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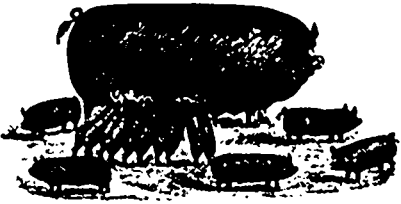
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PROFESSOR H. H. DEAN, B.S.A.

...LEADING TOPICS FOR THE WEEK...
Intensive Farming. Asia as a Grain Market. Live Stock in the United States. Hog Cholera and the Law. The Sheep Outlook. Getting Fruit to Market. Notes and Ideas. Canada's Dairymen. Correspondence. Storing Potatoes. Keeping Fall and Winter Apples. The Possibilities of the Poultry Industry. About Hog Cholera. Hog Cholera in the West. Poultry Keeping. Annual Sale of Live Stock at the Ontario Agricultural College.

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FARMING

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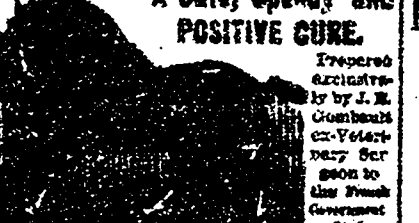
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FARMING

Vol. XV.

OCTOBER 19TH, 1897.

No. 7.

FARMING

AN ILLUSTRATED WEEKLY JOURNAL DEVOTED TO FARMING AND THE FARMER'S INTERESTS.

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TOPICS FOR THE WEEK

Getting Fruit to Market. II.

In our issue for October 5th we spoke somewhat strongly of the necessity of some sort of action being taken to secure a better means than what seems now available, for getting our choice fruits to market. From what we have since seen and heard we believe that we spoke not a whit too strongly. We are told upon good authority that so far from overstating the case, we understated it. Grapes are sold in Toronto this autumn at one cent a lb., basket free. Peaches were to be had in the St. Catharines district all season at 5 cents a basket, if one would but gather them. Plums have been left on the trees because they could not be picked and sold at a profit. Currants, lovely red currants, plump and large as cherries, have been left to dry on the bushes, because it would not pay the owner to gather them. And yet in hundreds of communities throughout all Canada, all these fruits have been scarce and dear. Last year it was the same with apples. Through lack of means for selling and distributing, in the midst of plenty the grower is impoverished and the consumer goes unfed.

If Canada were a thickly populated country things might perhaps be different. But our country is sparsely settled, our centres of population are far apart, our fruit areas the most part lie close to the national boundary line, and trade is restricted except in one or two directions, and difficult in any direction. The Niagara and St. Catharines fruit growers are practically dependent upon the Hamilton and Toronto markets, though some shipping is done, also, to Montreal. These markets are soon overstocked, and there seems to be no machinery by which sales can be easily extended to other districts. Middlemen and express agents have things all their own way when any rapid movement of a big crop is required, and the producer has to put up with what he can get.

Just now we are hearing a good deal about the Canadian fruit-grower not packing his fruit properly. If a consignment of fruit to England goes wrong for lack of proper transportation service, the whole blame is laid upon the grower and packer. If a carload of fruit for Winnipeg takes too long on the way and is spoiled for lack of ventilation and proper refrigeration, it is the packing again that is given the fault. Now there may be some truth in this criticism. The packing may not be what it ought to be. But the whole business of marketing fruit is unorganized and lacks direction.

The selling, the packing, the shipping, is all done individually and in a hurry. Where there should be co-operation there is competition. Where there should be orderly methods there is confusion. Where there should be a united front made against the demands of middlemen and transportation companies, every producer is trying to get ahead of every other. Where the most carefully planned and most effective action is necessary in order to get the fruit surplus well distributed into every part of the country, and not heaped up in big unwieldy stocks in one or two cities, everything is left to the middlemen, who have other interests to look after, and who in any case cannot expand their business suddenly to meet sudden expansions in the supply. As a result of all this a big crop is about as undesirable a thing as a fruit grower can well wish for.

Now what is the remedy for this evil? It is evident that the evil is a serious one, and that something ought to be done to meet it. But what shall be done?

We wish it to be understood that we are not decrying middlemen and transportation agencies. These no doubt are acting honorably and efficiently. The fault that the fruit grower does not get better results does not lie with them. But it must be remembered that these men act always in their own interests, and that their interests and those of the fruit grower are not identical, in fact they are often opposed. But what we are decrying is a system which leaves the whole business of the sale and distribution of fruit in the hands of the middlemen and transportation agents to do as they please with it. *It matters little to them* how low priced the sales of the retailers are. They get their profit per pound, and their rate per pound, no matter what the net result to the producer may be.

The remedy for the evil lies in two directions. On the one hand there must be co-operation on the part of the growers, on the other, there must be supervision, instruction, and direction on the part of the government. In these directions, and in these alone, does the remedy lie.

The growers must co-operate to secure uniformity of grading, proper packing, the control of the output, the making of terms with the middlemen, the making of terms with the transportation agents, the advertising of their goods in cases of great surplus, the securing of sales at points in the country other than the large cities, the securing of better railway transport facilities, the opening up of markets in distant points like Winnipeg, Quebec, St. John, Halifax, etc., the obtaining of better ocean transport, the securing a hold on the British market, etc., etc. Just as the farmers of the country have co-operated to make cheese production a success, just as they are now co-operating to make butter making a success, so must the fruit-growers co-operate—not merely to produce fruit (they know how to do that now)—but to sell it, to pack it, to grade it, to ship it, to transport it, and to get good prices for it.

The part of the government in this matter, (we are speaking now of the Dominion Government) is (1) to be efficient and active in promoting this co-operation, (2) to undertake a system of supervision and direction, by which all necessary instruction as to picking, packing, shipping, etc., can be given, and by which the necessary help in opening up new markets, in securing better transportation facilities, in advertising the condition of the fruit crop to prospective buyers, etc., etc., can be efficiently rendered.

The work of the government should, of course, be largely educational and advisory. Every care should be taken not to interfere with private rights

or the natural course of trade. But if a government officer, say the secretary of the Fruit Growers' Association, appointed for the purpose, should for five or six months in the year employ his time wholly in studying the probabilities of the fruit supply and demand, in endeavoring to find out what the exact requirements are for transportation over long distances and in unfavorable weather, in instructing growers as to the best means of meeting these requirements, in exploring new markets with trial shipments, etc., in publishing to fruit growers the conditions under which trade could be done in these new markets, in publishing also where it will do most good, the condition of the fruit supply and demand when the crops are needing to be moved—if we say such an officer could spend his time for five or six months in the year, in such ways as these, and in other ways that would occur to him, or be suggested to him by the experience of growers, buyers, etc., would not a very great benefit accrue to all concerned? Undoubtedly so.

And all this effort could go usefully and efficiently on without encroaching on the rights of middlemen, transportation companies, etc., etc., in the slightest. But if it *should* be found that the middlemen's profits were excessive, or that the transportation facilities were deficient, or were not suitable to the preservation of the fruit transported, or were too high priced, then how easy would it be for such an official—having the backing of the whole fruit growing interest behind him, having also the moral support of the government behind him—to bring public opinion to bear on the matter, and have the evil redressed.

The question is an important one. None can be more so. The well being of a great industry of the country is in jeopardy for lack of some such action as the one here outlined. For years we have been encouraging people to go into fruit growing, and have at great cost been instructing them how to grow fruit productively and economically, what varieties to cultivate, what varieties to avoid, and so on. All that end of the work has been done and done well. The other end is now to be taken up—the selling end, the trade and commerce end. This is an affair of the Dominion Government. It lies within the scope of their action. We trust they will recognize their responsibility and act accordingly.

Intensive Farming.

The farming of the future will be *intensive* farming. It will mean the application of brains and science, of energy and skill, to farm work to a degree now scarcely dreamed of. As the population of the world grows bigger, the demand for food-stuffs will, of course, increase with equal pace. But for many years wheat and other bread grains, common beef and mutton, and the cheaper sorts of foods generally, will be cheaply raised in countries where labor and land are cheap, and the Canadian farmer, the American farmer, and the English farmer, whose labor and land are both relatively high priced, will not be able to meet their competition. Farmers, therefore, in English-speaking countries, must take to other branches of the business than the raising of wheat and low priced cattle and sheep. The farming of the future, so far as these countries are concerned, must be devoted to the raising of products in which foreign competition is small or impossible.

We have as yet but little intensive farming in Canada, or even on this continent. One reason for this has been that our country has been new and growing, and farmers for years were able to sell at good profits everything they raised. This

is no longer true. Every bushel of wheat the Canadian farmer raises has to compete with one hundred foreign bushels raised by one hundred foreign farmers, many of whom are content to live on one-fifth of the daily wages the Canadian farmer needs—many, indeed, on a tenth. Every instance, therefore, of intensive farming that comes to light should be described so that its character may be known, its merits discussed, its lessons learned, by every farmer in the land. Mr. D. M. Macpherson, of Lancaster, may be justly called an intensive farmer; and we are pleased to be able to announce that we shall in several early issues of FARMING be able to give our readers some account of his methods and of his success. In the past season, for example, he raised between seven and eight thousand dollars worth of stuff off a farm of 125 acres. We wonder how many Canadian farmers have been able to equal that record!

