

The process, which is a very simple one in theory, consists in extracting by condensation, *in vacuo*, about three-fourths of the water naturally contained in the milk, and the residuum, of the consistency of thick syrup, is rendered semi-solid and effectually preserved by the addition of a certain proportion of refined sugar. This preparation is then hermetically closed in tins, and thus protected, will keep sound and sweet in all climates for an indefinite time, and even when exposed to the air, will not suffer deterioration for several weeks.

The theory of the process may be thus stated:—About 85 per cent. of milk, as it comes from the cow, consists of water. By carefully eliminating a large proportion of the water, and adding sugar, the other constituents are preserved in their original unchanged state; and by subsequently restoring the same quantity of water as was previously evaporated, the true milk is reproduced, only artificially sweetened.

As the condensed milk is fast taking hold of the English market, its production, as an article of export, in a country like New Zealand, where there is good milk in abundance, recommends itself on several grounds. Its manufacture in the Colony would doubtless be quite as easy and successful as that of cheese or butter; while, on the other hand, being far less liable to damage or deterioration on its way through the tropics to the English market, it would no doubt prove a safer or more reliable article of export. There would, moreover, be a ready market for such an export in America, should a direct commerce be opened up with that country.

The precise mode in which the evaporation is effected is supposed to be a trade secret in England, but it is well known that the process is essentially the same in the various establishments, and the whole thing has been fully explained in an article which appeared in the "Food Journal" last year.

The following is an explanation of the process, which is less easy than it appears at first sight—for this simple reason, that the whole success of the undertaking depends upon the careful regulation of temperature, and those niceties of manipulation which experience alone can teach.

But, in establishing a factory of this kind in New Zealand, there would, it is thought, be no difficulty in finding a sufficient number of skilled labourers to undertake the practical part of the business.

The milk is first of all run into a reservoir over a strainer, so as to remove all hairs and impurities, and is then removed by large swinging cans into a tank containing hot water, so as to keep it up to a certain temperature. The next operation is to add about one-third weight of the best cane sugar (although Baron Liebig is of opinion that beet sugar possesses better preserving qualities, besides being much cheaper). Without the addition of the sugar the condensed milk would not, of course, keep sweet more than four or five days.

The mixture of milk and sugar is then passed up through a tube into a vacuum pan in the room above, where the process of condensing is carried on. The object of this is to evaporate the water of the milk, which gradually becomes more and more pasty, and is finally drawn off with a consistence like very pale liquid honey. It is next cooled, and run into tins, which are soldered down, and is then ready for sale.

It should be mentioned that the utmost cleanliness is necessary during all the operations, from the time that the milk is brought in till it is ready to be sent out in its portable state. It is impossible to overrate the importance of this, for it is stated that even a microscopic atom of sour or stale milk will spread like yeast, and will be sufficient to contaminate any quantity with which it may be placed. In the milk works at Aylesbury, the utmost care is taken to prevent the smallest particle of milk remaining. The cans, as soon as emptied, are turned upside down, and subjected not only to a strong column of water, but also to one of steam, which is forced in at tremendous pressure, and finds its way into every nook and cranny, effectually cleansing the vessels of all corroding matter.

The Anglo-Swiss Company sells now about 2,000 tins per month, and could sell more if they could produce it. The P. and O. Company, the North German Lloyds, the Royal Mail, and Pacific Company, all use it in their boats. Each tin (as sold at this establishment) contains the equivalent of rather more than half-a-gallon of good milk; the price per tin is 1s. 3d., the cost of the tin 1d. The price of the condensed milk, when diluted with five parts of water for use, is 6d. a quart. About one-third of a pound of loaf sugar is used for each tin; and the net profit on the production, after paying all charges for manufacturing, freight, agency, &c., is said to be about 1s. 6d. for the gallon of milk.

The present prices at the works of the English Company's establishment at Aylesbury are as follows:—

	Per dozen.	Per case.
For case of 4 dozen 1-lb. tins	7s. 3d.	29s.
„ 8 „ ½-lb. tins	3s. 9d.	30s.

being somewhat in excess of the prices quoted at the beginning of this year.

W. BULLER.

7, Westminster Chambers, Victoria Street, London, S.W., 30th April, 1872.

APPENDIX E.

No. 11.

Mr. E. Fox to the Hon. J. VOGEL.

SIR,—General Government Offices, Wellington, 3rd November, 1871.

I have the honor to hand you herewith a letter, enclosing estimates for machinery, which I have this day received from Messrs. Samuel Lawson and Sons, of Leeds.

It is to be observed that the price of the flax-breaker—Lawson's patent, with Fiskin's motion, which was described in a paper handed to you some time since—has been increased from £135 to £150, the cause of the increase being the addition to the machine of a cistern, so as to secure that water shall constantly flow over the rollers and the fibre, with the object of cleaning the latter of gum.

I have, &c.,

E. FOX.

The Hon. Julius Vogel, &c.