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# PORT OF LIVERPOOL



# ANNUAL REPORT

OF THE

## MEDICAL OFFICER OF HEALTH

TO THE

## PORT SANITARY AUTHORITY

FOR THE YEAR

**1926**

BY

**A. A. MUSSEN, B.A., M.D., D.P.H.,**

*Port Medical Officer of Health.*

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# PORT SANITARY AUTHORITY OF LIVERPOOL.

REPORT FOR THE YEAR 1926,

BY THE  
MEDICAL OFFICER OF HEALTH.

The report of the operations of the Liverpool Port Sanitary Authority for the year 1926 is herewith submitted.

The report covers the work of the Authority during the year, and includes an account of—

(a) Measures adopted under the Cholera, Plague and Yellow Fever, and Allied Orders of the Local Government Board, and under the Port Sanitary Authorities (Infectious Diseases) Regulations, 1920.

(b) The measures taken to reduce the number of rats on dock, quays and on ships and to ascertain the existence of plague amongst any such rats.

(c) Action taken in regard to the sanitation of vessels.

(d) The inspection of imported foods under the Public Health (Imported Food) Regulations, etc.

(e) The Medical Inspection of Aliens under the Aliens Order, 1920,

together with observations on various aspects of Port Sanitary administration.

The port of Liverpool trades with all parts of the world, and almost every conceivable kind of cargo is carried by Liverpool ships, but the principal items of import and export are :—

IMPORTS.—Corn Grain, Cotton, Fish, Fruit, Hides, Leather, Meats, Oil, Rubber, Sugar, Tobacco, Wool.

EXPORTS.—Carriages, Chemicals, Chinaware, Cotton Goods, Linen, Machinery, Oil, Rubber, Soap, Tobacco, Woollen Goods.

TABLE 1.  
AMOUNT OF SHIPPING ENTERING THE PORT SANITARY DISTRICT DURING THE YEAR 1926.

Class of Vessels.	Number.	Tonnage.	Number Inspected.		Number reported to be Defective.	Number of Orders Issued.
			By the Medical Officer.	By the Sanitary Inspector.		
	(1)	(2)	(3)	(4)	(5)	(6)
FOREIGN—						
Steamers ...	6,477	13,449,632	816	4,242	878	—
Motor ...	198	585,639				
Sailing ...	25	9,463	—	—	—	—
Fishing ...	—	—	—	—	—	—
TOTAL FOREIGN	6,700	14,044,734	816	4,242	878	—
COASTWISE—						
Steamers ...	5,596	1,798,284	19	1,360	51	—
Motor ...	1,229	106,128				
Sailing ...	108	11,687	—	11	1	—
Fishing ...	—	—	—	—	—	—
TOTAL COASTWISE	6,933	1,916,099	19	1,371	52	—
TOTAL FOREIGN AND COASTWISE	13,633	15,960,833	835	5,613	930	—

(Includes mechanically-propelled vessels other than steamers.)  
 Figures in columns 1 and 2 supplied by H.M. Collector of Customs for this Port.

### Infectious Diseases.

The methods adopted in Liverpool to prevent the importation of infectious disease from abroad are briefly as follows :—

- (1) the boarding by the Assistant Port Medical Officers of certain vessels on arrival in the river and before docking, viz. :—
  - (a) vessels from certain parts of the world where dangerous infectious disease is known to exist,
  - (b) vessels on which infectious disease exists at the time of arrival or has occurred during the voyage;
- (2) the visiting of *all* vessels in dock by sanitary inspectors as soon as possible after docking;
- (3) the trapping of rats in ships and on quays and their examination for signs of plague infection;
- (4) co-operation with the officers of H.M. Customs, who report to the Port Sanitary Authority if they obtain information of sickness on board vessels visited by them.