Mr. George W. Hallock, of Gardiner's Bay, Long Island, N.Y., is another intensive farmer whose achievements are worthy of study. From a long account of his farm and methods in a late number of *The American Agriculturist*, we make the following summary of results: The farm is of 68 acres. In the year 1894, a year marked by disastrous failures for almost all farms in the neighborhood of Gardiner's Bay, the yield from Mr. Hallock's farm was: Strawberries, 9,300 quarts; early potatoes, 4,500 bushels; early cabbage, 4,260 barrels; onions from sets, 2,350 bushels; late potatoes, 1,800 bushels; onions from seed, 6,000 bushels; squash, 530 barrels; carrots, 6,000 bushels; Brussels sprouts, 200 bushels; Hungarian hay, 4 tons; corn in ears, 1,000 bushels; onion seed, 125 lbs.; carrot seed, 75 lbs.; onion sets, 150 bushels; cabbage plants, 275,000! This is calculated to be an average of about 700 bushels per acre of the best sort of market produce.

As an illustration of the way in which some of Mr. Hallock's crops are made to yield, it may be mentioned that for three years off the same field he obtained a yield of 800 bushels per acre *each* of onions and of carrots, or 1600 bushels per acre in all! The potatoes this year when harvested on July 5th, yielded 300 bushels an acre; if they had been left till the vines were dead, the yield would have been 400 bushels per acre, but the price would not have been so good. To maintain the fertility of a farm of this sort, of course, much manure is needed; but a great deal of the manure supplied consists of green stuff turned under. To secure the best prices every care is taken to get the crops marketed early. Nothing but the best seeds are used and these are grown on the place. The methods of seeding employed are for the most part original with Mr. Hallock. The carrot seed is germinated before it is sown. The potatoes are sprouted before they are planted, and by this means a gain of three weeks is made in the time of harvesting, so that the crop can be sold when the prices are highest. Cold storage also is used to extend the time during which the vegetables raised can be kept before they are marketed. For example, carrots kept in cold storage can be put on the market two weeks later than those kept in pits or cellars. One important point is that Mr. Hallock never gives his soil a rest. He sensibly believes that as nature never takes a rest artificial culture need not take rest either. Rotation of crops and the proper use of manures are everything that is required. It should be added that Mr. Hallock was a pioneer in the sort of farming he pursues. His example, however, is now followed by his neighbors, and some them he says, are doing even better than he is.

Asia as a Grain Market.

Mr. J. J. Hill, the president of the Great Northern Railroad, that great railway route that runs from Chicago, St. Paul, etc., along the heart of the great wheat-producing districts of the Northwestern States through to the Pacific coast, is making strenuous efforts to establish an Asiatic market for the grain crop of the Pacific coast. In the last two years there has been a marked increase in the

shipments of flour to Chinese ports, and Mr. Hill says that if the matter is followed up with intelligent effort a great market can be secured. As an instance of the tremendous possibilities of the market he adduces the fact that if the people of a *single province* of China could be induced to use *one ounce of flour* per day per capita the consumption would absorb the whole wheat crop of the Pacific coast! He urges very strongly the sending of a government commission to China and Japan to investigate the possibility of opening up a market for American grain in those countries. He has had, at his own expense, an expert in China for a year investigating the matter; and from the information which he has thus received he is convinced that in the possibility of selling wheat to these countries lies the best hope of the American wheat-raiser.

The making of China and Japan a market for wheat raised on the Pacific seaboard will have an effect on the wheat price of the world quite beyond what at first sight might be thought. As things now are the wheat raised on the Pacific slope is put on shipboard between October and April of each year. Every bushel of it is known and reckoned up in the trade rooms of Liverpool, the centre of the world's wheat market; and the fact that this wheat is afloat, and that when it reaches Liverpool after its long voyage round Cape Horn it will *have* to be sold no matter what the prices then may be, tends to keep down Liverpool prices for *all* wheat during the whole time that it is on the voyage. Thus the price of wheat on the Atlantic seaboard is unduly lowered by the peculiar circumstances of the Pacific seaboard competition.

Canada is as yet not very much directly interested in the possibilities of the Asiatic market for wheat. For, although last year we sent wheat both to the English colony of Hong Kong and also to China, the probabilities are that all the wheat raised in British Columbia, and in such parts of the Northwest as can profitably send wheat westward, will for some time be used in the mining regions of British Columbia. But all these western countries of ours are as yet in the very swaddling-clothes of agricultural infancy. We trust in the next five years to see an immense development there; and nothing could secure the filling up of these magnificent areas of natural productiveness more rapidly than a general belief in the possibility of there being there a good market for all grain raised. We therefore ask: Would it not be wise for our Canadian Government to join hands with the American Government in an endeavor to find out what the possibilities of the Asiatic wheat market are? The thing cannot be done by private enterprise. Mr. Hill has done a great deal; but he is a wealthy man, and has a huge corporation at his back. And even Mr. Hill says the matter is one which the government ought to take up. The truth is a government is infinitely bigger than any individual—than any corporation. We trust our government, therefore, will act in the matter.

Live Stock in the United States.

Never before, for at least seven years, has there been such heart in the live stock breeders of the the northern and western states as there is just now. The good feeling has been manifested all along the line. Even in horses, which showed the worst depression, there is a general upward movement. The export of horses for the twelve months ending June 30th was a million and a half of dollars greater than it was in the preceding twelve months—which in itself was a good thing. Then the trade during during July, August and September, usually the worst months in the year, has been exceedingly steady. Even the inferior sort of horses have found a market, and are taken to the south to be used instead of mules. In cattle, the demand for stockers and feeders has been unprecedented. Prices are good, the export trade is booming, and the feeling generally is that better times are at hand. There is also a great supply of feed on hand. The corn crops of '95 and '96 were record breakers; and a great deal of last year's crop is still unfed. The corn crop of this year,

though much less than that for '96 or '95, is nevertheless a good one; and altogether there is an enormous amount of feeding stuff to be used up. These two facts taken together, the good prices, and the plentifulness of feed, mean that a great many farmers will go into cattle feeding that have been out of it for years. In sheep, there is perhaps more development than in any other sort of stock. No matter how the prices of cattle and hogs have varied during the past six months, the prices of mutton-sheep have kept perfectly steadily moving upward. In swine alone is there any feeling of uneasiness, and in them only because of the prevalence of the dreadful swine plague. But so many herds have to be built up anew that the demand for purebred hogs for re-stocking purposes is quite active. Now all this means a very great demand for the purebred stocks of Canada. Our flocks and herds are free from disease and are of the best quality, and the Dingley duty, fortunately, does not here interfere. Let our stockmen then take heart too. Good times across the lines mean good times here also. And let the breeder of grade cattle and sheep take heart also. Although the American demand for stockers and feeders cannot continue to be as active as it has been, still it will be somewhat active for some time to come. And of grade sheep, both feeding ewes and rams, there is likely to be a good demand for at least a year or two; for it will take at least two years for the Americans to stock themselves on the scale they are now planning.

Hog Cholera in the West.

The hog cholera in the west is still rampant, and swine keepers are becoming almost discouraged. In one county in Iowa alone 64,000 head have died since January 1st. Scarcely anyone believes that a genuine case of the cholera can be cured. Each state is pursuing its own line of action; but in all the states the efforts most relied on are sanitation, inoculation, etc. In Iowa when a herd is condemned, the sick ones are slaughtered and the carcasses are burned, and the farmer receives 1½c. per pound for his hogs. Those that are not sick are inoculated with an anti-toxine serum. Good results have, as a rule (though not always), come from the inoculation, the disease being stopped by it. The herd is fed during the time of treatment at government expense, and the following preventive is given: Wood-charcoal, 1 lb.; sulphur, 1 lb.; sodium chloride, 2 lbs.; sodium bicarbonate, 2 lbs.; sodium hyposulphite, 2 lbs.; sodium sulphate, 1 lb.; antimony sulphide, 1 lb. This preventive is pulverized and mixed thoroughly, and one large tablespoonful given for each 200 pounds of hog once daily. But what is principally required is absolute quarantine, a thorough inspection of stock cars, and a thorough renovation and disinfection of railroad stock yards, and of all swine pens on the farm. Between national and state authority there does not seem to be the co-ordination of action there ought to be. This is to be regretted, for the evil is a terrible one.

The Sheep Outlook.

The activity in sheep is the most striking feature in American live stock raising to-day. This is partly caused by the effect of the Dingley Bill, which is making a strong demand for American-grown wool. Under the McKinley tariff wool was highly protected. Under the succeeding Wilson tariff it was not. As most of the sheep then kept by American sheepmen were wool-producers and little else, almost everybody who kept sheep sold out. But during the past ten years there has been a great development among the people of the United States of the mutton-eating habit; also a very great increase in their fondness for "spring lamb." So that while sheep were formerly kept for their wool alone, they are now kept for mutton. And as the Dingley Bill, by its protective tariff, is now making a demand for wool to spring up again, the sheep that are presently needed are those that will produce both mutton and wool. But still the number of sheep kept in the United States is far below what it formerly was. In 1884 the number of sheep kept was 92 per 100 of population. To-

day the number is said to be not more than 47 per 100 of population. As perhaps everyone who formerly kept sheep is going into sheep raising again, the demand for breeding ewes is very brisk. The prospects, therefore, are that the demand for Canadian breeding ewes will also become very brisk. Now is the time for our sheepmen to let the merits of their flocks be known.

Hog Cholera and the Law.

