees already issued by the recording secretary but not published. Deducting this amount will leave in round figures \$2,000 more to the credit of the association than we would have had under former arrangements.

This, I think, is a good showing for three years' work and your executive justly feel that their work was well done and in the interests of the association.

Following is a statement showing the number of swine published yearly in each volume of the Swine Record since 1891, when the first volume was issued. In the first volume were printed registrations received as early as 1876:

NUMBER OF EACH BREED RECORDED YEARLY.

Breed.	1891.	1892.	1893.	1894.	1895.	1896.	1897.	1898.	Certificates issued in 1898.
Berkshires.....	1398	1100	1300	1500	1150	1025	1287	1491	1273
Yorkshires.....	494	498	500	900	859	821	460	718	1044
Suffolks.....	200	121	.....	64	.....	44	32	.....	10
Chester-Whites.....	249	250	200	200	96	358	184	415	442
Poland-Chinas.....	200	250	720	170	92	296	237	330	233
Tamworths.....	.....	76	160	91	333	248	193	427	817
Duroc-Jerseys.....	.....	.....	.....	.....	81	152	69	208	151
Essex.....	.....	.....	.....	.....	.....	.....	43	.....	17
Victorias.....	.....	.....	.....	.....	.....	.....	.....	.....	6

It will be noticed there are two columns for 1898. One column for the pedigrees published in 1898, the other for registration certificates issued in 1898. The pedigrees of animals recorded in 1898 will not be published until the end of this year. In this connection it might be well to consider whether some change should not be made so that the volume issued at the end of each year would contain pedigrees issued during that year, and not those issued during the preceding year. For example volume No. VIII., lately published, contains pedigrees issued in 1897. If two volumes were issued this year we would then have the pedigrees issued right up to date; that is, all

certificates received during 1899 would be published at the end of this year and the volume would be sent to all who had been members for 1899, they thus receiving the volume in which the pedigrees of their stock were recorded. The extra cost to the association would be \$150.

Taking the number of pedigrees published in each volume as a basis, the following table will show the amount of fees received from the registration of each breed. The computation has been made at the rate of fifty cents per registration, although a few animals will have been recorded for non-members, for which \$1 was paid.

To be continued.

Potato Scab.

Potato scab is the operation of a minute fungus. These little parasites reproduce themselves as the higher plants do. They can increase by division of the plant itself, or by spores which act as seeds. Progressive people in these days never risk any large crop without steeping the seeds to destroy the enemy. Simple copperas water has been found efficient. Formalin, a non-poisonous, non-corrosive substance, will practically free seed potatoes from scab germs, by an immersion for two hours in a solution of the approximate strength of 1:300. It is equal to corrosive sublimate in efficiency, and is without its dangerous and troublesome properties. Seed material of seemingly good quality, as well as that much affected with scab, shows beneficial results from treatment. The recipe for its use is to add 3 fluid ounces (about one half pint) of formalin to 15 gallons of water, and soak the seed tubers in it for two hours before planting. This solution may be used several times.—*New England Farmer.*

The Profitable Age for Winter Layers.

"At what age is it most profitable to keep hens for winter layers?" The wise ones tell us that pullets of any of the better varieties that are hatched early enough in the season to reach maturity, and begin laying in the fall, will continue throughout the winter with short periods of intermission, provided, of course, that they are fed and cared for in such a manner as to promote the egg-making process. We are also told that hens of the heavier varieties are at their best when two years old, and that a larger per cent. of their eggs are fertile, and produce finer, healthier chicks than those hatched from pullets' eggs. Of the smaller and more active, the non-sitting breeds, hens can be kept with profit until five years old.—*The Cable.*

Egg-Eating Hens

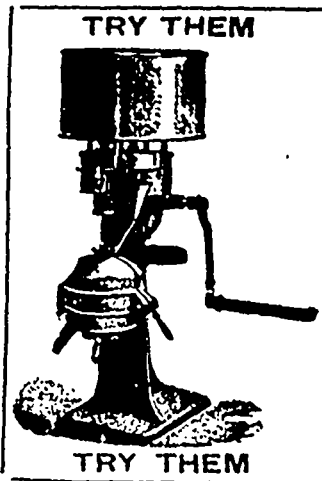
Egg-eating is an annoying habit among hens and an unprofitable one as well. The common practice is to cut the head of the hen that contracts such a habit. An American poultry keeper, however, claims to have discovered a cure for this habit by feeding egg shells to his hens for some time without any other food. He saves up all the egg shells that can be obtained until spring, and he may, perhaps, get a few at the hotel and restaurant to aid him in his cure. The fowls are penned up, and a few egg shells are given them. The first time they eat them eagerly, and the next they seem to have lost a little of their love for them. The feeding is kept up and they gradually lose their taste for eggs, and as it continues they get so they will not eat them at all, and fresh eggs may be rolled among them, and they seem to have a disgust for the sight of an egg or an egg shell, which is all the same to them.