Information of the arrival of vessels, which, under the regulations of the Port Sanitary Authority, must be boarded by the Port Medical Officer before docking, is obtained through the assistance of the pilots. The Liverpool Port Sanitary Authority is particularly fortunate in regard to this source of information, as every vessel, except very small craft, must be navigated into the port by either a licensed pilot or a master or mate holding a Liverpool Pilot's certificate.

During the coal stoppage, many foreign vessels came into the port for the first time with coal from abroad, having previously been engaged in trading between infected ports. As a result, difficulty with vessels, which had called at infected ports several months previously, occurred more frequently, and it was decided to alter the wording of the instructions to pilots so that "healthy" ships should not be required to be inspected by the Port Medical Officer before docking, provided they had not called at an infected port within two months of their arrival at Liverpool.

The instructions to pilots have been amended and re-issued, and are at present as follow :—

### Port of Liverpool Sanitary Authority

*To Pilots, and Masters of Inward Bound Vessels.*

1. All Pilots should carry this booklet when on duty and immediately on boarding any inward bound ship should instruct the Master to read these directions carefully and to answer the following questions :—

- (i) Have you during the voyage had on board any case of INFECTIOUS DISEASE, or any sickness which may be of an infectious nature?
- (ii) Have you, within the previous two months called at any of the ports mentioned on the opposite page?

If the answer to either question is "Yes," or if the Master is in any doubt as to the nature of any sickness or the cause of any death which has occurred on board, the Pilot should instruct the Master as follows :—

(i) To send a wireless message to "STORM, LIVERPOOL," giving name of vessel, expected time of arrival in the Mersey, whether for Liverpool (North or South), Birkenhead, Garston or Manchester, and stating that the Doctor is required.

(ii) To report Formby Lightship for the Doctor.

(iii) To hoist the Quarantine Flag by day and the Quarantine Light by night.

NOTE.—The strict observance of the directions will greatly facilitate the clearance of vessels.

Pilots should, therefore :—

- (1) Carry out these directions in regards to every inward bound ship.
- (2) See that this booklet contains the latest list of infected Ports.
- (3) Immediately apply to the Port Sanitary Authority, Prince's Pier Head, Liverpool, if they lose this booklet.

### LIST OF INFECTED PORTS.

SINGAPORE  
 JAVA PORTS  
 RANGOON  
 INDIAN PORTS  
 COLOMBO  
 ALEXANDRIA  
 BEYROUT  
 CONSTANTINOPLE  
 BLACK SEA PORTS  
 GRECIAN PORTS  
 MADAGASCAR  
 LAGOS  
 CANARY ISLANDS  
 PERUVIAN PORTS  
 GUAYAQUIL

PORT SANITARY AUTHORITY,

It is sometimes asked why vessels should be required to report both by wireless and by hailing Formby Lightship. The reason is that the Port Medical Officers board vessels at all hours of the day and night, and endeavour to clear vessels in the river before the earliest moment at which they can enter the docks. Experience has shewn that if only one source of information is open to the authority, messages are occasionally delayed or cannot be transmitted owing to some temporary breakdown. To avoid such an occurrence resulting in inconvenience to shipping the dual notification was introduced. The cost is trivial compared with the loss which may be entailed by delay in dealing with even a single ship.

### Uniformity in Port Sanitary Administration.

There are many difficulties in the way of attaining uniformity of Port Sanitary administration in all the ports of this country. Differences in the size and trade of ports, in their geographical features, the arrangements for receiving information from incoming ships, in the pilotage regulations, and last but not least, in the financial resources of the local health authority, complicate the problem.

Ships arrive from abroad at various ports in this country, and owners and masters observe the procedure of the Port Sanitary Authorities at these ports. Inevitably, comparisons may be made, and not infrequently port medical officers are asked to explain the differences in the requirements in various ports. Masters, not unnaturally, think that what is sufficient in the way of inspection in one port should be sufficient in another, and are inclined to regard anything in excess of the minimum as unnecessary. True, they comply with the requirements of each port with a very good grace, but it is obvious that they would have far more respect for a system that was uniform throughout the country, so that whenever they entered an English port they would know just what was expected of them by the Health Authority.