The prevalence of hog cholera and the swine plague in the Western States is likely to produce a good effect of a sort not at first sight probable. Hard knocks sometimes get new ideas into the heads of people—ideas they ought to have; and were it not for the knocks the ideas might never get in. If there is one thing more than another that people need to learn now-a-days, it is that we live in a social age—an age in which the best results will happen if society as a whole takes upon itself and discharges all those necessary duties which the individual either cannot or will not do for himself.

The impotence of the means now generally adopted for the eradication of the swine plague is an illustration in point. The swine plague cannot be eradicated by individual effort. If something better than individual and co-operative effort be not adopted it will go on and on until it ruins the whole swine-raising industry. The magnitude of the swine industry on this continent may be inferred from the fact that one half in number of all the swine raised and fattened in the world (and more than one-half in value) are raised and fattened in the United States. The best authorities are agreed that medication is practically useless in dealing with the plague; also, that while inoculation is helpful, even it is of no value unless quarantine, disinfection, etc., be most rigorously carried on, too. Here, for example, are the conclusions of Dr. Niles, of the Iowa Experiment Station, who has recently published a bulletin on the subject: (1) All herds affected with the disease should either be slaughtered (of course with compensation) or else be quarantined and be subject to government control until pronounced free from the disease. (2) Quarantined herds should be separated into bunches, and the bunches kept some distance apart. (3) All swine dying of the disease or slaughtered because of it should be cremated. (4) During cholera times every herd should be thoroughly isolated from every other herd, and intercommunication between herd and herd by workmen, visitors, etc., be absolutely stopped. (5) When a farm has been infected all pens, yards, etc., should be disinfected with lime and carbolic acid. (6) All water supply for hogs should come from deep wells and be thoroughly pure. (7) All new hogs should be quarantined for at least thirty days. (8) If a farm is restocked new yards, pens, etc., should be provided; old pens, etc., should not be used again, even though they had been disinfected. (9) All railway cars, and all wagons, crates, boxes, etc., used for conveying swine, should be regularly disinfected.

Dr. Niles thinks that if the above provisions were carried out the disease would soon give but little trouble. But it will be seen at once that these provisions imply: (1) An energetic and persistently continuous action on the part of the government; and (2) a perfect co-operative effort on the part of swine-raisers. The first is not provided for by law, at least in any complete form. The second is altogether too much to expect from our poor human nature. Partial and pottering efforts on the part of governments, and partial efforts on the part of swine-raisers themselves, have led to but one result: the continuous spread of the disease despite of everything that is being done to withstand it. In Iowa and Nebraska, notwithstanding the efforts of governments and people alike, the plague is worse than it was six months months ago. We doubt if it is abating even in Indiana and Illinois.

What, indeed, is wanted is (1) an effective law to make operative such preventive agencies as those above indicated by Professor Niles; and then (2)

an effective and thorough administration of the law. Either part of this plan of action without the other would be futile and useless. Co-operation is an utterly insufficient measure to rely upon in all matters affecting the public health. It is no good. Human nature will not be ruled by precepts except after long centuries of moral training, and our duty to our neighbor in regard to bacterial diseases is a virtue of too recent institution to be undertaken without compulsion. It is the law, and the law alone, that will keep us to the mark in all such matters. If the hog cholera only brings about a change of public opinion in regard to the necessity of a law, and of a proper enforcement of the law, in relation to the swine plague and all similar bacterial diseases, it will not be without its bright side.

NOTES AND IDEAS.

The beet-root sugar output of the Chino factory in southern California this season will be 26,000,000 lbs. It is paying out \$22,000 a month in labor alone. Alamitos factory in the same district is putting out 6,000,000 lbs. of sugar. This factory is especially favored this year in richness of the beets supplied to it, some farms averaging 27.7 per cent. of saccharine, the highest average yet recorded. As a rule, however, the weather in the United States this year has not been very favorable for the development of saccharine in the beet-root crop. In the Chino factory, for example, the big factory just mentioned, the average percentage of saccharine in the beets supplied it for some time was not more than 12 per cent. But that the farmers like the crop is evident from the fact that their annual planting of roots grows bigger year by year.

Cuba is now looking for cattle. Its live stock was destroyed tremendously during the war, and the island is stocking up again. Heretofore South America supplied most of the cattle, but the people now want better stock. The United States has recently sent over two cargoes of 750 head each. What's the matter with Canadian cattle for this trade? If we had had a Live Stock Commissioner he could have been on the look out, and would no doubt have discovered this want and distributed where it would have done most good all necessary information in regard to it. We are slow—too slow.

In the twelve months ending June 30th, 1897, Canada exported to Australia 100,805 bushels of wheat and 91,641 bbls. of flour, the total value being \$445,413. This is all right, and if we can get good prices we should be glad to sell our goods anywhere. But we can never hope to establish a permanent trade in the export of flour to Australia. What we should most strongly try to get is the English market for our fine beef, mutton, ham, bacon, butter, eggs, and poultry. Let every farmer in Canada work towards that end and the prosperity of the country will soon be doubled.

The potato crop is poor in Canada, in the United States, and in Europe. In Ireland there is promise of a famine, though not a serious one. The Irish people are not quite so dependent on the potato as they used to be, though the Irish cottier is still a thrifless and unimproving farmer. In the Eastern States the potato is retailing higher than the sweet potato, and the latter is of better quality also.

New York State is offering a bounty of one cent a pound on all sugar made in that state from beet-roots, provided the sugar factories pay not less than \$5 a ton for the roots. The sugar beet in-

HON. M. H. COCHRANE, of Hillhurst Farm, writes: "Please accept our best wishes and congratulations on the appearance of FARMING in its weekly form. You are supplying a long felt want in agricultural circles." Hillhurst Station, P. Q., October 9th, 1897.

dustry is becoming a very live topic among United States farmers just now. Every experiment station throughout the Union is offering to analyze sugar beets for farmers free of expense, and state what percentage of saccharine matter they contain. There is quite a rivalry among the states as to which has the best climate for growing sugar beets. Strange to say, the southern states are showing this year higher percentages of saccharine matter in their beet roots than the northern states.

The advance in prices for heavy veals, steer calves, and beef has made a great difference in the ideas of farmers as to the sort of cows that they will keep. Many dairy farmers now desire to have their herd made up of milking stock cows instead of special dairy cows. In the Eastern States there is a great demand at present for cows that will furnish a good flow of milk, and will also give a calf that will make good veal, or that may be finished at any time for good beef, or that will make a good milking cow in her turn. It is claimed that the "milking Shorthorn" is just the cow to do this sort of thing, and those who have them cannot half supply the demand. Grade cows of this sort are selling right along at from fifty to seventy-five dollars each in Massachusetts. Of course advanced dairymen will not purchase these cows, for they believe the special dairy cow to be better fitted for their purpose; but all the same, there are many men who will purchase them.

Wheat growers may take a note of this fact: As soon as the good prices for wheat began to show themselves this fall there was a very general disposition among American farmers to extend the area of their winter wheat sowing. So very general was this feeling that it was supposed the total wheat acreage on the continent would be much greater than it was last year. But the very general and protracted drouth of the past three months over all the middle and western States has made wheat-sowing in many places impossible; and where seeding has been already done it has, in a great many places, been found advisable to devote the land sown to some other purpose. So much is this the case that it is now supposed that the total wheat acreage of the continent will be less rather than greater than usual. In other parts of the world similar drouths are reported, especially in Europe. It looks, therefore, as if there might be a shortage in the wheat supply again next year.

CANADA'S DAIRYMEN.

I.—H. H. Dean, B.S.A.

Among the dairymen of Canada there are none who have dairy interests more at heart, none who are doing more to advance economical dairying and progressive dairy farming, than the Professor of Dairying at the Ontario Agricultural College, Mr. H. H. Dean. In FARMING for December last, page 27, we gave a biographical sketch of Mr. Dean, so that we need not repeat here what we there said. We may add, however, that Mr. Dean is one of our most persistent advocates of the justice of paying the dairy farmer not merely for the quantity of milk which he delivers to the factory, but also for the quality. In this matter there is yet great room for improvement. Altogether too many factories persist in the old method of paying their patrons according to the amount of milk they furnish, irrespective of the quality of the milk—that is, irrespective of the quantity of butter-fat it contains. By this system the man who has good cows and supplies rich milk gets no more per pound for his milk than the man who has poor cows and supplies inferior milk. For cheesemaking purposes Mr. Dean believes also that the casein as well as the butter-fat should be taken into consideration. In this respect he differs from many other dairymen, but he has the satisfaction of knowing that every year his opinion gets more and more supporters.—Besides discharging with great acceptance his duties as Professor of Dairying and Superintendent of the Dairy School Mr. Dean has always spent a great deal of time in promoting the interests of Farmers' Institutes. He is one of the most effective and most popular of our institute speakers; and his practical talks on dairy farming and home butter-making are always listened to with great interest and profit. We are glad to know that the Superintendent of Farmers' Institutes has secured Mr. Dean's services for institute work during the month of December. It is a matter of great regret that they could not also be secured for the other months; but Mr. Dean's engagements at the College and Dairy School make institute work other than in December quite impossible for him.

FATTENING LAMBS ON RAPE.*

By John A. Craig, B.S.A., Professor of Animal Husbandry, University of Wisconsin.

Gain Per Head on Rape.

