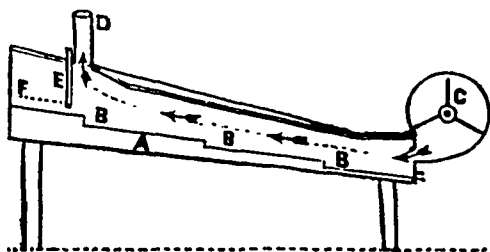


The Dairy.

Milk Cooler.

Among the contrivances the need of which has been seriously felt by cheese-makers on the factory system, is an efficient method of rapidly reducing the temperature of new milk, and depriving it of some portion of its animal odour. In the States various contrivances for the purpose have been patented, the principle of which is to pass the milk in tubes arranged in coils, through cold or iced water. This plan will, no doubt, lower the temperature, but seems to us deficient in the important point of removing at the same time the odour of the milk. An invention has recently been patented in this country which seems to combine both the desirable points. This contrivance was invented by Mr. F. Oakley, of Bond Street, Toronto, and is represented in the accompanying illustration. The apparatus is very simple, and will be at once understood by a re-



ference to the drawing, in which the principle of the operation and the various parts of the mechanism may be clearly seen. These last consist of a covered trough (A), with a series of steps (B) on an inclined plane, a fan blower (C), worked by hand or any available power, a chimney or air duct (D), to carry off the warm and impure air, as shown by the arrows, a movable sluice or floodgate (E), to regulate the flow of the milk, a strainer (F) to remove hairs, &c., that might be in the milk.

To this might be added, around the compartment which receives the milk, receptacles for ice, which would still further aid the cooling effect. This improvement is, we believe, contemplated by the inventor. The principle might also be advantageously applied to other processes besides cheese-making.

Rearing Calves.

The following is an extract from an essay on "Dairy Stock and its Management," read by Mr. Phineas Stedman, of Chicopee, before the Franklin (Mass.) Farmers' Club:

We come now to our second topic, viz.: "The management of dairy stock." It is of the first importance that all farm stock be kept in a thrifty, growing condition. It is much easier to keep a young animal growing, than it is to start that animal after it has, by want of care or proper food, been allowed to stop growing. Could every farmer be properly impressed with the fact that when a young animal is fed only sufficient to maintain its present condition and weight, that amount of food is lost, an important point would be gained. I know of no single item in which we suffer so much loss.

The best method of rearing dairy stock will vary with different individuals. To rear calves dropped in spring, a good, and I think economical method, is to put two calves to a cow, (provided one not too valuable is at hand,) and turn to pasture. I prefer, however, to have them dropped in autumn, or between October and January. They may be allowed to take the milk from the cow at regular intervals, or be taught to drink the milk, and at three or four weeks old, skimmed milk may be substituted, and the calves will thrive well, with the addition of good hay and provender. For provender, I know of nothing better than a mixture of unground oats and linseed meal, in equal parts. At three months old, an ordinary calf will take two quarts of this feed and a small quantity of roots, without injury. Calves dropped at this season, have several advantages over those dropped in spring. They usually receive better and more regular care, are better prepared to endure the cold of the succeeding winter, and until they arrive at maturity, always hold an advance of several months, in age and size, while reckoned in the same class.

Over-Production of Cheese in the States

CANADIAN farmers and dairymen may derive many useful lessons from the experience of their American neighbours, who are older in the business than those on this side the border; and though we do not think there is any just cause for discouragement in the present prospects of Canadian cheese-making, yet it is as well to take timely warning, and avoid the evil of multiplying factories too closely together; and especially it is necessary to bear in mind that nothing short of the highest excellence in the article manufactured will ultimately render cheese-making profitable. The following remarks, by X. A. Willard, Esq., on the production of cheese in the United States, deserves the thoughtful attention of Canadian manufacturers:—

"The prospect of American cheese dairying cannot be regarded so remunerative a business in the future as in the past.

"The opinion has gone abroad that there is no branch of farming so profitable as the dairy. The consequence is that many are changing their system of farming, and rushing into cheese-making, when really better results would be secured by keeping steadily along in the business with which they are familiar.

"Dairying is now so extended that it will need the best united efforts of producers to make the business pay. Every increase is fraught with danger, and it is important that correct and reliable information be disseminated in regard to the extent and profits of the business.

"In the first place it may be well to inquire what the production is, and what the increase has been during the past eight years.

"According to the census of 1860, the production of cheese in the New England and the Middle and Eastern States was 101,000,000 pounds. New York then made 48,548,289 pounds; the Eastern States 21,620,986, and Ohio 21,618,893 pounds. According to the last New York State census, the cheese sold from the factories and dairies of New York alone, in 1861, amounted to 72,195,337 pounds. We know there has been a large increase of dairies in the State during the past four years, and from the best information I can get, New York is producing, in an average good year, at least 100,000,000 pounds.