ALEXANDRA AND MÉLOTTE CREAM SEPARATORS

For Particulars apply to

R. A. LISTER & CO.,
Limited

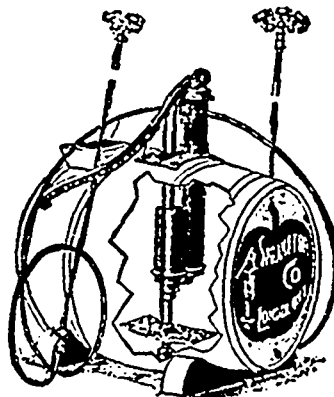
Eastern Branch Works, 579-581 St. Paul Street,
MONTREAL
Western Branch, 232 King St., WINNIPEG.
Head Office and Works, DURSLEY, ENGLAND



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 whitewashing 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. MASSEY.

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. PETTIT, 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.

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.

tf

Market Review and Forecast

Office of FARMING,
Confederation Life Building,
Toronto, May 29th, 1899.

Confidence in the commercial future of this country is undiminished. There is nothing of an adverse nature to report. The movement of dairy produce in many sections is beginning to be felt in the improved business. The mining districts of the west seem to be increasing their purchases of food products and a big market is being developed on the Pacific slope for eastern products.

Wheat.

The wheat market has considerably improved during the week, but whether this improvement is a lasting one or not remains to be seen. The feeling at Chicago has been strong and prices for July and September deliveries have advanced from 3 to 4c. over a week ago. Some operators believe that wheat will cross the 80c. line before long. The chief feature of the week is the very unfavorable reports regarding the winter wheat crops in the Western States, where the Hessian fly has been making sad ravages in the growing grain. Regarding this the *Price Current* says:

"Taking all things into consideration the late information in regard to the situation of the winter wheat crop is more distinctly unfavorable than made evident previously during an equal period this season. It is practically useless to undertake to compare the average condition with the position two or four weeks ago with any effort at definiteness, but it is admissible to say that there is no longer any ground for hope that a good crop of winter wheat can be harvested this season.

The condition now has been lowered to a point which can not be regarded as giving promise of over 280,000,000 bushels, or 160,000,000 less than should have been expected had last year's condition been equaled throughout and without loss of seeded area."

Activity has been shown in European markets and material advances are reported at Liverpool and other places. The Chicago market has been strong and a large volume of trading done. There is an improved feeling at Montreal, with some advance in prices owing to stronger feeling abroad. The market here is stronger in keeping with the feeling in the west, red and white being quoted at 70 to 71c., north and west, and goose at 66 to 67c., and No. 1 hard Manitoba 85½c., and No. 1 northern at 82½c. Toronto. On the Toronto farmers' market red and white brings 73½ to 74c., file 67 to 69c. and goose 66c. per bushel.

Oats and Barley

The English oat markets have advanced 3d. during the week. At Montreal considerable business is being done, though the shipments this month show a large falling off as compared with last year. Many farmers are reported to be bringing out large quantities of oats in some sections. The outlook for the American crop is good. There is a somewhat easier feeling at Montreal, though buyers, in order to get supplies, have to pay 36c., which is a slight advance over a week ago. Oats are somewhat dull here at 31 to 31½c. west. On the Toronto farmers' market they are quoted at 37c. per bushel.

Barley at Montreal is quiet at 49 to 51c. for malting grades and 43 to 45c. for feed. Barley here is quoted at 40 to 43c. west.

Peas and Corn.

Peas in the English markets have advanced from 3d. to 6d., but this advance has checked business. At Montreal the market is quiet at 74½ to 75c. afloat; 64 to 65c. west are the quotations here, and on the Toronto farmers' market they bring 62 to 63c. per bushel.

American corn is quoted at Montreal at 39½ to 40c. afloat, and here at 41 to 42c. for cars on track.

Bran and Shorts.

