

A Report

ON

THE MILK SUPPLY OF LARGE TOWNS:

ITS DEFECTS AND THEIR REMEDY.

III.

A MODEL DAIRY FARM ON COMMERCIAL LINES.

THE farm which Messrs. Welford maintain for the supply of nursery milk is situated at Harlesden, near Willesden, and the milk is sent up to the factory¹ in Maida Vale by road in carts. The farm, which is 128 acres in extent, affords excellent feeding for the herd, which consist of large shorthorns. On the occasion of a recent visit the animals were still housed, those in milk being in a large well-designed and well-constructed shed. The walls are faced with glazed white tiles, a small black slate being inserted opposite each cow's stall for the purpose of calling the attention of the veterinary surgeon to any animal which may be thought to require particular inspection. Against the walls are also two porcelain washing basins, with receptacles for soap and fitted with hot and cold water, while near them hang two roller towels. These are for the milkers, who wash their hands after milking each cow. This is excellent as a precaution against conveying infection from one cow to another and for ensuring general cleanliness. The milkers wear white linen jackets and oilskin caps, the latter as their heads are bound to touch the cows while they are milking, and oilskin is easily washed. The cows stand in a single row down the centre of the shed, the floor sloping slightly to an open drain, which flows through a gully into a disconnecting chamber and so to a drain which empties into a tank at a distance. The overflow from this tank is into the public drain. The litter used is straw, which is cleansed and made up twice a day. In front of the stalls is a long trough formed of glazed half drain pipe of large diameter, and in this the animals are fed and watered twice a day. The water supply is from the West Middlesex Water Company, and a constant supply is insured by a large tank. The shed is ventilated in the roof, and there are also doors and windows, so that it is airy and light. The importance of absolute quiet for the cows is insisted upon, and they are disturbed as little as possible. The udders are only washed in case of necessity, but the cows are brushed every morning, and this is found sufficient as a rule to keep them clean. It is found that to wash the udders habitually is apt to cause chapping, especially in frosty weather. The milk, which is drawn into ordinary milking pails, is poured through a wire gauze funnel strainer into bottle-shaped cans, holding about eight to ten gallons, in which it is dispatched to the factory. It is delivered in sealed bottles or cans within three or four hours of milking, a matter of great importance in the case of invalids and babies brought up by hand on cows' milk. The great object held in view is to supply the milk as fresh as possible and to diminish the chances of contamination. The average yield per cow is said to be from 12 to 16 quarts, but the quantity varies according to the season of the year. In the winter the cows are fed upon mangolds and finely chopped hay, with mashes made of mixtures of various corn meals, pea and locust meal, and bran. They are also given oilcake. Messrs. Welford do not keep a cow after its third calving, as they are of opinion that old cows are more subject to tuberculosis, which is seldom seen in younger animals, while the young cows run the risk of being infected when the older animals develop it.

Asses in foal, and recently foaled, are kept at this farm, but as soon as they are required for milking purposes they are removed to a special dairy in Edgware Road, Hyde Park. A few pigs are kept on the farm. Messrs. Welford's Harlesden Farm is a standing proof that, with proper organization and method, and, above all, personal care and supervision, something little short of ideal conditions for the supply of clean, fresh milk can be attained on a commercial basis. We have seen cowsheds, probably as good as that at Harlesden, with modern appliances, a good water supply, and healthily situated, which, with proper attention, might have turned out as pure milk. But, owing to careless or incompetent managers, the cows have been allowed to wallow in unclean stalls, knee deep in manure; the milkers have worn unclean clothes, and milk tainted with manure, hairs, and dust has been turned into doubtfully clean vessels. Messrs. Welford

¹ A description of the factory will be given in a subsequent issue.

have no special costly fittings at their Nursery Farm, and possibly many large country farmers, or their landlords, have spent quite as much money on their cowsheds and their herd as Messrs. Welford; but we doubt if many have obtained the same results, and we would point to the Harlesden Farm as an example of the excellence which may be attained by good management.

RAILWAY TRANSIT.

The milk supplied from the farm just described is a special milk designed for the use of infants and invalids, and is sold at an enhanced price. The ordinary milk of towns is, as has been said, brought in nightly by train, and is, as a rule, delivered by the railway companies at special platforms in the early morning. It has been milked in the morning or afternoon of the previous day, and generally consists of a mixture of the two milkings. It has been carted by the farmer to the roadside station, where it has perhaps remained for several hours exposed to sun in summer and to dust on every dry day. It has then been put into a ventilated milk truck or a box-van as the case may be, and the truck may eventually have been attached to a through ordinary train, or may have formed part of a special milk train, which has been worked through as the exigencies of traffic permitted.