In regard to the boarding of inward bound vessels, perhaps it might be possible to arrange that every ship, three or four hours before entering an English port, should send a wireless message to the Port Health Authority stating whether infectious disease had occurred on board during the voyage, and whether there was on board at the time any case of sickness of any sort whatever which had not been certified by a medical officer to be of a non-infectious nature.

The action that would be taken by the Port Sanitary Authority on the receipt of such information would be a matter for local arrangement. The important matter is that the health authority should have the opportunity of making enquiries regarding the occurrence of infectious sickness on board the ship or satisfying themselves that any person sick on arrival is not suffering from a notifiable disease, before the crew and passengers actually leave the vessel. Further, that the masters of all vessels trading with this country should know that it is



their duty to acquaint the health authority of an English port which they are about to enter of any occurrence in regard to the health of the crew which merits the authority's attention.

### Plague.

**HUMAN PLAGUE.**—It is several years since a case of plague occurred in the city or port of Liverpool. On August 28th a boy was admitted to the Northern Hospital acutely ill. He died on August 30th without a definite diagnosis having been made, so an autopsy was performed, at which a group of enlarged hæmorrhagic inguinal glands were discovered. Bacteriological examination of these glands shewed the presence of bacillus pestis, the diagnosis being subsequently confirmed by animal inoculation. The father of the boy visited the hospital in connection with the death of his son. As he looked ill, he was examined, and an enlarged gland was found in the groin, which was removed under local anæsthesia. The enlargement of this was proved bacteriologically to be due to bacillus pestis, and the patient was removed to the Port Sanitary Hospital, New Ferry, on September 1st. He made an uneventful recovery and was discharged on September 22nd.

This man was employed as a watchman at the Mersey Docks and Harbour Board south dockyard, where he occupied a small office, close to which was a refreshment room. On inspection of these premises a small quantity of rat excreta was discovered, but there were no signs of rat harbourage. An intensive campaign of trapping and searching of the dock quays, sheds, and other premises in this part of the Dock Estate was at once instituted, together with a clearing up of every place that might possibly harbour rats. All the rats obtained were at once labelled suspicious, and sent for bacteriological examination, but no signs of plague infection were discovered in any of them.

Similar measures were taken in the vicinity of the man's home, but no rodent plague infection was revealed. The source of infection remained undiscovered, but it was established with absolute certainty that no epidemic of rodent plague existed in the port or city. For six months special attention was devoted to the south docks in trapping live rats, searching for dead rats, and clearing up what little rat harbourage existed. Not a single rat was reported as even suspicious by the Bacteriologist.

PLAGUE ON BOARD S.S. "ZARIA."—On September 10th information was received from the medical superintendent of Messrs. Elder Dempster and Company that a death from plague had occurred on board the s.s. "Zaria," homeward bound from Lagos, and due to arrive in the Mersey on September 12th.

The "Zaria" arrived about 8 a.m. on September 12th, and was boarded immediately by the assistant port medical officer, three sanitary inspectors, two rat catchers, and two rat searchers.

It was ascertained that the vessel left Lagos on 21st August, 1926. On August 27th a native fireman was taken ill with a bubo in the right groin, and high fever. He died on the 2nd September, and on the same day another native fireman reported sick with a bubo in the left axilla. He died on September 5th. Every person on board was carefully inspected by the assistant port medical officer. Two native firemen, who were found to have palpable glands in the groin, were sent to the Port Sanitary hospital for observation, but neither of them developed plague. No other suspicious cases were discovered, and when every person had satisfied the medical officer as to his name and the address of his intended destination in this country, all were given permission to land. The names and addresses were forwarded to the medical officers of health concerned.