At Montreal Ontario bran is easier at \$15

to \$16, and shorts at \$16.50 to \$17.50 per ton. City mills here continue to sell bran at \$14.50 and shorts at \$15.50 in car lots f.o.b. Toronto.

Clover and Timothy Seeds.

The season for these is about over, and prices are more or less nominal. Quotations at Montreal are the same as last week. There is nothing doing here.

Eggs and Poultry.

The export egg trade is in a sort of hesitating condition. The cost of eggs on this side is considered too high to admit of pickling being done at a profit. At present prices it costs fully 12c. at Montreal for pickled eggs, which is from 1½ to 2c. above what British dealers will pay for them. The production of eggs this spring is much below what it was last year but still there will be a large over supply which dealers are wondering how they are going to export at a profit if present prices continue. There is an improved demand for eggs for the mining districts of the west. It is reported that Canadian cold storage eggs are not wanted in England and that our pickled stock suit the trade better. At Montreal prices are 11 to 11½c. wholesale. The market here is steady at 11 to 12c. for choice new laid. On the Toronto farmers' market new laid eggs bring from 11 to 13c. per dozen.

There is little doing in poultry on the farmers' market here. Chickens fetch from 40 to 75c. per pair, and turkeys 12 to 15c. per lb.

Potatoes.

Potatoes at Montreal are quoted at 67c. to 68c. wholesale for the best. The market here is dull and easy at 70c. to 75c. per bag for cars on track and 85 to 90c. out of store. On the Toronto farmers' market they bring from 75 to 85c. per bag.

Fruit.

The supply of apples at Montreal is limited and prices range from \$3 to \$5 per barrel. Some estimates regarding the American apple crop indicate a larger yield than last year, but it is too soon yet to state anything definite. Apples on the farmers' market here fetch \$2.50 to \$4 per barrel.

Hay and Straw.

Quite a lot of hay has been sold in Quebec recently to Americans and if they continue to operate as largely as they have been doing firmer prices are looked for. Baled hay is firmer at Montreal and quotations: are No. 1, \$7 to \$7.50; No. 2, \$5.50 to \$6, and clover, \$4.50 to \$5. The market here is firm, with light offerings and a good demand. Cars on track are quoted at \$7.50 to \$8.75 and baled straw at \$4.50 to \$5. On the Toronto farmers' market timothy brings \$11 to \$13; clover \$8 to \$10; sheaf straw \$6 to \$7 and loose straw \$4 to \$5.

Wool.

Though the English wool markets are active, with a hardening tendency reported even in crossbred wools, the situation here

has not changed much. As yet very little wool has been offered owing to the recent cool weather and the very low prices. Local dealers here quote 13c. for washed and 8c. per lb. for unwashed wools, which are pretty low figures. There is a somewhat stronger tendency at Boston and New York, and there is a feeling that farmers will hold their wool for a higher market. A little more activity is reported in woollen goods at Montreal.

Cheese.

The increased offerings have created an easier feeling. The total shipments from Montreal from May 1st to May 23rd were 51,989 boxes, as compared with 23,020 for the same period last year, and the combined exports from Montreal and New York for the same time show an increase of 29,655 boxes, as compared with 1898. At Montreal the market was steady for last week's shipment at 9 to 9½c. for colored, and 9½ to 9¾c. for white. For this week's shipments, however, the market is ¾ to ½c. down. The *Trade Bulletin's* London cable of May 25th reads thus: "With light stocks of old the market is firm, and all the new so far arriving has been quickly picked up at 47s. 6d. to 49s." A very large make is going in the country, and cows are now on full grass feed, and a big June make is looked for. With one or two exceptions the sales at the local markets during the week were all below 9c. 8¼ to 8¾c. were the ruling figures, though at Brockville on Thursday 8½c. was the highest offer on the board, as compared with 9½c. for the Thursday previous. Sales were reported after the board at 8½ to 8¾c. for colored and 8¾c. for white.

Butter.

The London, England, market for creamery butter, according to the *Trade Bulletin's* cable, is quiet but steady, and under light stocks holders are not forcing sales. Canadian creamery is expected to arrive in large quantities shortly and is quoted at 85s. to 87s. for choice parcels. The Montreal market is firm for grass butter, sales of which have been made in the country at 16½ to 16¾c., though sales of fodder goods are reported at 15¾c. and grass goods at 16c. f.o.b. The prices for the best quality are, however, about ¼c. higher than a week ago. There is a fair amount of business doing for export account. Shipments of butter from Montreal from May 1st to May 25 are 10,091, as compared with 3,900 for the same period last year. The total shipments from New York and Montreal for the same time show an increase of 7,865 packages, as compared with last year. All this shows that though prices are somewhat low our dairymen have not gone out of the creamery business.