The results of our experiments in fattening lambs on rape show that the average gain per head weekly has been two and one-half pounds. About one pound of grain per head daily has been the average amount fed with the rape. Using our results in a conservative way, it may be said that if forty lambs are used to feed off an acre of rape, and given some pasture and an average of one pound of grain per head daily, they will produce at least 400 pounds of mutton from the acre in one month.

Pasture Necessary With Rape.

The attempt should never be made to feed rape to lambs without giving them a couple of hours' grazing on pasture before turning them into the rape. This is necessary for the safety of the lambs, as they are otherwise very liable to bloat, and the combined feeding of pasture and rape results in better gains.

The Use of Hurdles.

For folding lambs on rape it is advisable to use hurdles. Using these, the lambs may be confined to a small area until they have become accustomed to the rape. In this way further guards are thrown up against danger from scouring or bloating, which are two troubles that must be watched for in rape feeding.

Management of Lambs.

Before the rape feeding is begun, it is necessary to dock and trim the tails of the lambs. If they have been on poor pasture, it is advisable to begin feeding them grain and keeping them on pasture for a week or so before allowing them on the rape. Then accustom them to the rape gradually. Before they go on the rape at first, let them have pasture during the forenoons, and then turn them on the rape for a short time in the afternoon. The lambs should be watched when on the rape, and if any of them show that they are getting too much of it by the swelling of their stomachs, they should all be driven from the field. After following this plan for a week the time of pasture feeding may be reduced to about two hours' duration in the morning. Under no circumstances is it advisable to attempt to feed rape alone, for such a policy will almost invariably result in the loss of some lambs.

Careful Grain Feeding Necessary.

In addition to limiting the amount of rape and also feeding pasture in connection with it, carefulness should be observed in beginning the feeding of grain. One-half pound per head daily is liberal feeding at this time, and if the lambs will not eat that amount with a relish, less than this should be fed. It is advisable to feed some grain with the rape and pasture to fatten lambs. The safest grain to begin with is oats, but as oats are not very fattening in their nature, corn should gradually take their place with such other food as peas and oil meals, if these are available at reasonable prices.

Troubles That are Apt to Occur in Rape Feeding.

The most common trouble is hoven or bloating. This is produced by the lamb eating too much succulent food. It ferments in the stomach, and the gas accumulating causes the distension of the left side, which is the first sign of the appearance of bloat. When noticed in its first stages, the lambs should be at once removed from the rape. Spirits of ammonia or hartshorn is the best medicine to give at this stage. A tablespoonful of spirits of ammonia given in one-half pint of warm water will usually lead to the reduction of the swelling. If the trouble has advanced so far that the lamb is down and the stomach very notably distended, then it should be punctured at the point of the greatest swelling with a trocar and canula. By watching the lambs when first put on the rape and giving them spirits of ammonia in due season, the trouble is easily met. However, there are some lambs that may be subject to this trouble in a chronic form, and bloat without much cause. When the lambs scour, it is because they are getting too much rape and too little pasture or oats. To counteract this looseness of the bowels, keep the lambs longer on the pasture.

Feeding Rape to Lambs Previous to Fattening.

When it is the intention to feed lambs during two or three months of the winter season and put them on the January market, we have found that a month's run on the rape field previous to the shed feeding seems to have a beneficial influence on the subsequent fattening. Not only do the lambs make a satisfactory gain on the rape, but when put in the shed to feed we have found that they are in better condition to be fattened, and make better gains than those that have only had pasture before being penned.

THE POSSIBILITIES OF THE POULTRY INDUSTRY.

By J. E. MAYER, KOSSUTH, ONT.

(Prepared for the Farmers' Institute System.)

I am glad to find that the farmers of the province generally are beginning to pay more attention to their poultry. We certainly cannot afford, at the present prices of farm products, to keep anything that is not giving a profit, where it is possible (as it is with poultry) to make a profit. While it is a fact that every farmer keeps hens, hens have not been kept and cared for with the same intelligence as the other live stock on the farm has been kept. It is for this reason, and this reason only, that we hear farmers say so often, "Poultry do not pay!" If we are going to make our poultry pay, we must feed the proper feed; but this does not mean an expensive diet. We must give our poultry suitable shelter during winter; we must never in-breed, but breed intelligently; and we must not look to hens over two years old, or late fence-corner-hatched chickens for our winter eggs.

While I believe that, everything taken into consideration, pure-bred fowls are the best to keep, yet I do not consider it necessary to have a pure-bred flock in order to have a profitable flock. Any flock of hens can be greatly improved by using pure-

bred males and selecting your best layers each year from which to raise your chickens. To put a flock on a paying basis, kill off all old hens in the fall. They are generally quite easily picked out about December 1st, or earlier, as many of the oldest will not be thoroughly through moulting. Even if they are through the moult, they will be pale and old-looking. Also get rid of all late-hatched chickens, for these will eat many times more than they are worth during the winter.

Early-hatched, well-grown pullets, then, and yearling hens, are the only birds you should keep in your winter flock of fowls. A flock of hens of this description are bound to prove profitable under proper management. They should be fed a variety of food composed largely of vegetables—not grain three times a day—and be made to lay right through the winter when a good price can be obtained for eggs. It costs less to feed hens on the proper food during winter than to feed them all the grain they will eat, as is so often done; and, besides, you have many times more eggs, which alone will certainly pay you well for the little extra trouble you take.

Do not crowd your birds together. Six square feet of floor space should be allowed for each bird, and not more than fifty should be kept in one flock. Give them more room if you can, and they will do better. From actual experience I have learned that a flock kept in small quarters on the best of food will not lay as many eggs as a flock half the size in the same quarters, and they will eat twice as much feed.

Another common mistake is breeding from the whole flock instead of choosing ten or twelve of the very best layers, and breeding only from them. No live-stock can be so rapidly improved, when properly handled, as poultry. By selecting only the best layers for breeders, and mating to suitable pure-bred males, the average egg production of whole flocks, has, in a very few years, been raised from 150 to 250 per annum, and even as high as 300 has been reached by a few hens. When we remember that the average egg yield of the hens of this province is considerably under 100, we can readily see that there is vast room for improvement. The first great step toward improvement will be made when nothing but early-hatched pullets and yearling hens are kept in our flocks. The next step will be proper housing and feeding. When we have taken these two steps forward we will, I feel certain, have increased the egg yield of our poultry nearly, if not quite, 100 per cent. We can take these two steps without any extra cost beyond the very trifling one of making our buildings more comfortable. I am anxiously looking forward to the day when these improvements will be made on every farm in our province. Then will be the last day on which the remark "There is no money in hens" will be heard.

The other improvements will not be made so quickly, but they can be made just as cheaply. Select your best layers *only* for your breeders year by year, and mate with them a pure-bred male of the best variety you can get. If you are breeding a pure-bred variety, do the selecting just the same. Every

poultry-house should have a pen set apart for a breeding pen, into which put ten or twelve of your best females and your breeding male.

Do not on any account allow a male to run with your general flock that are laying eggs for market or home consumption. Be sure that every egg you send to market is infertile. It is not very long since it was considered impossible to ship eggs from Canada and have them arrive in the British market fresh. Results have proved this untrue, and we find by the last returns made by the British Agricultural Department that Canada supplied Great Britain with about \$750,000 worth of eggs during twelve months. This is a very encouraging outlook for us, especially since circumstances on every hand are forcing us to look to Great Britain as our market. With fast steamship service and cold storage, everything is favorable toward promoting an extensive trade with Great Britain. We must do our part, and these is no doubt that we will profit thereby. We must send nothing but the very best we can get in quality, size and appearance. I would especially emphasize the *quality* as the most important thing necessary to obtain quality is to see that every egg that reaches Great Britain is infertile.

Great Britain spends annually nearly \$15,000,000 for foreign eggs. Of this amount France supplies one-third, or \$5,000,000. The little country of Belgium (just look at the size of it on the map) sends \$3,500,000 worth, and little Denmark over \$2,000,000 worth. Just think of the amount of wealth these countries derive each year from the work of the much-abused little hen! Look what we are doing with our cheese in competition with these countries! Am I saying too much when I say that we can compete equally well with them in the egg trade? I do not think so.

STORING POTATOES.

Editorial in *Wisconsin Farmer*.

The potato crop is not large this year, a fact which makes it all the more necessary that growers take good care of what they have and keep them in first-rate condition for the good, strong prices that will be likely to prevail during the winter and spring. If potatoes are buried, they should be covered only moderately at first, additional covering being added as the weather becomes more severe. Burying, however, is one of the most inconvenient ways of preserving the potato crop, and when potatoes are worth anything, it is also likely to be one of the most expensive. Storage of potatoes, or, indeed, of any other vegetable, in the cellar of a dwelling house in quantities beyond the needs of immediate consumption, is always objectionable, because they are likely to breed disease. Even with the best of care there is always more or less decay, and the family that lives over this species of destructive fermentation is pretty certain to suffer for it, especially during the early spring.

If one has any considerable quantity of potatoes or other tubers or roots to keep through the winter, an outside root cellar furnishes the best means to preserve them. A side hill, giving rapid drainage, makes a good site for such a cellar, and there are many kinds

* From Bulletin No. 58, of the Agricultural Experiment Station, Madison, Wisconsin.

of soil where no walls other than that which the dirt affords are necessary. If, however, a retaining wall of some kind is necessary, cheap poles and boards can be used, so that no great expense need be incurred for material. The roof, too, may be of earth thrown over poles, but a roof of this kind will need some sort of thatching in order to make it shed water. It would be better to have the roof made of boards that break joints, or if a more permanent structure with less regard to cost is intended, the roof may be shingled.