The rat catchers and rat searchers boarded the vessel and proceeded to set traps and to search for dead rats. The vessel was then allowed to go to her berth, but was breasted off six feet from the quay and efficient rat-guards, supplied by the Port Sanitary Authority, were placed on the mooring ropes. A watchman was placed on the gangway during the day, and it was raised at night. The firemen's quarters were freely sprayed with an insecticide solution immediately the firemen had left the ship.

The rat searchers found four dead rats and one sick rat in No. 4 hold soon after the hatches were removed. The next day the discharge of cargo, which consisted mainly of palm kernels and cottonseed in bags, together with some barrels of palm oil, a few packages of sundries, and a deck cargo of bananas, was commenced under the close scrutiny of the staff of the Port Sanitary Authority, who examined every article of

cargo as to the possibility of its harbouring rats, before it was put over side. If it shewed any signs of having been disturbed by rats it was ordered to be emptied on board and rebagged before being landed. This careful watch on the cargo was maintained until the vessel was empty, and meanwhile the search for dead rats and trapping were actively carried on. Trapping and searching was also actively pursued in the sheds adjoining the "Zaria's" berth.

When the vessel was empty fumigation of every part of the ship was carried out with Cyclon B., the most recent method of fumigation with hydrocyanic acid gas.

The table below shews the number of rats obtained on the "Zaria" before and after fumigation, together with the results of bacteriological examination:—

TABLE SHOWING THE NUMBER OF RATS OBTAINED BEFORE AND AFTER FUMIGATION, TOGETHER WITH THE POSITION FOUND OR TRAPPED AND THE NUMBERS FOUND POSITIVE AND NEGATIVE.

	HOLDS.					Stores.	Boats.	Wheel House.	Crew's Quarters.	T
	No. 1	No. 2	No. 3	No. 4	No. 5					
BEFORE FUMIGATION :										
Trapped ... ..	...	...	...	14	8	11	4	1	...	
Found Dead ... ..	1	8	...	28	1	4	...	...	...	
AFTER FUMIGATION :										
Found Dead ... ..	...	1	...	7	10	1	...	...	1	
TOTAL ... ..	1	9	...	49	19	16	4	1	1	
INFECTED ... ..	...	3	...	19	2	5	1	1	...	
NEGATIVE ... ..	1	6	...	30	17	11	3	...	1	

Special attention was devoted to trapping and searching on the whole area of the south docks for six months after the fumigation of the "Zaria." None of the rats obtained were reported by the Bacteriologist as infected with plague, nor at any time was anything discovered which would suggest that any infection of the rats on shore had occurred or

indeed that a single infected rat had escaped from the "Zaria." It therefore appears that the preventive measures adopted were successful, but the question of the fumigation of plague-infected or plague-suspected ships immediately after berthing and before the discharge of cargo will have to be considered in the future, now that the methods of generating hydrocyanic acid gas have been so improved and simplified. Immediate fumigation with a lethal gas appears the obvious course at first sight, but there are several real difficulties. When sulphur dioxide was the only fumigant available, such a course was impracticable because the gas would seriously damage certain classes of cargo and its powers of diffusion are not sufficient to ensure its penetration in lethal concentrations into all parts of a cargo-laden hold. In this country carbon monoxide has never been used as a fumigant, because not only is it dangerous, but it does not kill fleas, which are the agents by which plague is transmitted from rats to man. In Hamburg, however, the Nocht-Giemsa apparatus has been used with success, and it is believed that though the fleas are not killed they are stupefied and are not a source of danger. But the introduction of simple methods of fumigation with hydrogen cyanide, which diffuses much more rapidly than sulphur dioxide, which is lethal to rats in very low concentration, and which kills the rat flea as easily as it kills the rat, makes it possible seriously to consider the fumigation of loaded vessels in this country. The question to be definitely decided is, will this gas penetrate in lethal doses to every part of a loaded ship, for if it cannot be depended upon to do this it would not be safe to rely on a single fumigation in the case of plague-infected or suspected ships; and the inspection of cargo during the discharge, and a final fumigation when the vessel is empty, would have to be carried out as at present. Of course, even if the penetration at the first fumigation were not absolutely complete, a proportion of the rats on board would be killed, and when there is rodent plague on board it is desirable to kill as many rats as possible at the earliest possible moment. But after a fumigation with hydrogen cyanide it would be necessary to exercise great care during the subsequent discharge of cargo to ensure that the men employed on board were not exposed to harmful concentrations of the gas. Where there is such a risk it is desirable to be quite certain that the procedure is really reliable and that it would give a greater degree of protection against imported plague than does the present system of discharge of cargo under careful supervision, breasting off the vessel