Creamery is reported steady here at 16½ to 18c. for prints and 16c. for packages. There seems to be a good demand for grass-made dairy butter, but the arrivals are small. Large rolls are quoted at 10 to 11½c. and dairy tubs at 10 to 10½c., but more would be paid for choice fresh make. On the Toronto farmers'

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market pound rolls bring 14 to 17c., and large rolls 13 to 14c. per lb.

Cattle.

The cattle markets continue strong and active. At Chicago Omaha and other western points prices have been well maintained, though receipts in some cases have been large. Buyers at Chicago consider prices too high, but owners and sellers do not think so. The Buffalo market has ruled steady under a fair demand. On this market prices have been well maintained at what they have been for several weeks past. On Tuesday there was the largest run of live stock of the season, but on Friday the run was not as large as was expected. The quality of the fat cattle was good, the bulk of which were exporters, butchers' cattle being scarce. On Friday trade generally was good, but it is claimed that prices are too high for shipping cattle to the British market at a profit.

Export Cattle.—Choice heavy well-finished cattle of heavy weights sold on Friday at \$4.80 to \$5 per cwt., and light exporters at \$4.50 to \$4.65. A few choice picked lots went from 10 to 15c higher. Heavy export bulls of good quality sold at \$3.87½ to \$4.25 and light ones at \$3.40 to \$3.65 per cwt.

Butchers' Cattle.—Choice picked lots of these, equal in quality to the best exporters, weighing 1000 to 1150 lbs. each, sold at \$4.50 to \$4.65 per cwt. Good butchers' cattle sold at \$4.40 to \$4.50, and medium at \$4.25 to \$4.35 per cwt., while common and inferior sold as low as \$3.25 per cwt.

Stock and Feeders.—The stocker and feeder trade in the west has been somewhat quiet, although all offerings have found ready markets at steady to strong prices with some emphasis on the best light weights. Buffalo stockers on this market on Friday sold all the way from \$3.75 for common, to \$4 for medium, and \$4.25 per cwt. for choice bred steers with the market active at these prices. Stock heifers brought \$3 to \$3.20 and inferior stock bulls \$2.75 per cwt. Heavy feeders are in good demand with prices firm at \$4.40 to \$4.60 for well-bred steers, half fat, weighing not less than 1000 to 1150 lbs. each. Feeding bulls suitable for the byres are worth \$3 to \$3.50 per cwt.

Calves.—These have been in good supply at Buffalo, where the market is a little easier. Good veal calves are wanted on this market. Those offered on Friday brought \$2 to \$10 each as to quality.

Milk Cows and Springers.—These are worth from \$25 to \$48 each. Really good cows are in demand.

Sheep and Lambs.

There has been an easier feeling at Chicago for the poorer grades though good quality were steady. It is claimed the high prices



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have brought out a lot of half finished sheep. The Buffalo market has been fairly steady with a slow tendency at the end of the week. There has been an over supply of poor quality. The deliveries on this market have been equal to the demand. Ewes, on Friday, sold at \$4 for unclipped, and bucks at \$3 to \$3.50 per cwt. The deliveries of yearling lambs were light. Prices were \$ to \$5.50 per cwt. unclipped. Spring lambs are easier at \$2.50 to \$4.50 each.

Hogs.

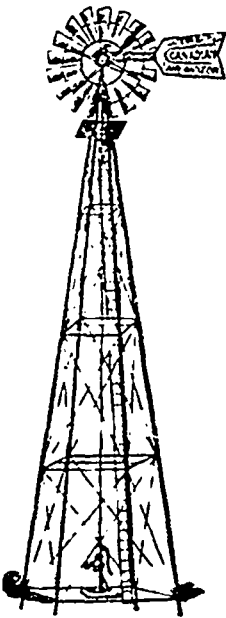
The prices for hogs continue to advance. Since our last report choice select bacon hogs have advanced to \$5, light ones to \$4.50, and thick fats to \$4.37½ per cwt. The deliveries have been large. Packers complain of too many light hogs under 160 lbs live weight coming forward. A great many sold on Toronto market during the week would not weigh more than 125 lbs. for which \$4.37½ per cwt. had to be accepted or 62½c. less per cwt. than if these hogs were kept till they weighed 160 lbs. each. There is also com-

plaint that farmers are finishing their hogs off on fresh grass, which causes a soft quality of bacon. They are strongly advised to finish them off on solid food and to have each one weigh at least 160 lbs. Unless this is done the highest prices cannot be obtained. At Montreal all desirable offerings are taken by packers at \$4.75, and other kinds at \$4.50 per cwt. The *Trade Bulletin's* special cables re Canadian bacon trade are more encouraging for better prices. They are as follows:

London, May 25th, 1899.—Under a good demand for Canadian bacon, prices have scored a further decided advance of 2s. per cwt., but as stocks are light, holders are very conservative in their offerings, as they appear very confident of establishing still better prices.

