

The accommodation for discharging, lairing, slaughtering and storing at the foreign animals' wharfs, Birkenhead / by Francis Vacher.

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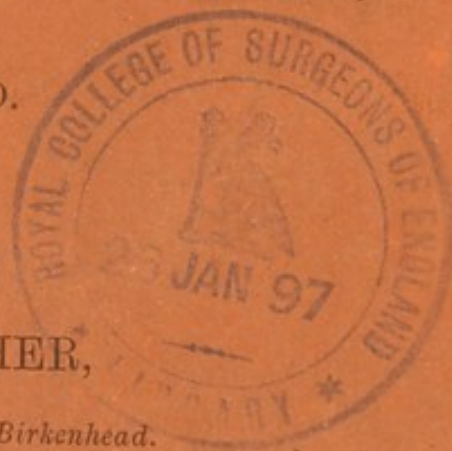
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THE ACCOMMODATION
FOR
DISCHARGING, LAIRING, SLAUGHTERING
AND STORING

AT THE
FOREIGN ANIMALS' WHARFS,
BIRKENHEAD.

BY
FRANCIS VACHER,

Medical Officer of Health, Birkenhead.

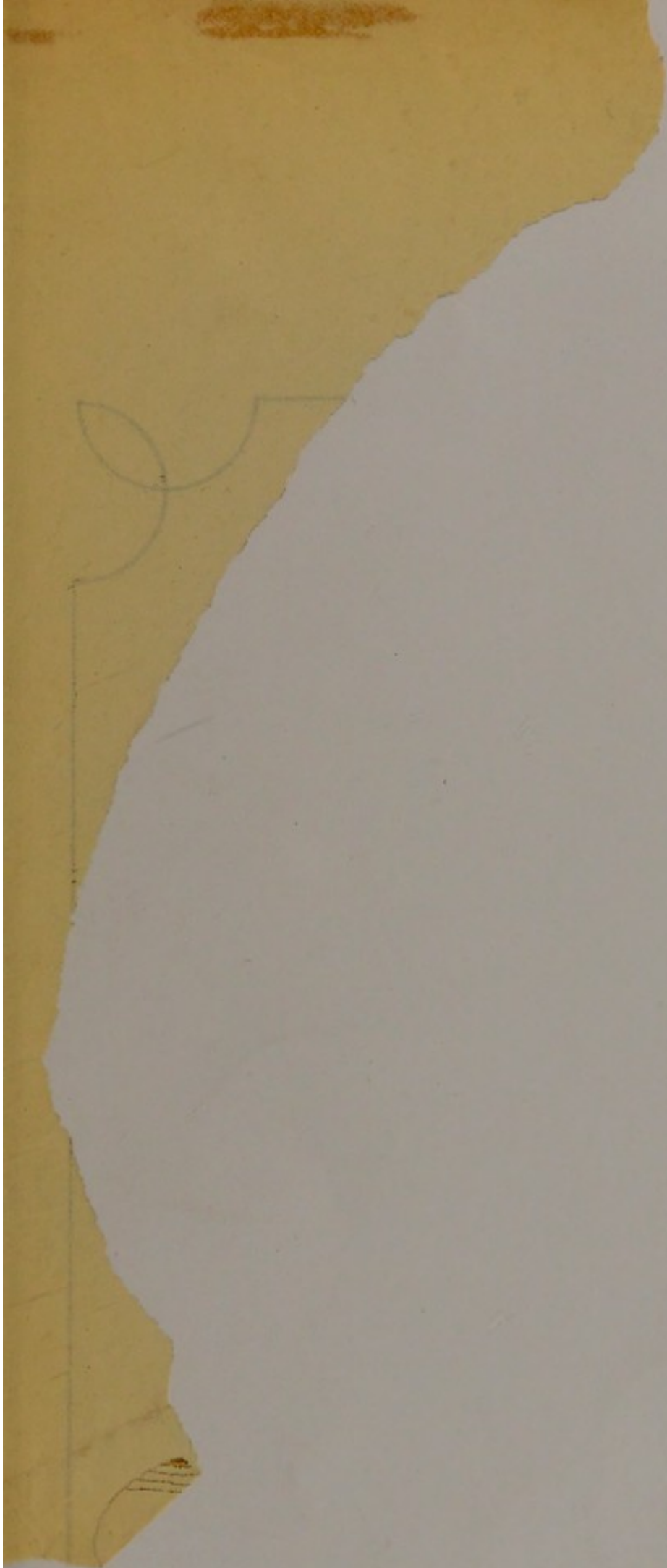


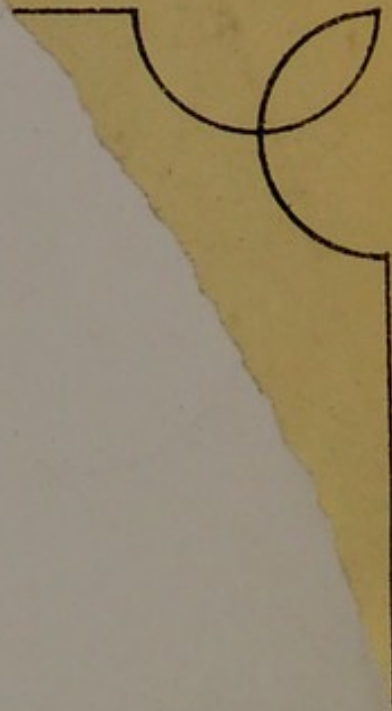
READ AT THE MEETING ON JULY 13TH,

AND PRINTED BY REQUEST.

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An article, entitled *The Accommodation for the Foreign Cattle Trade on the Cheshire Side of the Mersey*, appeared in *The Sanitary Engineer* of June 15th. It contained the substance of this paper, but without reference to the chill-rooms, which at the time of the writing of the article had not been provided.

THE ACCOMMODATION AT THE FOREIGN ANIMALS' WHARFS, BIRKENHEAD.

THE extreme contagiousness of many epizootic diseases is well known, and I have more than once drawn attention to the possibility of such diseases being communicated to the consumer of infected meat. I think, therefore, no apology is needed for my seeking to occupy the attention of an Association of Medical Officers of Health with some account of the extensive buildings for sheltering, inspecting, and slaughtering cattle arriving from infected countries, which have been provided on the Cheshire side of the Mersey in the course of the last four years. I shall, at the same time, note the provision made for landing and forwarding free cattle. The whole accommodation includes the premises at Wallasey, at Woodside, and at the Alfred Dock.

The preparation of a wharf on the north side of Wallasey Dock was begun in November, 1878, but little progress was made with the work for three months. About this time disease was discovered in a cargo of American cattle landed at Liverpool, and the United States were in consequence included in the schedule of infected countries under the Contagious Diseases (Animals) Act, 1878. It was then thought desirable to get this place constituted a Foreign Animals' Wharf under this Act, and to erect such buildings as might be necessary for the slaughter of the animals landed. Two lairage sheds of brick (a portion of the original design) were accordingly completed without delay, and a light wooden erection, to serve as a slaughter house, was built at a convenient distance in the rear. The lairages adjoin one another, each shed measuring 202 feet by 62 feet. Parallel to these is the slaughter-house, it measures 181 feet by 27 feet, and is separated from the sheds by a yard 40 feet wide. These buildings were in use early in March, 1879, and in the course of the same month the two western lairage sheds were completed. These measure 190 feet by 62 feet each. The four sheds together give accommodation to 1,000 head of cattle. The whole provision yet proving insufficient for the requirements of the cattle trade, two of the sheds lately erected on the quay of the Wallasey Dock were set apart for the service of the Foreign Animals' Wharf. Each of these sheds measures