from the quay with ratguards on the mooring ropes and raising of the gangway at night, followed by a thorough fumigation when the vessel is empty.

Then there is the difficulty of a deck cargo, which may harbour rats and which, since it cannot be included in the fumigation, must be inspected before discharge.

It is not always that the existence of plague amongst the rats on board is known before the vessel docks. In the past plague infection has sometimes been discovered when dead rats have been found during the discharge of cargo, no suspicion of infection having been entertained before.

It follows that it is impossible to make absolutely certain that not a single plague-infected rat should ever get ashore in a large port trading constantly with plague-infected countries. Consequently it is necessary to reduce to the minimum the chances of any such misfortune leading to infection of the rat population of the port. This can only be done by constant attention to rat-proofing on shore. In Liverpool it has always been realised that a certain amount of risk must be run, and that is why ratproofing in the port has been so strenuously carried out and why a staff of rat catchers and rat searchers is constantly employed to sample the rat population on ships and on shore so as to discover the presence of rodent plague at the earliest moment and to be in a position to stamp out the disease before it spreads. Success has so far justified the system in the port, which does not mean that an exactly similar scheme would necessarily be successful under different conditions of port construction, geographical situation and climate, but does show that so far it is sufficient to meet the risks to which Liverpool is exposed.

**SUSPECTED PLAGUE.**—On December 3rd the s.s. "Britannia" arrived from Bombay, and the ship's surgeon reported one of the native crew to be suffering from an inguinal bubo, which he suspected to be plague. The port medical officer on visiting the vessel was of the opinion that the case was not plague, but the patient and another native found to have a bubo of uncertain origin were removed to the Port Sanitary Hospital for observation. In each case the bubo was aspirated and the contents examined bacteriologically, but no evidence of plague was

found. The history of the disease was not easy to elicit, but pointed to venereal disease as the cause of the glandular swelling in each case. The vessel was very carefully examined during the discharge of cargo, but no dead rats were discovered, and rats trapped on board were reported by the Bacteriologist to be free from plague.

Three other vessels on arrival in Liverpool reported having left at other ports cases suspected to be plague. On the 8th February the "Castalia," from Bombay, arrived, having left a Lascar at Gibraltar; on August 8th the "San Fraternal" arrived from Tuxpan, having left a greaser at Avonmouth; and on December 17th the "Amarapoor" arrived from Rangoon, having left a native member of the crew at Avonmouth. In each case information was received that the disease was not plague before it became necessary to institute preventive measures in Liverpool. Special attention was, however, given to the vessels in regard to rat trapping and searching, but no evidence of rodent plague was discovered.

#### Smallpox.

No case of smallpox was landed in Liverpool during the year. Five vessels arrived which had left cases of smallpox at other ports during the voyage. Only one of these reached Liverpool within the incubation period of smallpox from the date of removal of the last case. This was the s.s. "Montcalm," which arrived on November 26th. The ship's surgeon reported that a third-class passenger embarked at Montreal at 8.30 a.m. on November 19th. At 2 p.m. he reported to the doctor, who found him to be suffering from smallpox, and immediately vaccinated and isolated him. The patient was landed at Quebec at 8 p.m. on the same day, after which the hospital, dispensary and the cabin he had occupied were disinfected. The ship's surgeon vaccinated all the cabin passengers except four, all the third-class passengers, and all the crew except eight.