Liverpool, May 25th, 1899.—There has been quite an active demand for Canadian bacon, and the market here has bordered upon excitement, as values have advanced 4s. 6d. to 5s. per cwt., with a good demand at the advance.

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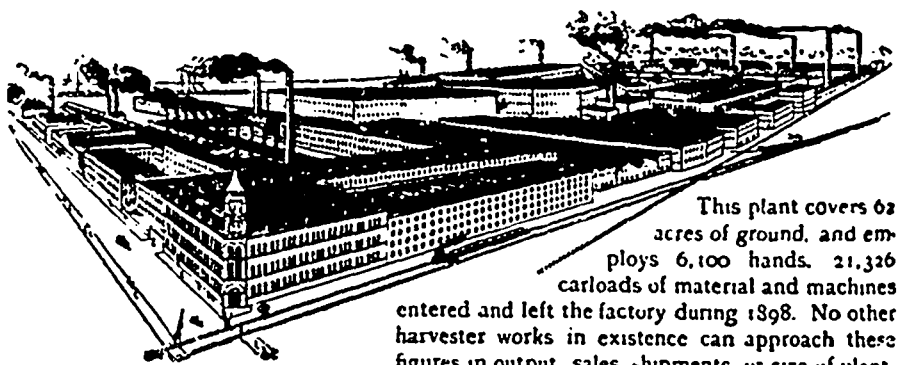
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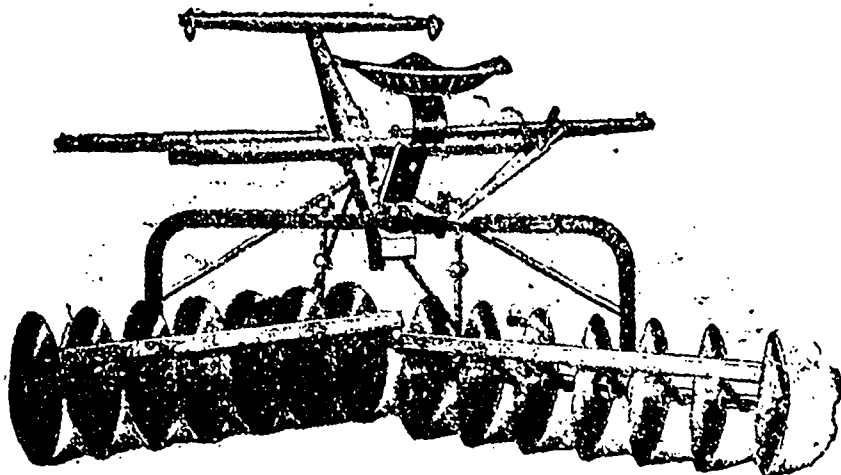
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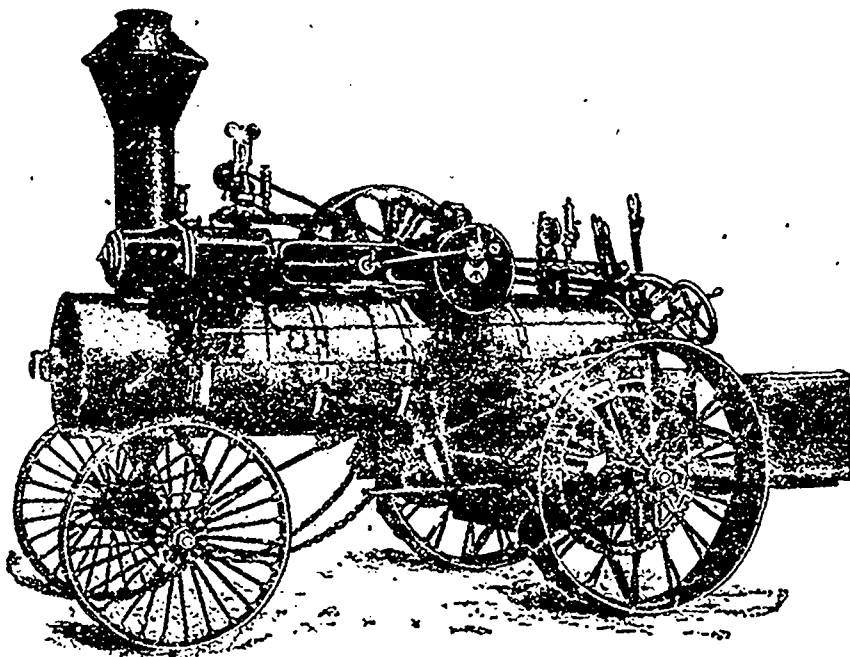