"The increase in the Eastern States has been large and probably will not fall short of 40,000,000, while the Western and Middle States, New York excepted, must be at least 60,000,000. We have, then, 200,000,000 pounds of cheese as the product of the States, exclusive of the Southern and Pacific States and Territories. If to this we add 15,000,000 for Canada, we have the immense annual product of 215,000,000 pounds.

"We are exporting to Great Britain from 50,000,000 to 60,000,000, which leaves 160,000,000 pounds to be worked off among our own people.

"It must be evident that we cannot go on increasing this business without over-production, and those about entering upon it may well hesitate before making investments.

"As to the large profits from dairying, if the past year is to be a sample, it will require a magnifying glass of more than ordinary power to see them. Many have barely made the ends meet, and some have not been able to pay expenses."

Salting Butter, &c.

As to the quantity of salt to be used for butter, something will depend upon its manufacture and the market for which it is intended. The Orange county butter makers, who obtain the largest prices for their product, use at the rate of a pound and two ounces of salt for a batch of twenty-two pounds of butter. For winter butter, or butter designed for winter use, a little more salt is used at the last working.

There is a difference of opinion among butter makers in regard to washing out the buttermilk. We are strongly impressed that butter will keep best that is properly washed. It is the caseous or cheese particles in the buttermilk, the decomposition of which causes the butter to become frowy or rancid. The more perfectly these are expelled the better will the butter be preserved sweet and sound. Washing properly, to our mind, secures best that result. It is certainly much less work to get rid of the butter-

milk by washing, than by the "kneading process," besides there is less danger of spoiling the butter by overworking, since overworking injures the grain, rendering the butter salvy. It is claimed by some that when the buttermilk is worked without washing a more delicate aroma is retained, and this principle is observed in Holstein and Normandy, where a very superior butter is manufactured for the London market.

We have tested hundreds of samples of butter in London which came from France and Holstein. The butter is very slightly salted, and when fresh, has a most delicious flavor, but much of it does not keep well.

A most important point to be observed by butter-makers who hope to make a reputation for fine goods, is to pack in suitable tubs or packages. In our opinion, there is no wood so suitable for butter packages as white oak. The timber should be well seasoned, and the packages strongly hooped, so as to be water-tight. No leaky package can preserve butter for any considerable length of time.

In salting cheese, much will depend upon manufacture and the time it is desired to have it ready for the market. From two and a-half to three pounds of salt are usual for one hundred pounds of curd. The usual quantity at the factories is 2.7-10 pounds salt to 1,000 pounds of milk. In spring, when it is an object to have the cheese go into market early, 2½ pounds salt, and even less, are used to the 1,000 pounds of milk.—X. A. WILLARD, in *Utica Herald*.

DAIRY MEETING AT STOUFFVILLE.—The *Markham Economist* says the dairy meeting at Stouffville, held on the 3rd inst., passed off very agreeably. The result is that the Stouffville Factory was to go into operation on Wednesday, 10th inst., with the promise of about 100 cows to start with, and a prospect of considerable increase.

In France, milk is packed in small tin cans, easily moved by one man, and by a simple contrivance the stopper screws close down upon the contents of each can, so that the motion of the railway cannot churn the milk *in transitu*. The cans are then placed in covered waggons, and in summer are wrapped in cloths, which are watered from time to time so as to promote coolness by evaporation. The result of this care, which costs but little, is that the milk supply of Paris is proverbially excellent.

MILKING MACHINES.—A correspondent of the *N. H. Mirror and Farmer* gives his experience with one of these machines. He saw them advertised, and bought one, paying \$7 for it and \$5 for the right to use it. He says: "I tried it on an easy milker, and after a good deal of effort succeeded in getting it adjusted on the cow's teats, and by working it could draw some milk, but by the time the cow was half milked the teats would not fill the cups, and the machine would drop off, there being no suction. I wrote to the agent, stating the difficulty, and asking to be referred to some one who had one in successful operation. The agent replied, giving no reference, probably for the all-sufficient reason that there was nobody to refer to, but saying that I must persevere, for it required a good deal of practice to learn to use one. I and my hired man tried until we supposed that we had exhausted all our mechanical talent, but without success, and laid the machine by, which the agent can have at a very large discount."

NEW CHEESE HOOP.—At a late meeting of the Herkimer County Farmers' Club, Mr. E. Ellis exhibited a new cheese hoop which had been recently invented and patented. Mr. Ellis said there was great complaint among dairymen in regard to removing the cheese from ordinary hoops, and Mr. Purdy, who had been with him for some time manufacturing the common wooden hoops, had turned his attention to the subject in order to obviate the difficulty. As a result, he had brought out a new hoop, which had been patented, and he thought it an improvement. The hoop shown was of galvanized iron, arranged with an ingeniously constructed clasp, so as to be in a moment unlocked, when the hoop opens and the cheese can be taken out. This seems to be a very desirable article. It is very simple in its arrangement, being readily locked or unlocked in a moment.