On arrival at Liverpool every person on board was examined, the result of vaccination enquired into and the destination in this country ascertained. These addresses were forwarded to the medical officers of health concerned. Seven members of the crew whose vaccination on board had not been successful, and who had not previously been vaccinated since infancy, were revaccinated by the assistant port medical officer.

The ship's surgeon is certainly to be congratulated both on the thoroughness of the measures taken to prevent the spread of infection and on the high proportion of successful vaccinations. As the patient had wandered all over the vessel when he first went on board the steps taken by the surgeon to vaccinate all on board were fully justified and his action certainly saved delay and inconvenience to the vessel on arrival in Liverpool, as the port sanitary staff were able to clear the vessel in little over an hour, whereas if the vaccinations had not been done during the voyage the vessel would certainly have been held up in Liverpool for three or four hours.

In the case of the four other vessels which had left cases of smallpox elsewhere the incubation period had expired before the arrival of the vessel at Liverpool, so that it was not necessary to do more than carefully inspect all persons on board to ensure that there was no secondary cases which had been overlooked.

#### **Anthrax.**

Five cases of anthrax occurred during the year in persons residing in the city. One of the patients was engaged in handling wool in the docks, and one was engaged as a "lime jobber" in a tannery. Two were women engaged as hair washers in a factory, who were washing and manipulating foreign pig hair at the time of infection. Two of the five patients died.

The dissemination of information regarding this disease and its dangers has been emphasised from year to year, and it is undoubtedly true that fewer cases have occurred in recent years.

#### **Rats and Plague.**

Liverpool trades extensively with many foreign ports where plague is always present. All vessels arriving from such ports are boarded, the crews and passengers are examined and careful enquiry made as to any evidence of the existence of plague amongst the rats on board. But medical inspection alone is not sufficient, for rodent plague may exist on board without having given rise to any human cases and without any sick or dead rats having been seen. Consequently, after the ship berths it is necessary—

- (1) to catch samples of the rat population in all parts of the ship ;
- (2) to examine the ship in all parts, and at various times during the discharge of cargo, for sick or dead rats.

All rats so obtained are examined for signs of plague by the City Bacteriologist. Both proceedings are necessary, for in the past each has resulted in the discovery of plague independently of the other.

Along the dock quays and in the sheds and warehouses it is necessary to search and trap, for the success of plague-preventive measures depends on the detection of the infection at the earliest possible moment, followed by the adoption of energetic measures to destroy every infected rat. Rodent plague, once established, is most difficult to eradicate, and, in addition to causing possibly human cases, it leads to the imposition of restrictions on our ships in foreign ports. Active measures against rat-plague are therefore well worth the trouble and expense involved, not only on public health grounds, but in the interests of trade and commerce.

**METHODS OF ESTIMATING RAT INFESTATION.**—Rat searchers and rat catchers report on the degree of rat-infestation on every vessel they visit, and by noting such evidence of rats as—the quantity of excreta, and whether it is fresh or stale, the presence of runs and holes, the gnawing of woodwork, damage to cargo, etc.—they are able to judge the degree to which a ship is infested. If the evidence points to the presence of many rats on board, a sanitary inspector visits the ship, and if he confirms the reports of the rat staff, the owners of the vessel are requested to have the ship fumigated.

Whenever an inspector, rat catcher or rat searcher reports that rats gain access to stores or living rooms from the holds or bunkers, or *vice-versa*, a senior inspector visits the vessel to ascertain the nature of the rat-proofing to be adopted to prevent the rats travelling and to order the work necessary for this purpose. So far, there has been no difficulty in getting work of this character carried out.