We would express the opinion that while the special milk cars probably meet all reasonable requirements, at any rate in this climate and in the present state of public opinion, the use of ordinary closed box-vans, especially in the warmer months of the year—say from April to October—ought to be abandoned. The railway companies will not collect or deliver milk. They receive it from the farmer at the country station, and hand it over to the town dealer, usually a wholesale merchant or a large dairy company with its own factory and distributing branches, at the town milk platform. The railway company's responsibilities therefore begin and end with the actual transit over its own lines, and in this there appears to be no unreasonable delay. The main precautions which they may fairly be asked to take in the interests of the public are three: (1) To supply covered sheds at the country stations where the milk churns may be kept under cover from the sun and dust when awaiting dispatch; (2) to supply well-ventilated vans in a systematic manner as a matter of routine, and to encourage the system of sending milk in sealed or locked churns.

In the course of inquiries in connexion with these articles we have often been met with the statement that one great difficulty in the way of preserving country milk from contamination was the practice of the railway companies to require that churns should not be sealed or locked. The object of this regulation was stated to be that the quantity of milk might be ascertained either by measuring the milk by pouring it from one churn to another, or by inspecting a scale marked on the inside of the churn. In consequence we addressed a letter to the secretaries of the principal railways in England, and owe to the courtesy of the officials replies from which we draw the following facts:

Mr. H. G. Drury informs us, on behalf of the Great Eastern Railway Company, that that company makes "no difference whatever with regard to the charges, whether the milk is sent in churns which are locked or sealed, or simply fastened in the usual manner." All the company requires is that "when the churns are locked or sealed the tare of the churn should be shown upon the outside." In this way the company is "able to check the quantity of milk, should it for any reason be inclined to do so." Mr. Drury adds that the company prefers to receive the churns locked, but it can very rarely induce the farmers to do so.

Mr. H. Partington, writing on behalf of the London and North Western Railway Company, informs us that that company makes "no difference in the charges for milk locked or sealed, and for milk not so secured, the condition of carriage being that the lids shall be properly fastened to the cans."

Mr. R. H. Haig Brown, writing on behalf of the Great Central Railway Company, informs us that that company charges the same rate for milk in locked or sealed churns as for milk in churns not so secured.

Mr. Chalk replies on behalf of the London, Tilbury, and Southend Railway that the rates are the same whether the churns are sealed, locked, or otherwise.

Mr. Allen, writing on behalf of the Great Western Railway Company, also informs us that the "charges for conveyance of milk, whether in churns, sealed or not so secured, are the same."

The London, Brighton, and South Coast Railway, and the London and South-Western Railway, have replied to our in-

quiries by forwarding copies of the printed conditions as to the conveyance of milk over their systems. Several of our other correspondents have also forwarded the conditions enforced by their companies. They appear to be identical in all cases. The "conditions of carriage" which affect the question at issue are as follows:

2. The lids of the milk cans must be properly fastened to the cans.
4. Each can (except hereinafter provided for) must have the number of imperial gallons it is capable of containing marked upon it, and the inside of each can must be marked to indicate the space occupied by four gallons, and by each additional gallon. In the case of "sealed cans," instead of the outside of the cans being marked, each can must have its "tare" conspicuously stamped thereon outside.

8. The officials of the company shall have the power to open any cans during transit, and if necessary to detain the same for a reasonable time, in order to ascertain if the quantity of milk therein agrees with the quantity declared.

9. Senders must, in each case, sign consignment notes showing the actual quantity of milk to be forwarded, the name of the consignee, and the station to which it is to be sent. The company reserve the right to refuse to accept milk, if and whenever the consignment note does not contain this information, or is not so signed.

10. Two rates are in operation for the carriage of milk: One the ordinary rate, when the company accept the ordinary liability of a railway company with respect to the carriage of perishable merchandise by passenger train; the other, a reduced rate adopted when the sender agrees to relieve the company and all other companies or persons over whose line the traffic may pass or in whose possession the same may be during any portion of the transit, from all liability for loss, damage, misdelivery, delay or detention, either with respect to the milk or the milk cans when full or empty, except upon proof that such loss, damage, misdelivery, delay or detention arose from wilful misconduct on the part of the company's servants.

The London, Brighton and South Coast Railway has an additional rule to the following effect:—

12. Milk for certain stations in the suburban district can only be forwarded by the regular milk trains, and the company do not guarantee the time of arrival.

We should like to have an explanation of (8). It seems on the face of it incompatible with the condition laid down with regard to "sealed" cans. Possibly it is not intended to apply to such cans, but if so, the wording is ambiguous. However this may be, we have here assurances from the principal railway companies in England (with the exception of the Great Northern which has not replied) that they are ready to carry milk in sealed churns at the same rate as in churns with loose lids, a system which closes a door to dirtiness and fraud. We could call particular attention to the statement made by Mr. Drury on behalf of the Great Eastern Railway Company, which in recent years has in several directions set an excellent example in the handling of perishable merchandise. He states that his company not only do not put any difficulties in the way of farmers who wish to send the milk in sealed churns, but prefers to receive the churns locked. Nevertheless farmers can rarely be induced to adopt that system. Why?

(To be continued.)

MANCHESTER MEDICO-ETHICAL ASSOCIATION.

THE ADMINISTRATION OF THE VACCINATION ACT.

