

## Medical Matters.

### THE PRODUCTION AND MODIFICATION OF PURE COWS' MILK.

On Tuesday, May 24th, at the Infants' Hospital, S.W., Dr. Ralph Vincent gave his fourth lecture, his subject being The Production and Modification of Pure Cows' Milk.

He began by describing the cow sheds at the special farm of the hospital at Sevenoaks. The floors are of concrete, and there are no drains inside the sheds, but all impurities are, by means of gulleys, conveyed to the drains outside. The sheds are fitted with hydrants, by means of which they are flushed twice a day, immediately before the cows enter to be milked, the object being that the walls and floors being wet it is impossible for dust from them to settle in the milk. Fodder is prepared before the cows enter. The sheds are carefully ventilated, and there is plenty of light. The animals only enter these for milking purposes, and never at any other times, and while it is not considered advisable to have the cows out night and day, on account of the cold, which affects the supply of milk, they are sheltered when necessary in very large sheds roughly covered in. The floors are of chalk firmly pressed, as it is found that concrete is too hard, and produces sore feet and knees.

As to the feeding, all the ordinary "milk producers," such as cotton cake, oil cake, brewers' grains, are strictly forbidden. Hay, oats, bean meal, bran, and mangels are given, with a sufficient supply of grass, but the cows are fed immediately before being turned out to prevent too much green food being consumed. Thus a balanced ration is arrived at.

The process of milking is carried out with strict attention to sterilisation. The product from each cow is weighed and taken at once to the milk rooms, and placed in the separator. So soon as it is separated it is passed over the cooler, and in a very few minutes the temperature of the milk is reduced to 48 degs. or even 37 degs., at which temperature organisms cannot develop. It is then sent a distance of 30 miles in churns with double covers, which are sealed. In the transit the temperature is never found to have risen more than two degrees.

The thing to aim at in substitute feeding is to secure the same qualities as in natural food, and no artificial product should be allowed to enter the milk. Mother's milk goes direct to the offspring, and while everything connected with milk or milking is to be thoroughly sterilised, the milk itself must be left untouched. There is no use for cooked milk.

In the case of children of very poor parents,

it is, of course, impossible to carry out these elaborate directions and prescriptions, but the principle of the thing can be carried out by using as far as it can be procured pure raw milk to start upon and to make what is known as fat whey. As a rule, in the making of whey, the precipitate catches the greater part of the fat, but if the following directions are carried out, the difficulty will be overcome.

Put one pint of cold milk into a jug, add to it about four drops of very strong rennin, place the jug in a saucepan of cold water, and slowly warm the milk to a temperature of 100 degrees. All the time stir with a spoon to prevent the fat from catching in the curd, the spoon also keeps the curd down, and by excluding the curd all other elements are pressed closer together. This is the production of fat whey.

Milk may be added cautiously to the whey as the infant is able to take it, starting with the proportions of whey six parts, of milk one part, and very gradually increasing the milk as observation dictates. These simple directions for substitute feeding of infants should be of great value to those nurses who minister to the poor in their own homes.

### HOSPITALS IN SHIPS AT SEA.

There has reached us, says the *Lancet*, in the reports of the International Medical Congress held at Budapest, a very interesting paper on the Hospital Establishment of Passenger Ships by Dr. Dupuy and Dr. Villejean. They give us excellent plans of the hospital establishments on board French ships of all kinds, from the sailing schooner *Notre Dame du Salut*, hospital ship for the fishermen of St. Pierre and Newfoundland, to the *Loire*, with her large accommodation for sick convicts, and the extensive range of hospital cabins in the new ships *La France* and *La Plata*. In their latest plan, that of the hospitals in *La Plata*, one of a group of four ships, we find 20 beds for women, 22 for men, besides an isolation hospital with 10 beds for men and 8 for women—all on the upper deck, and apparently at the fore-end of the superstructure, while on the deck above the medical officer has his consulting-room which in emergency can be used for an operating-room. Besides all this, most recent French ships seem to have one or two cabins for lunatics. Dr. Dupuy and Dr. Villejean have made a thorough and most careful study of the whole question, as is shown by the tale of the improvements they desire, including a special operating room, a mortuary, also to serve as post-mortem room, and a bacteriological laboratory.

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