On the quays and in the various sheds and offices, the rat catcher looks for evidence of rats in the same manner as the ship rat catcher, but not content with this, he baits his traps and leaves them open for a night



or so, or puts down a quantity of baits and judges by the number of these taken whether there are many rats or not. If the result indicates the presence of rats, traps are set, but if the result is negative, the rat catcher passes on to the next dock or shed.

The number of rats and mice obtained by the authority's rat catchers from ships and quays during the year was 11,627 (402 mice), of which 6,805 (228 mice) were bacteriologically examined. The possibility of the importation of plague is ever present, consequently we cannot afford to relax measures devised for its prompt detection and suppression.

**RAT-REPRESSIVE MEASURES.**—While the Port Sanitary Authority accept responsibility for all plague-preventive measures, it is the duty of ship-owners and other occupiers of premises on the dock estate to take steps to keep down the rat population, both on shore and in ships in the Port. During 1926 the number of rats caught and destroyed by shipping firms employing their own rat-catchers and by rat-catching companies was 27,602. But the Port Sanitary Authority also are interested in the reduction of the numbers of rats on shore, because if at any time rodent plague were introduced it would spread very rapidly amongst a dense rat population. With this object in view the Authority have devoted constant attention to the question of rat-proofing on the docks, with excellent results. In this work the shore staffs of the shipping companies, and, indeed, the occupiers of all types of premises have given assistance and now thoroughly appreciate the objects in view and the value of the measures they are asked to adopt.

Rat-proofing may be divided into two sections, viz., structural rat-proofing and administrative measures.

For the most part the buildings on the dock estate are as nearly structurally rat-proof as it is possible to make them. One small area in the oldest part of the docks and only used for barges and canal-boats is unsatisfactory in this respect, but nothing short of complete reconstruction could make it rat-proof. To this area the Port Sanitary Authority

gives unremitting attention, and efforts are made to compensate for structural defects by special attention to administrative measures.

Refreshment rooms on the docks have in the past given a good deal of trouble, but these are now maintained in a satisfactory condition.

**ADMINISTRATIVE MEASURES.**—Even if buildings are structurally rat-proof rats will get in amongst cargo, through open doors or beneath sliding doors. It is therefore necessary to see that the rats which do gain access to the buildings are unable to make their homes therein. This depends entirely on the arrangements in the interior. Fortunately the sheds on the docks in Liverpool are transit sheds, inward cargo is removed to all parts of the country as soon as possible and replaced by goods for outward shipment. There is very little storage actually on the dock estate. Rats cannot, therefore, make their homes amongst the cargo in the sheds because they would be disturbed every day or two. But they might live beneath wooden offices in the sheds, or in the bo'sun's stores, and in any accumulations of refuse in out-of-the-way corners. To prevent this wooden offices are raised 18in. clear of the ground and the space beneath kept clean, or are cemented or protected by sheet iron all round the bottom so that it is impossible for rats to burrow underneath. Working gear which is in regular use causes no trouble, but such gear as is only required occasionally is either stored on raised platforms or, where possible, hung from the walls. Accumulations of refuse are not permitted, and particular attention is devoted to keeping clean the corners of the sheds and any part which is likely to be overlooked. A senior inspector devotes most of his time to the question of rat-proofing for constant supervision is necessary, but the results obtained are excellent, and it is generally acknowledged that the number of rats on the docks has been reduced to a small fraction of what it used to be.

**IN SHIPS.**—In addition to catching rats for bacteriological examination and searching for sick or dead rats, the rat-catchers and rat-searchers of the Authority are required to report on the degree of rat-infestation of vessels in the docks. Each man is supplied with an electric torch, and

by noting such evidence of rats as the quantity of excreta, and whether it is fresh or stale, runs and holes, gnawing of woodwork, damage to cargo, etc., they are able to judge the degree to which a vessel is rat infested. They report their findings daily in their notebooks, which are read over by the assistant port medical officer and the chief sanitary inspector. If the evidence points to the presence of a considerable number of rats on board, a senior inspector visits the ship, and if he confirms the previous observations the owners of the vessel are requested to fumigate the ship.