It is important that a dry place be chosen, and that it be sufficiently ditched around it, and the door should be on the south. There should be an alley-way through the cellar and a ventilator shaft through the roof, and then, if the door is on a level, or nearly so, with the floor, a side hill, with a southern exposure being selected as the site, there will always be good ventilation. Bins can be provided on each side of the alley-way and they should be raised several inches from the ground. The sides of the bins also should not be in contact with the walls, or they will attract moisture. Spouts may be placed at intervals through the roof, near the outside of the bins, through which potatoes may be poured into the cellar.

Such a structure can be cheaply built and will readily enough carry potatoes through until spring without sprouting. Some varieties of potatoes which sprout readily need to be turned over once or perhaps twice during the winter. There is no way to prevent sprouting except storing them in some such way as described and then using the scoop-shovel to turn them over, unless one can have access to cold storage. With cold storage, potatoes can be kept without sprouting until August, which is longer than is needed.

ABOUT HOG CHOLERA.

By PROFESSOR A. V. BITTING, D.S., Indiana Experiment Station, in *National Stockman*.

Professor Bitting has been making a special investigation of hog cholera in that state. He reports the losses for the past year at 670,000 head, valued at \$6,500,000. *Ed. Farmer.*

No two swine affected with the disease die alike. There is nothing characteristic of it. Some die of dysentery, others have lung trouble, others have a sort of rheumatism, and some die of constipation. The diseases of a hog are not far different from those of man. During the excessive hot weather many cases were reported where hogs had died of what was supposed by the farmers to be cholera. It proved to be nothing less than sunstroke—something that is not well understood by the farmer.

I am not prepared to talk regarding remedies. We have been testing patent preparations. About sixty have been submitted, many of them called 'sure cures.' While the tests are not complete, I hardly believe that there will be one that will be found worthy of the purchase. No less than a dozen of those submitted, when analyzed, have proved to be nothing more than the government formula, and I must say they were about the best.

The government formula is very cheap when the farmer buys it as such. Eleven pounds can be put up for \$1,

and it is about as good a remedy as I am yet able to suggest. The formula is as follows: bicarbonate of soda, 2 pounds; hyposulphate of soda, 2 pounds; sodium sulphate, 1 pound; sodium chloride, 2 pounds; sulphur, 1 pound; charcoal, 2 pounds; black antimony, 1 pound. The best way to give it is in the slops, twice a day, estimating one tablespoonful for every 200 pounds of stock. The patent preparations composed of these ingredients are sold for exorbitant prices—some as high as \$1 a pound. The use of carbolic acid or kerosene as a spray or in the slops is also very good.

The most essential things are pure water from wells, and to keep the animals away from highways. Hogs should not be allowed access to ponds, creeks or rivers, and they should not be put into fields adjoining highways, or into fields in which hogs having the cholera have been previously enclosed. Most cholera is spread by allowing hogs to get next to highways where cholera hogs are driven along to market. They spread disease, and I know of instances wherein whole stocks have been infected in this way. The bad influence of river water is amply illustrated by the advanced percentage of fatality from cholera in the townships skirted by the principal rivers of the state. It has been found that in the first tier of counties along the Wabash and White Rivers the percentage of cholera deaths for the last year was 28; in the next tier 21 per cent; and in the third tier only 16 per cent.

Another way in which communities are infected is by farmers buying hogs from stock yards. Every stock yard is permanently infected, and no matter how healthy the hog may be when he enters he will leave it bearing the germs of disease. Farmers should guard against this, and when they get new hogs be sure they have a clear record. Then place them in an inside field where the ground is high, and where cholera hogs have never been enclosed. Give them good, pure well water, and don't allow them to wallow in puddles. The disease does not wear out of the ground for three or four years, and equal precaution should be taken in having land with a "clean record."

CENTRAL CANADA EXHIBITION.

Sheep.

The exhibit of sheep was not as large as it might have been.

COTSWOLDS.—A. J. Watson, Castlederg, Ont., was the only exhibitor.

LEICESTERS.—There was a little more competition in this section. Messrs. W. A. Rennie and John Kelly, of Shakespeare, were out with good exhibits, and Mr. Baxter, of North Georgetown, Que., had out a few representatives. He obtained first place for aged ram, third place for ram lamb and for aged ewe. Kelly won first place for shearling ram and ram lamb. Rennie secured all the rest of the awards, and also diploma for best pen.

SHROPSHIRE.—John Campbell, Woodville, was the only exhibitor.

SOUTH-DOWNS.—The flocks of John Jackson, Abingdon, and Robt. Shaw & Sons, Glanford, were the only ones present. Mr. Jackson's winnings were first and third for aged rams, first and second for shearling rams, first for ram lamb; first, second, and third for aged ewes; first and second for shearling ewes; first for ewe lamb; and diploma for pen. Messrs. Shaw secured the other awards.

OXFORD, SUFFOLK, AND HAMPSHIRE DOWNS.—Where two or more breeds are judged together it is a difficult matter to do justice to each breed. In this instance Mr.

Kelly secured for his Hampshires first for aged ram; first for shearling ram; second for ram lamb; first for aged ewe out of a ring of six entries; first and third for shearling ewes out of another ring of six entries; first and second for ewe lambs, and the diploma for best pen. The rest of the awards went to Peter Arkell for his Oxfords.

DORSETS.—Major McGillivray, Uxbridge, had out his flock in good shape, and Mr. Bowman, Guelph, had forward a few animals with which he secured good places.

MERINO.—Robt. Shaw & Son, Glanford, was the largest exhibitor. Mr. Cummings had a few, and secured good places.

FAT SHEEP.—Mr. Kelly had forward the only representatives of the long-woolled sheep, and Mr. Campbell the only short-woolled ones.

Swine.

BERKSHIRES.—Geo. Green, Fairview, had forward the herd that had been so successful at the other shows, and won here again. He secured all the first places and lost two second to Reid & Co., Hintonburg, who had out a few good animals, but not good enough to win first places in such extra strong company.

YORKSHIRES.—The exhibitors were Jas. Featherston, Streetsville; J. G. Clark, Ottawa; and Mr. Ross, Douglas. The latter had out only three animals, an aged boar on which he secured second place, and two sows under six months which were awarded first and second places. J. G. Clark made a few entries, but secured a prize on each. He showed the best yearling boar, a right good one; his boar over six months had to take third place, but his boar under six months was placed first. He was not quite so successful with his sows—his yearling sow was awarded third place, and his fine young sow over six months was awarded the same place. He captured the prize for the best litter of pigs. The rest of the awards were captured by Featherston.

CHESTER WHITES.—The battle here was again between Wm. Butler & Son, Dereham Centre, and H. George & Son, Crompton. In the section for aged boars first place went to the Crompton herd, and second and third to Messrs. Butler's good hogs. Butlers had the only yearling boar, and also secured first for boar over six months and first and second for boar under six months. Messrs. George were awarded second for boar over six months. In the female sections the Crompton herd had the lead and secured first and third for aged sows, third for yearling sows, first and second in the two young sow sections, and the diploma for the best herd. Messrs. Butler had to take second place for aged sows with an animal that had won first elsewhere. This threw them out of the herd prize, but having sold some of their best animals at London, they were not quite so strong as they were at the other shows. They also won first and second places for yearling sows and third in the younger classes.

POLAND-CHINAS.—Messrs. Jones, Mount Elgin, had things all their own way, as there was no opposition.

TAMWORTHES.—Messrs. George, Crompton, had the lead in this class. Reid & Co., Hintonburg, showed three good, useful animals, securing first for over six months and under a year, and second places for sows one year and over and over six months.

DURCO-JERSEYS.—Messrs. Butler and Tape Bros. were the only exhibitors. Tape Bros. had the lead for boars one year and over, winning first and second places, Messrs. Butler having to take third place. In both sections for younger boars Messrs. Butler had the lead. Tape Bros. had the two best sows one year and over, and Messrs. Butler was given third for a sow which farrowed shortly after being judged, having a litter of eleven nice pigs. Messrs. Butler was first again in both the sections for young sows, and Tape Bros. were awarded the diploma for best herd.

The Apollo Harp.—One of the most interesting and attractive new things that we have met, in the musical instrument line, for a long time is the Apollo Harp. It combines the capacity of the piano with the sweetness of the zither, and yet is so simple in its system of playing, that anyone with a good ear for music, whether he understands music or not, can master it in a short time. The symphonic-slide attachment is a marvellous invention, not only enabling one to play in different keys and to change the key instantly, but also it renders discords impossible in any key, even for the beginner. We heartily welcome this new-comer as an important musical feature in home attractions.

CORRESPONDENCE.

"KEEP MORE SHEEP."

Editor of FARMING:

SIR,—In regard to your articles on "Keep More Sheep" we would say that they are very apt and timely, and we think that if rightly and sensibly read they should be productive of much good. We think you have opened the subject with some likely hints. Agitate the minds of the people to the fact of a greater and ever increasing trade with Britain in mutton, both live and frozen; the facilities that are likely to be given in way of transportation; the suitability of our climate for wool and mutton production; and how comparatively free we are from disease. Urge the making of this province the centre of attraction for purebred stock of all the breeds. Western men must select their breeding stock from flocks that have had the attention and experience of the best breeders and feeders of older settled countries. Ontario is peculiarly adapted to supply such kind of stock.