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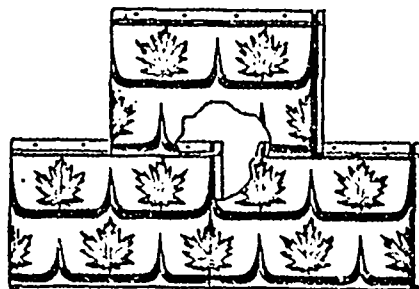
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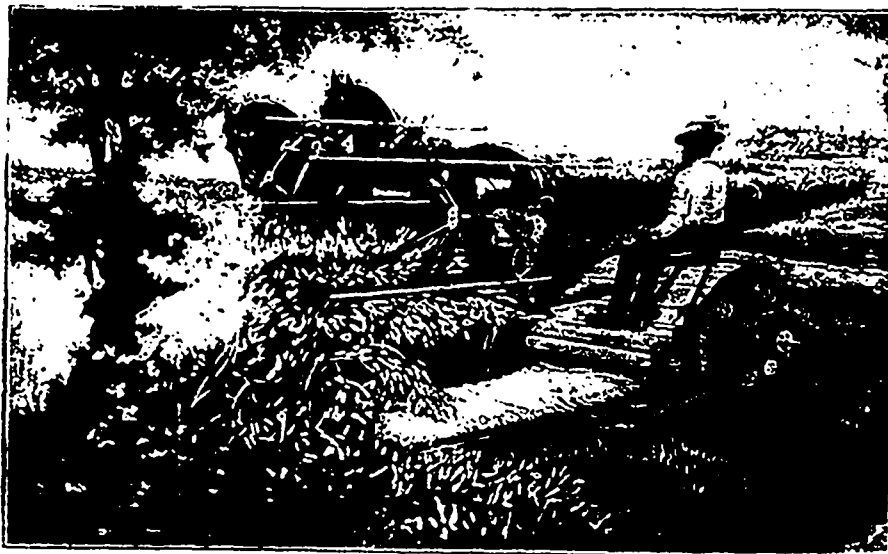
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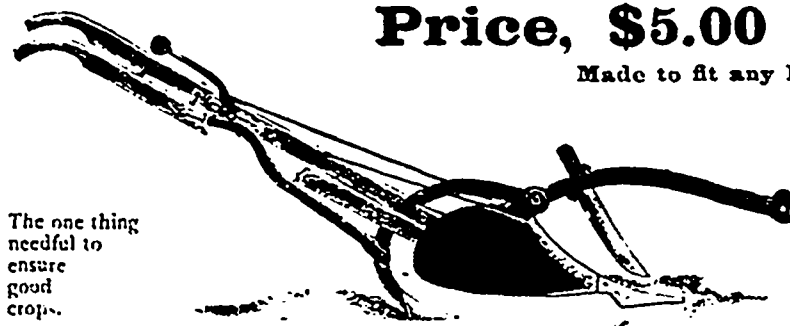
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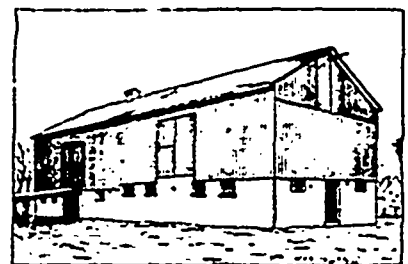
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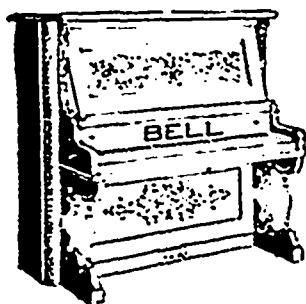
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