300 feet by 80 feet, and the one situated between the lairage and the dock has been fitted for the slaughter of pigs and sheep. These extra slaughter-houses were built in the summer of 1879, each measuring 40 feet by 32 feet, and shortly after three meat stores, each 50 feet by 32 feet, were added. The roof over the slaughter-houses and stores is continuous, and rails are laid in the twelve feet way between, so that meat trucks can be loaded under cover. Rails have also been laid for loading from the wooden slaughter-house; and there are lines in the rear of the sheds on the quay. Hay stores, fat and hide sheds, offices, &c., sufficient for the accommodation of all engaged at the wharf, have been added. A large part of the deck of the Wallasey stage has been fenced off for the exclusive use of cattle arriving from infected countries, and a passage from this part of the stage to the lairs has been fenced off and paved. The length of this passage is 1,550 feet. An area of about 30,000 square yards has been appropriated to the cattle trade at Wallasey. More recently the large sheds on the north side of the dock have been divided into pens for sheep and pigs, and special provision for slaughtering sheep has been made. A large shed at the south side of the dock, capable of holding 342 head of cattle, has been fitted for animals arriving from countries free from disease, and a passage from the south bridge of the Wallasey stage to this shed has been fenced in. A second shed, lying next this, is also used for animals, and divided into pens, as occasion requires, by means of moveable hurdles.

Lairs, very similar to those at Wallasey, but separated into two compartments instead of four, have been built at Woodside. A loading staith of six pens was made in connection with them, and a small branch line, the lairs being first intended for cattle from countries free from disease. Owing to the growth of the American trade it was deemed expedient to have a Foreign Animals' Wharf at Woodside also, and the consent of the Privy Council was obtained. Accordingly a portion of the lairage was set apart as a temporary slaughter-house, and the construction of six permanent slaughter-houses, with corresponding meat stores, was at once proceeded with. The permanent slaughter-houses were in use in August, 1879, and all the buildings, with hay sheds, offices, &c., were completed by the end of the year. Branch lines of railway were also laid down the covered way between the slaughter-houses and the meat stores. Each of the two compartments of the lairs measures 190 ft. by 130 ft.

A sketch of the front (or west) elevation is given, showing the air holes, sliding gates, and doors. The building is 30 ft. high in the centre, the side walls 11 ft. high. A portion of the side elevation is also shown, depicting the glass windows in the roof and the air holes in the wall. The six meat stores are each 32 ft. wide, and have an average length of 48 ft. They are situated at the back of the slaughter-houses, a twenty-two feet way being between them. Here, as at Wallasey, the roof of each slaughter house is continuous with the roof of the corresponding meat store; and the carcasses, as soon as they are dressed and split, are hooked on to the overhead gear and pushed into the meat stores with little expenditure of force or time. Meat is similarly transferred from the meat stores to trucks or carts in the covered way. Each slaughter-house and meat store has four parallel lines for travelling hooks; thus a meat store when full has four rows of sides of beef (about 50 in a row), with ample room for walking up and down between the rows. For the purpose of affording additional accommodation for live stock, an enclosure, divided into three folds and having an aggregate area 2,300 yards, has been formed on the north side of the lairage. The whole area appropriated to the trade at Woodside is 27,000 square yards.

Toward the close of 1879 it was found necessary to provide further accommodation for stock brought from uninfected countries, and this was furnished at the Alfred Dock. The shed on the north side of this dock, 300 ft. by 61 ft., was fitted with stalls and troughs and a cement floor laid down, and affords lairage for 333 head of cattle. Behind the shed was constructed a loading staith of 16 pens, in connection with a line of rails. The shed is also directly connected with the dock system by a line. Two enclosures, one on either side of the lairage, have also been fenced in and paved with boulders. The enclosure east of the lairage contains an area of 2,000 square yards; those west of the lairage an area of 3,500 square yards. A passage connecting the lairage with the west enclosure has been fenced in and paved. All these works have been planned and carried out under the direction of Mr. Lyster, Chief Engineer for the Mersey Dock Estate. It is not easy to estimate the cost. Probably the entire outlay has not been less than £45,000, of which about £40,000 has been expended on the accommodation provided at the Foreign Animals' Wharfs at Woodside and Wallasey. Cattle arriving from countries

scheduled as infected can of course only be discharged at a Foreign Animals' Wharf, and as 300 head or more frequently arrive by a single vessel, and all are required to be slaughtered at the wharf within fourteen days, the necessity for having ample accommodation is evident.