Rape is being largely introduced for feeding of lambs. Lambs do well on it, and it flourishes well in this climate. It does to supplement pastures. Wishing you more success in your advice to "keep more sheep," we are yours truly.

JAMES COOPER & SON.

Kippen, Ont.

Editor of FARMING:

SIR,—We quite agree with your articles in FARMING regarding keeping more sheep. There is not now half the quantity of sheep kept here that there used to be. There is no stock kept on a farm that pays better than sheep. Their wool will always pay for their keep, besides being less trouble than other stock. It does not matter how cold they are kept as long as they are kept dry, and there is no animal kept on the farm that keeps down weeds like sheep. They also keep up the fertility of the soil better than other stock. We hope in the near future to see ten kept to every one now. We hope your articles in FARMING will be the means of opening the eyes of farmers to the value of sheep. Wishing your paper every success, we are yours truly.

F. BONNYCASTLE & SONS.

Campbellford, Ont., Sept. 30.

BACKING UP PROFESSOR DAVENPORT.

Editor of FARMING:

SIR,—I was very pleased indeed to read the interesting article on colt-breaking published in your columns of October 5th. It is so plainly and painfully evident that the greater number of horses, both in this and other countries, do not receive the proper treatment required that I trust I may be allowed some of your valuable space to back up what Professor Davenport so ably puts forward.

For many years I undertook this special work on some of the large sheep and cattle stations in Australia, where we very often had as many as ten or fifteen colts in the yards at one time. Naturally, in such cases, we were unable to give as much time to mousing, etc., as we would have wished, the horses in many cases being ridden and given light work the third or fourth day after being brought in.

The first day was invariably spent in the circular yard where bags, paper, the stock-whip, etc., would be brought into action, until at length the youngster, being perfectly satisfied that no hurt comes from them, stood it all quietly and became as tractable as a child—at least, almost! Needless to say that "blood will tell." As a rule, the better bred a horse is, the easier to train. However, a man must use his own judgment, and break a horse in as he would a child, carefully studying its temperament or any peculiarities, the great secrets being kindness, patience and common sense.

On Oondooroo, one of the largest stations in Queensland, there was hardly a horse out of the five hundred and forty carried but would come up to you in any yard at the crack of a whip and the holding up of one's hand—all broken in the way I mention.

Apologizing for taking up so much space in your paper, but at the same time hoping that I may help others to see the force of Professor Davenport's advice, believe me, yours, etc.,

C. T. LONGLEY TAYLOR.

Lakefield, Ont., Oct. 7th, 1897.

The Ontario Agricultural Gazette

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

THE MONTHLY LISTS OF PUREBRED LIVE STOCK FOR SALE.

The history and other particulars connected with the monthly lists of purebred stock for sale is not known or not understood by a great many Canadian farmers. The publication of these lists was first proposed, about two years ago, to the secretary of the Dominion Cattle, Sheep and Swine Breeders' Associations by Mr. W. E. Butler, of the firm of Wm. Butler & Sons, Dereham Centre, the well known swine breeders. Again in February of this year Mr. Butler wrote the secretary urging him to perfect the scheme suggested in his (Mr. Butler's) previous letters. Immediately thereafter the secretary, who had been for some months carefully considering the matter, prepared an article in which the proposed plan was carefully outlined. This outline was submitted to a number of experienced men and was approved of by each of them. Soon after this the secretary prepared his annual report to the Dominion Cattle, Sheep and Swine Breeders' Associations, and in it he wrote as follows concerning the monthly lists: "It has been the practice of each association to publish in the annual report each year the name and address of each member and specify the breed he reared. This has grown to be the largest breeders' directory in Canada. During the last three years I have been very frequently asked for these lists by parties desiring to buy purebred stock, and have mailed hundreds of copies, sending them to various parts of Canada and the United States. I believe that if these lists of breeders could be revised and distributed monthly it would be of great value. In order to do this, each member of the association would be required to notify me on or before certain dates each month, to be fixed by the association, what animals he or she has for sale, and the price asked. The lists could be revised and copies of the circular mailed. I have now about 4,000 addresses of live stock breeders and of prominent farmers in Canada and the United States. This plan would cost each association about \$15 per month, but would increase the membership of the Cattle and Sheep Breeders' Associations, and it would have a tendency to increase the sales made by our members, not only in Ontario but in the distant provinces in the United States. Besides benefitting the members, it would supply the Departments of Agriculture of the various provinces and states, and the secretaries of farmers' institutes and agricultural associations, farmers and American buyers, with just such information as they desire."

The report containing this extract was published some weeks before the meeting of the directors, which convened in Toronto, March 23rd, 24th and 25th, 1897, and a copy was sent to each director and to other prominent agriculturists. The above mentioned directors' meeting was well attended, and a great deal of attention was given to the proposed monthly

lists, which were cordially endorsed by nearly every gentleman present, but as the question was one of great importance it was left in the hands of the executive for further consideration.

A joint meeting of the executive of the Dominion Cattle, Sheep and Swine Breeders' Associations was held in Brantford on May 21st, 1897, and careful consideration was given to this subject by the committee. All present were in favor of at once proceeding with the publication as proposed by the secretary, with the exception of Mr. George Green, of Fairview, and Mr. J. C. Snell, late of Snelgrove, now of the *Farmer's Advocate* staff, London. After a lengthy discussion, it was moved by Jas. Tolton, seconded by Major G. B. Hood, that the secretary be instructed to issue monthly a breeders' directory, as outlined in the report of the secretary. Moved in amendment by J. C. Snell, seconded by Geo. Green, that the directory be published monthly without the animals for sale being mentioned. Original motion carried.

Soon after the close of this meeting steps were taken to carry out the instructions of the board. The scheme was still vigorously opposed by one publisher, although approved of by all other newspaper and other public men who have been consulted. So violent was the opposition that it was determined to again lay the matter before the executive officers of the Dominion Cattle, Sheep and Swine Breeder's Associations. An executive meeting of each association was, therefore, called to meet at 7.30 p.m., September 9th, 1897. The officers convened in the tent of the superintendent of Farmers' Institutes on the Exhibition grounds, Toronto. The minutes of that meeting are hereafter given.

EXECUTIVE MEETING HELD ON THE GROUNDS OF THE TORONTO INDUSTRIAL, SEPT. 9TH, 1897.

A joint meeting of the executive of the Dominion Cattle, Sheep and Swine Breeders' Associations convened in the tent of the superintendent of Farmers' Institutes on Sept. 9th, 1897. Mr. Arthur Johnston was elected chairman.

Moved by Joseph Brethour, and seconded, "That all the directors present be members of the executive for this meeting." Carried.

A part of the minutes of the last meeting relating to the publishing of the monthly bulletin was read by the secretary. He also gave a synopsis of the letter sent out to members. A letter was received from FARMING, offering to publish the bulletin on terms to be afterwards agreed upon.

Mr. W. L. Smith, manager and editor of *The Weekly Sun*, upon being invited, spoke as follows: "I thank you for the opportunity of speaking. I think the proposal one of the best that has been made in the interests of the stockmen of the province. It will bring you into closer touch with the markets than could be done in any other way. The proposal which came from *The Sun* regarding the publica-

tion of the bulletin, was to the effect that a certain sum be paid annually to send copies of our paper to a list of names supplied by the Secretary of the Live Stock Associations, these names to include members of the Live Stock Associations, secretaries of Farmers' Institutes, etc. We expect this will bring us into closer touch with the farmers generally. The publisher would also receive the benefit of the increased circulation."

It was moved by Jas. Tolton, seconded by D. G. Hamner "That we confirm the former resolution passed by the executive of the joint associations regarding the publishing of the monthly bulletin, and refer the matter to the secretary, who is instructed to make the best terms he can, and have the bulletin published forthwith."

D. G. Hamner: "I do not think we should be dictated to by any newspaper or outsider."

Jos. Brethour: "I quite endorse the remarks that have already been made, and think we, at least, should try the experiment. It is a splendid opportunity to inform the farmers as to where good stock is located. Every one has a right to buy where he likes. The more good live stock we can induce the farmers to buy, the better for the country in general. This will be a very cheap way of advertising. The work the associations are doing is greatly helping the live stock interests in Canada."

Major G. B. Hood: "This matter was discussed at Brantford, and I think we cannot go back on what was done there. I do not think we can do better than leave the matter in the hands of the secretary."

D. G. Hamner: "Would it be wise to restrict the amount of money spent in this way? We take in a certain amount of money as membership fees and with this money we can do anything we wish. The government are assisting us, but we are doing a good work for this province."

F. W. Hodson: "The understanding has been that the money spent in publishing the bulletin should not exceed the amount of the membership fees from the joint associations. A fact to be considered is that each association is now paying from \$90 to \$100 per year in advertising, postage and stationery. This account would be materially lessened by carrying out the plan now under consideration."

With the consent of the mover and seconder, it was decided to add the following to the resolution: "That money spent shall not exceed amount of membership fees."

John Jackson: "I think this is a matter of our own business. I do not think if the members of these associations were to combine and publish an agricultural paper in their own interests and in the interests of the country that the agricultural press could take objection. The live stock breeders have never objected when the managers of agricultural papers bought farms or imported stock and launched into the pure-bred trade."

Arthur Johnston: "Since coming to the exhibition I have met the publisher of a leading agricultural paper, and discussed the question with him. What I said to him I now repeat. It is just as much in his interests as in ours that the number of advertisers should expand, and I firmly believe that the proposed scheme will prove of advantage to all papers publishing agricultural matter."