At the last meeting, Dr. Lloyd Roberts in the chair, Mr. F. H. Westmacott, F.R.C.S., acting as secretary, a discussion took place on "The Administration of the Vaccination Act." In opening it, Mr. DAVID OWEN pointed to the continued epidemics of small-pox as proof of the nominal fashion in which much vaccination is carried out. As a remedy he urged the adaptation to private vaccination of the rules applied to public vaccination as regards payment, standard and inspection, the cost of which would be nothing to that which small-pox now causes. He believed opposition to compulsory vaccination and revaccination would cease if free choice of vaccinator were permitted. He cited statistics he had collected in Manchester showing that most vaccinations performed did not come up to the Local Government Board standard, and regretted there was nothing in the Act to remedy this condition. He further referred to the general dissatisfaction that has been expressed with the Act during the past two years.

Dr. JOHN SCOTT considered it essential that vaccination should be made a department of public health and put under the sanitary authorities, and that at the age of 12 revaccination should be compulsory. In his experience, also, private vaccination never came up to the standard of four marks. He considered that public vaccinators should do no other work, and that the co-operation of medical men should be enlisted

in removing the colossal ignorance of the poor with regard to the subject.

Dr. VIPONT BROWN believed that the only remedy for inefficient private vaccination was to make every general practitioner a public vaccinator, paid by the State, for, and only for, every efficient vaccination. Any question of pleasing parents would then be removed.

Dr. RAYNER thought no person need have small-pox, and that any person contracting it after refusing to be vaccinated should be made liable for the expense caused.

Dr. WOOD considered that making one mark only should be made a penal offence.

Dr. WILLIAMS referred to the majority of the newly-born in poor districts being under care of midwives, and to the rule that public vaccinators shall not visit a house officially before a child is 4 months old. In his own case the amount of vaccination he had to do seriously interfered with his practice.

THE EPIDEMIC OF SMALL-POX.

THE view which we expressed last week, that the slight decrease in the number of cases was probably an improvement more apparent than real, has unfortunately proved to be correct. The reports to hand this week show that the disease has spread to several new places, persists in others, and in several where it was considered to be extinct has broken out again.

ENGLAND AND WALES.

In Northumberland 2 cases have occurred at Walker and 5 at Wallsend, while with regard to Newcastle a statement that a case had been notified which we had occasion to correct three weeks ago appears to have been prophetic, since 3 or 4 cases have now occurred. The outbreak, however, is being actively dealt with by the medical officer of health, Dr. Armstrong.

In County Durham several fresh cases were notified from Darlington, South Shields, and West Hartlepool, while Rise Carr and Hebburn appear to be new centres. At Darlington the cases are to be moved from the isolation hospital to a special building.

In Yorkshire one or two fresh outbreaks are reported, as at Thorne, while at Middlesbrough, Leeds, Sheffield, Bradford, Dewsbury, Wakefield, Hebden Bridge, and Brighouse a good many new cases have occurred, and Rotherham has made its 2nd entry.

In Lancashire the disease exists in no less than 17 localities, Liverpool having had 86 fresh cases, Radcliffe its 16th, Burnley its 12th, while Rochdale and Blackburn, believed to be out of the fire, again show a fresh crop of cases. At Chorley a case has been discovered in the person of a woman who was a bedmaker at a much frequented model lodging-house.

From Derbyshire there is nothing much to report, but cases have occurred at Brigsforth and Carr Vale, and what threatens to be a sharp outbreak at Ripley.

In Nottinghamshire, the outbreak at Hucknall Torkard has not yet been got under, owing, perhaps, to the foolish curiosity of the people, who crowd round any ambulance.

In Leicester itself two cases are notified, while in Lincolnshire things, so far, appear promising, Grantham having nothing further to report.

In Shropshire, Broseley and Market Drayton seem to be fresh centres, while Oswestry, last week reported free, has had to register another case.

In Essex a case has been detected at Romford.

In Cheshire there is apparently nothing fresh.

In Wales there have been a good many fresh cases at Cardiff and in some other parts, while several cases are reported on board ships.

IRELAND.

Over 50 cases of small-pox have now been registered in Dublin, but the death-rate is so far small. A sensation has been caused by a sworn declaration of one of the "contacts," who has recorded his experience in the Corporation refuge in Nicholas Street. He declares that the inmates were insufficiently fed; that three rooms were allotted to eleven families of 40 persons; that men, women, and children were huddled there indiscriminately; and that decency was out of the question. This report was made to the guardians of the North Dublin Union, who have called for an investigation by the Local Government Board. Meanwhile, Sir Charles Cameron says that the case is grossly exaggerated; that the house is clean and airy; that the people are well fed; that the women have wine and the men stout; and that all are well looked after. It may be remarked, however, that if it is found necessary to remove persons suffering from the disease to an isolation hospital far removed from the city, the "contacts" who may be infected, and who are at all events presumably capable of spreading the disease, should not be kept in an inhabited locality. The Local Government Board has called upon the rural district councils to consider the question of hospital accommodation.

PATENT MEDICINE ADVERTISEMENTS.—The Pennsylvania Legislature has passed a Bill prohibiting the use of any person's picture or name as a testimonial for a patent medicine without securing the person's consent.