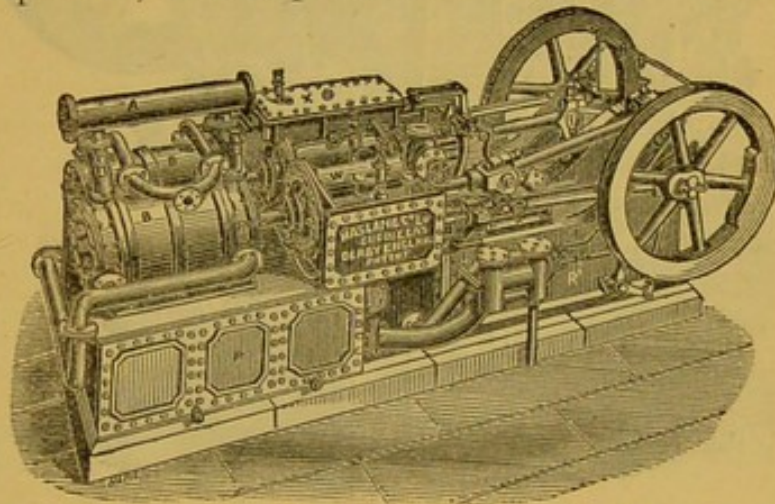
All animals landed from infected countries are carefully inspected in the lairages, and on showing the slightest indication of disease are slaughtered under supervision and subjected to a careful *post mortem* examination. When animals are found to be infected with epizootic disease, notice of the same is telegraphed to the Privy Council Office in London, and small portions of the viscera regarded as evidence of the disease are forwarded to the veterinary department for verification. Condemned carcasses are buried in quicklime or otherwise destroyed. When the Foreign Animals' Wharf becomes infected, the premises are specially disinfected under competent direction, and the blood, manure, offal, &c., is mixed with large quantities of lime and taken out to sea. Arrangements are also made for fumigating the clothes, &c., of slaughtermen and others employed in manipulating infected material.

Within the last few days has been completed an important addition to the accommodation at Woodside. Immediately to the west of the meat stores four large chill chambers have been constructed, each estimated to be capable of holding 500 sides of beef. These are in connection with a dry air refrigerator, the patent of Mr. A. S. Haslam, of Derby, which discharges into the chambers (at the rate of 40,000 cub. ft. per hour) a continuous stream of air at a temperature of 40° to 60° Fahr. below zero. It is scarcely necessary to point out what a great gain this will be not only to consignees and buyers, but also from a sanitary point of view. When during hot weather stock-carrying vessels arrive in rapid succession, and every beast must be slaughtered within a fortnight after landing, some storing accommodation beyond that afforded by the ordinary meat stores is a desideratum, and the want is now supplied. The chambers are constructed with great care, the walls being good non-conductors and the doors fitting closely. The doors for taking in are at the south side, and the meat can be conveyed straight from the slaughter-houses, through the stores to the chambers by the overhead runners. The doors at the north side are for discharging, and as they open on a branch line the foreign meat can be loaded on railway trucks at once.

The charge at present made for the use of the chill rooms is as follows:—

	Put in one day and removed before mid-night of following day.		For each succeeding day or any part thereof.	
	s.	d.	s.	d.
For Ox ...	1	6	1	0
„ Calf ...	0	9	0	6
„ Pig ...	0	6	0	4
„ Sheep ...	0	4	0	3

The refrigerator is figured in the cut. Its action is due to the familiar fact that when air is compressed and afterwards expanded, cold is produced. Air is received through



the pipe A into the cylinders B, where it is compressed to 40lbs. on the square inch, the temperature being thus raised to about 200° Fahr. The compressed air is then carried into the refrigerator R, to the left, and here by the circulation of cold water in tubes the temperature is quickly reduced. Thence the air is conveyed to the second refrigerator R', to the right, and its temperature further reduced, and finally it reaches the box X, when it is expanded. The machine is worked by steam—w being the steam cylinder.

The apparatus occupies wonderfully little space (a glance at the cut will show its compactness), and yet there is no difficulty in maintaining any requisite degree of cold in the hottest days in summer. It is important to note also that the air treated by the machine is perfectly dry. Any humidity it might contain when received would be frozen out in refrigerator R'.

As Haslam's machines have been fitted up in several large steamships carrying meat from America and Australia, their efficiency has been subjected to the best practical tests.

Machines are made, by the same firm, suitable for dairies, manufactories, and store-rooms for provisions, when cold is not required on so large a scale.

The following represents one of these so-called "provision" machines:—