The motion, which now read as follows, was carried unanimously: "That we confirm our former resolution passed by the executive of the joint associations regarding the publishing of a monthly bulletin, and refer the matter to the Secretary, who is instructed to make the best terms he can and have the bulletin published forthwith. The money spent shall not exceed the amount of the joint membership fees."

The meeting then adjourned.

It will be observed when reading the above that the plan proposed is not the desire of one man only, but of the entire associations as represented by the officers and directors. It is also made plain that the associations intend to pay by voluntary contribution all expenses incurred. No portion of the government grant to any of these associations will be used for the purpose here outlined. The lists published will be of great value to the country. Hereafter it will be much easier for farmers to find the pure-bred animals which are so much needed to improve their stock. The trade between Ontario and the neighboring States and Provinces will be extended; in fact, the monthly lists will be of great value to both buyer and seller. In Ontario the live stock trade is most important, and every effort should be made to improve and enlarge it.

Copies of the "lists" will be sent each month to the Secretary of each Farmers' Institute in Ontario and Manitoba. Persons who wish to buy stock can procure the latest list by visiting or writing one of these Secretaries, or by writing to F. W. Hodson, Parliament Buildings, Toronto.

Fifty copies of the monthly lists of stock for sale were last week sent for distribution to E. E. Sheppard, care of British Consul, Panama, Central America. It is hoped more copies will follow later.

THE PROVINCIAL WINTER FAIR.

The premium list of the Fourteenth Ontario Provincial Fat Stock and Dairy Show has just been issued, and 1,600 copies were mailed this week. The show will this year be held in the city of Brantford, December 7th, 8th and 9th. Upwards of \$4,000 are offered in cash prizes. This promises to be the most successful winter show ever held in America. The prize list in the cattle, sheep and swine departments has been increased in each case. The prizes offered in the cattle department are unusually attractive.

Prize lists, entry forms, etc., may be

obtained by addressing the secretary, F. W. Hodson, Parliament Buildings, Toronto.

Farmers' Institute Department.

Reports concerning the work of the Farmers' Institutes in Ontario will be published weekly under this head; also papers prepared for this department by Institute workers. Secretaries and others having announcements to make are invited to send full particulars to the Superintendent.

POULTRY KEEPING.

By W. G. WHITEFORD

I will try and show how it is possible to get at least a small profit from keeping a few hens. First, we must have the right kind of hens to lay through the entire winter to insure a profit at all. We have many excellent breeds, each with their good qualities. It is difficult to find any one breed a general-purpose, all-round hen both for the egg basket and the table. My own experience is that none quite fill the bill. We have tried many different kinds and are still experimenting, having a number of pure breeds and their crosses. I have had a long experience in both dairying and poultry keeping, and have no hesitation in saying that twenty-five hens will give a larger profit than a cow; but here the comparison must stop, as here we meet the difficulty of providing quarters through our long winters, as a building that will house twenty-five hens will hold from four or five cows with comfort. We can crowd twenty-five hens into a very small place, but commence to crowd, and away goes the profit. They must have room for exercise and plenty of it. Here comes the trouble with many fancy poultry keepers. They tell you their hens do not lay very well. If they do, the eggs do not hatch well, although the birds are given the best of care. The trouble is too close quarters, too much confinement. A building suitable for a cow byre would not quite suit as a hen house. To give a few hens suitable quarters need not be expensive, and still have all the necessaries for success. What is required is warmth, plenty of room and plenty of light, and properly arranged.

In my own hen-house, I thought I had provided everything both for room and convenience. I have about 160 square feet of glass, and to-day, if I were building again, I do not think I would change unless to add a little more glass. If the sash were double, it would be all the better; one half in roof on the south side of the building; this would not only give light but heat. The dust should be placed under the glass roof, and when the sun strikes it the hens will take their morning bath. We use road dust and ashes for this purpose. This will keep both the hens and the house free of all kinds of lice. Artificial heat is often needed. The house should be as dry and warm as possible, and there are days when a fire will pay well. Here I differ from Mr. Clark. He thinks artificial heat is not needed; but after twenty-three years experience, sometimes with it and sometimes without it, I think a stove one of the necessaries to keep the air warm and dry. We only use the stove to meet changes in the weather; without it the hens will not keep up their daily number of eggs. This is not a new thing. Well do I remem-

ber when a boy, now over fifty years ago, a family that kept their hens in the house day and night through the winter, and they got the eggs the whole winter through. About forty would roost on the sticks of the Dutch fire place, and the mantle piece would be packed from end to end. These people always had eggs for Hamilton market when other farmers couldn't get an egg for Easter. To-day we do not like to resort to this plan, but we must have the same conditions—warm, dry quarters, not thinking anything too good; but, like the Irishman, when he said, "Who has a better right to the best room in the house than the pig, for shure he pays the rent," and to-day the hen must have the best to pay a profit. Their food should be of the best to get the best quality of eggs, as the flavor of the egg will be affected by what the hen eats, quite as much as milk by the food the cow eats. And here we want a variety, not all one kind of grain, but a little of all kinds, both whole and ground, hot and cold, with plenty of clean water before them all the time; something green once or twice a week. Fresh meat is another essential, and should be fed two or three times a week. The profits are the reward of the daily, almost hourly, attention to details just at the right time, such as feeding, watering, cleaning the house, gathering the eggs, etc. Finally, put the eggs on the market once a week at least.

FARMERS' INSTITUTE ANNUAL BULLETIN.

Next week we hope to publish the Farmers' Institute Annual Bulletin, embracing a complete list of meetings and speakers.

The secretaries of Farmers' Institutes who receive copies of the monthly lists of stock for sale, are respectfully requested to preserve them and use them to the best advantage.

Ontario Agricultural College.

Announcements concerning the College work will be published weekly under this head.

CARE OF DAIRY UTENSILS.

By I. G. ROBERT, Instructor in Buttermaking, O. A. C., Guelph.

(Continued from last issue.)

BUTTER WORKER—BUTTER SPADES AND PRINTERS.—Before using any wooden utensil that comes in contact with the butter, it should first be scalded with hot water and then cooled with cold water to prevent the butter from sticking. A quick and easy way to prepare a worker is to take a dipperful of hot water and use a brush to scrub it. The brush causes the water to penetrate the wood better, and less hot water is required, one dipperful is all that is needed, even in hot weather when it is sometimes difficult to prevent the butter from sticking; and less cold water is needed to cool the worker properly for the butter. A good way to clean wooden utensils and keep them sweet is to scour with salt after the wood is wet. It also helps to pre-

vent the butter from sticking. The printer and butter spade should be soaked first in hot water and then in cold water for some time before they are used. After printing the butter use plenty of hot water and a brush to clean the utensils properly and rinse off with more hot water after using the brush. Hang up the printer and the butter spade, and wipe the outside and legs of the butter worker with a cloth.

SALT SIEVE AND SCALE.—The salt sieve should always be kept dry for sifting the salt, but always rinsed in hot water immediately after it is used to remove the salt, and thus prevent moisture accumulating on the hair sieve, rust is also prevented in damp weather. The perforated tin bottom sieve is used by some, and is more serviceable than the first mentioned. The scale requires care to prevent rusting, and should be cleaned after using and put in a dry, warm place when not in use, especially is this necessary in cheese or butter factories. They should also be wiped over occasionally outside and inside with an oily cloth.

BABCOCK TESTER AND CREAM SEPARATOR.—The Babcock tester should be painted inside and outside with brown paint. A coat of varnish on the outside over the paint will make it look better. After using the machine wipe it dry to prevent rust. A little paint and varnish applied once in two years or oftener, will keep dairy appliances attractive and more pleasing to the eye and preserve them from rust. Proper methods of cleaning the separator should be studied so as to keep it in good condition and to prevent rusting. After all the parts are thoroughly washed and scalded, they should be placed in a position to drain dry while hot, and should never be put together until perfectly dry. If the parts are put together again while wet, it will only be a short time until the machine will be rusty and old in appearance. The frame of the machine should be wiped with an oily piece of waste or cloth after using it. It should be set level, run carefully, and oiled properly with the best of oil so as to avoid unnecessary wear and tear. As the care of dairy utensils and appliances is a matter of very great importance in the dairy business, I have in this paper endeavored to show how to do the work as I practise and teach, in a way that I trust will be helpful to those engaged in practical dairy work.

NOTES FROM THE DAIRY DEPARTMENT.

By H. H. DRAN, Professor of Dairy Husbandry.

Stock.—The cows were never in better condition at the beginning of winter than they are at present. The abundant pasture has maintained a large milk flow during the summer without much extra feed. A number of the cows are fresh for the winter's work, while those which have been milking most of the summer are slacking off in milk flow. We aim to have fresh cows each month in the year, believing this to be the best system.

Feed.—The abundant corn and hay crop will provide plenty of coarse fodder for winter milk. As a large amount

of the corn could not be got into the silos, we shall feed cut cornstalks and hay for six or eight weeks, and not open our silo before December 1st. In former years we commenced to feed silage immediately after the silo was filled. The cows are now kept in at night and fed cut corn and meal. The meal consists of one part oil-cake, and three parts bran by weight, four pounds per head per day being given to fresh milkers. The cloth covering suggested by Mr. Rennie, the farm superintendent, was used for covering the corn after the silo was filled. Our silo is circular, and it was necessary to cut planks of circular form to lay on the cloth and around the edge. A pail of salt was also sprinkled about the edge of the corn.

Lectures.—The first year are receiving lectures on the physical properties of milk, its composition, best methods of creaming milk, and making butter on the farm. Practical lessons on the judging of butter will also be given. The topic for the term is, "Farm Dairying and How to Succeed in it."

Second year men discuss cheese making in all its bearings. This important branch receives full attention. Commencing with the origin of co-operative or factory dairying, the class gives attention to those points which are likely to be of most use to practical dairymen. Practical lessons on judging Cheddar cheese are given later.

The third year take practical work in the cheese and butter departments three days in each week, together with lectures on the most scientific part of dairying.

Experimental work.—Experiments in cheese-making and butter-making are going on each day when classes do not occupy our time. In the cheese room we are continuing our investigations, for the fourth year, as to the effect that fat in milk has on the yield and quality of cheese. Lately, the pasteurization of milk for cheesemaking has received considerable attention. So far the results have not been as encouraging as we had hoped for. The aeration and cooling of milk for cheesemaking has been studied to some extent. There has not been the decided differences in the curds and cheese from aerated and unaerated milk which we expected to find. A number of different styles of aerators have been used in this work. All have their good points, and no one combines all the excellencies of a good aerator and cooler.

In the butter room experiments on the effect of washing butter have been conducted for the third season. The results have been somewhat conflicting. At times the unwashed butter is better, and at other times the washed is superior.

Pasteurization of milk and cream was made a special point for investigation. This is one of the most important processes that modern butter-making has to deal with. It has come to stay, and no winter creamery can afford to be without means of pasteurizing either the cream or the whole milk. By the adoption of this system and the use of starters made from pure cultures, or from good-flavored sour skim-milk, a uniformity in flavor and body of butter is secured which is not obtainable in any other way.

How About Your Kitchen? Don't You Need a New Stove?



OXFORD WOOD COOK EXTENSION

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Is popular all over the country as a thoroughly reliable satisfactory stove, very moderate in price.

It is made in 4 sizes, has a large oven and fire-box, and is supplied either with or without the Reservoir and High Shelf.

You'll provide for your own lasting kitchen comfort if you buy one of these splendid wood cooks. Better write us for prices.

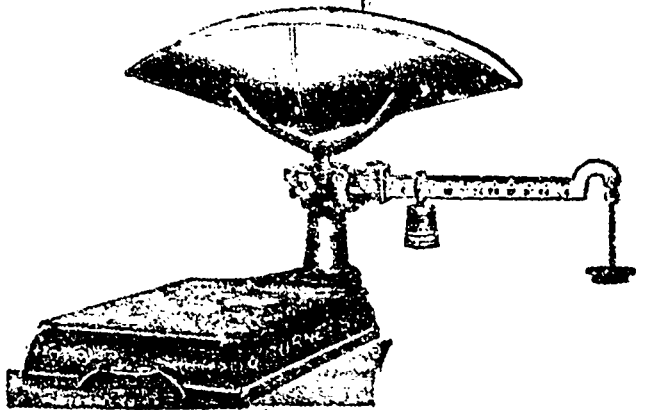
OXFORD

The Gurney Foundry Company, Limited, - Toronto
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STANDARD
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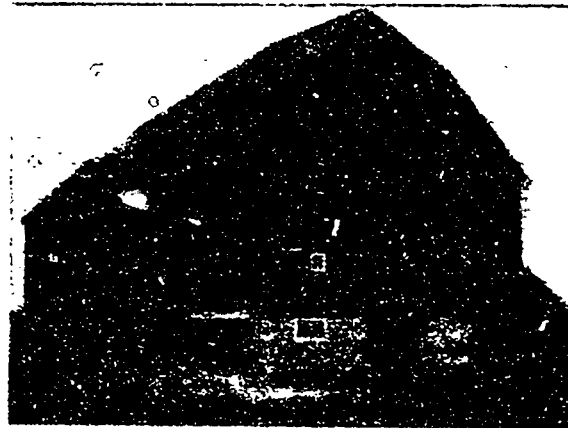
It has paid others to weigh
their goods.
Will it not pay you?

Hamilton, Ont.



Queenston Cement

For Building Stable, Silo, and other walls; Cisterns, Stable Floors; Hog Troughs; Road Culverts, and other structures



Basement barn of
Mr. E. B. Brown,
Brownsville.

The basement and
all inside floors are
built of

QUEENSTON
CEMENT
CONCRETE

Read Mr. Brown's
testimonial;

ISAAC USHER & SONS,

Brownsville, Jan. 2nd, 1898.

GENTLEMEN.—In answer to your enquiry in reference to your Cement, I am glad to say it has proved in every way satisfactory. As you know, my barns were struck by lightning on May 2nd, 1894, and entirely consumed. I then built a new barn, 20 ft. x 50 ft., using your Queenston Cement in my concrete walls. The foundations were 2 ft. deep and 2 ft. 3 in. in width; then I built on that the walls 7 ft. high (the walls were 26 inches thick), set on the centre of foundation, finishing 22 in. thick on top to receive sills 20 in. square (the joints were laid on the top of sills), making walls for my stables 7 ft. 10 in. in the clear. The outside face of walls were plain; the inside face of walls were battering 4 in. We used in the foundation and walls 50 barrels of your cement. I superintended the construction of the walls personally. I had in my employ four men. We were ten days in building the 2 ft. of wall. We commenced to build on the 15th of June, and finished walls on the 25th. We raised the barn on the 6th of July in a very heavy frame of hard wood timber posts, 20 ft. long (hipped roof). On the 15th of July we commenced hauling in hay, and then grain, as fast as we could harvest it, until I had at least 200 tons in the barn. The walls stood this great pressure; there is not the least crack anywhere. I believe I have as good and perfect a wall as it is possible to build, and I am sure it will stand for generations. In October I put in my floor all over the barn, all for cattle manure drops, stalls, etc. In this I used 25 barrels of your Cement, and as a comparative test I used one barrel of Portland Cement. The floors have been in daily use over a year, and I have not been able to see any difference between the Queenston Cement and the Portland Cement. I consider I have a perfect floor, that will last more than a lifetime, and at a much less cost than plaster. My horse manure & hog and stable can be kept clean and sweet with less than half the labor with plank floors.

We have this year built another barn of the following dimensions: 20 x 50 ft. walls from bottom of foundation, with 18 in. walls 12 inches thick at ground line and 10 inches under the sill, which I consider strong enough for any ordinary barn. We used in this structure fifty barrels of your Queenston Cement; and I am satisfied that when your instructions are carried out, one will have perfect work every time.

Any further information you desire of your customers may desire I will write cheerfully at any time.

Very truly yours,

E. B. BROWN.

Farmers and others who contemplate building next season, make your plans early, get your supply of gravel and field stones on the ground during the winter, thus saving both time and money, and making your next season's outlay very small indeed.

Send for our Pamphlet containing full instructions, free.

The price of cement and other particulars will be

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64-66 Queen St. W. (near Bathurst St.)	433	10-12 Queen St. W. (Opp. Dominion Bldg.)	449
140-142 Queen St. W. (Parade)	512	414-416 York St. (Opp. Post Office Bldg.)	330
273 Queen St. E. (Opp. Ontario Bldg.)	422	210 Queen St. W. (Opp. New York St.)	430
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Have now become a Standard of Excellence with the Farmers of Canada and the United States. At the World's Fair, Chicago, 1893, a Gold Medal and Diploma given to the Carriers, Forks and Slings, was awarded to these implements. Following is a copy of the Judges award:

AWARD: "For open trip lock reversible the slings & automatic clutch, adjustable the use of road wheels; in regular center of strip block, which enables perfect control of carriage; no springs required for locking the wheel has without in all directions; compact form of fork which can be brought to any position; the perfectness, the ease of their action; the novelty, ingenuity, and usefulness. Excellence of material and construction."

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THIS FALL

WITH

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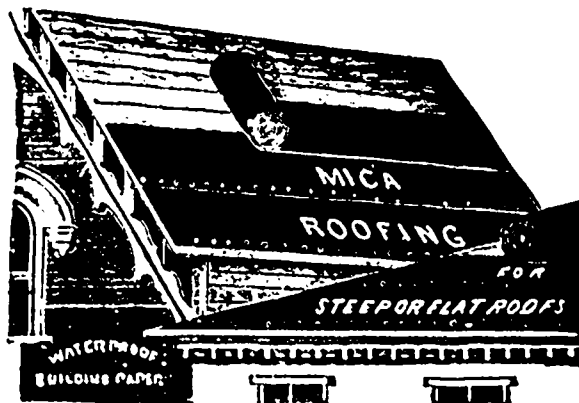
- THE PAGE WOVEN WIRE FENCE -

The above is a view of the Page Fence on the Grand Trunk Railway near Clinton, Ont.

MANUFACTURED BY

The Page Wire Fence Co., Limited, Walkerville, Ont.

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On all your buildings. It is cheaper than shingles. Waterproof and Fireproof.

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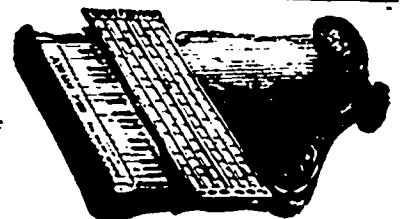
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