Advice in regard to rat-proofing on board the vessel so as to diminish the chance of re-infestation is also given.

In connection with the estimation of the numbers of rats on board a vessel some experiments in the amount of excreta passed by rats feeding on various diets obtainable on ships have been made by two rat catchers of the Port Sanitary Authority, who kept wild rats in cages, fed them, and every day counted the number of droppings. These experiments are being continued, but the results up to the time of writing are given below.

The outstanding feature of the observations is the extraordinary number of droppings which may be passed by a single rat in 24 hours, particularly on a diet of grain offal. Unless this fact is appreciated, estimates of the numbers of rats present may be very wide of the mark, and the number found dead after fumigation may be so much less than the estimate that the efficiency of the fumigation might be doubted.

The great damage that may be done by rats in a short time to a cargo, particularly of maize, was also demonstrated.

ONE RAT OBSERVED FROM APRIL 30<sup>TH</sup> TO MAY 7<sup>TH</sup>.

Diet	No. of Hours	No. of Droppings	Remarks
Mixed feeding, including	45	85	
Cabbage, Potatoes, Cheese,	24	54	
Bacon, and Oatmeal, such	24	42	
as may be found in the	24	57	
general provision stores on	24	33	Larger droppings than usual.
board ships.	20	68	
Water ad lib.	45	97	

## ONE RAT OBSERVED FROM MAY 3rd TO MAY 9th.

Diet	No. of Hours	No. of Droppings	Remarks
Thirds—Water ad lib. ... ..	24	139	Very large droppings.
do. do. ... ..	24	164	
Oatmeal do. ... ..	24	57	Very large droppings.
Bran do. ... ..	19	81	Ordinary droppings.
			17 of these were from previous feed of Oatmeal.
Sunflower Seed Cake—			
Water ad lib.	48	147	
do. do do.	5	—	None.
Cottonseed Cake do.	24	48	Very small droppings.

## ONE RAT OBSERVED FROM MAY 3rd TO MAY 9th.

Diet	No. of Hours	No. of Droppings	Remarks
Wheat—Water ad lib. ... ..	24	38	
do. do. ... ..	24	73	
Bran do. ... ..	24	156	
Oatmeal do. ... ..	19	51	
Linseed Cake do. ... ..	48	181	
do. do. ... ..	5	9	
Whole Maize do. ... ..	24	45	20 of these from Linseed Cake feed.
The white soft part of 425 whole pieces of maize eaten.			

From the foregoing table it will be seen that rats fed on wheat offals, i.e., bran, sharps, thirds, middlings, and grains and seeds pass nearly twice the number of droppings, and these are usually of a larger size than the excreta from a rat having a mixed diet of cabbage, potatoes, cheese, bacon and oatmeal.

The droppings after a diet of grain offals remain fresh for a much longer period than those after a diet of whole grain, oatmeal and oil cakes. The excreta after grain offals is lighter in colour than after other foods.

In vessels carrying bulk maize a very large quantity of nibbled grains are often found, which may lead to the impression that there are a large number of rats present. In this connection it is worthy of note that during the above experiments, one rat on May 9th took out the soft portion of 425 separate grains of maize in 24 hours.

TABLE 2.  
PARTICULARS RELATING TO VESSELS "INFECTED" OR "SUSPECTED," OR FROM INFECTED PORTS.

Infected.	NUMBER OF VESSELS.			METHODS OF RAT DESTRUCTION EMPLOYED.			Number of Rats Killed.	Certificates of Deratisation Issued.	Remarks.
	Suspected.	From Infected Ports.		Fumigation by Sulphur Dioxide.	Fumigation by Hydrocyanic Acid.	Trapping, Poisoning, etc.			
1.	2.	3.		4.	5.	6.	7.	8.	9.
1	Nil.	* 605		14	1	476	2,999	15	

\* (Includes 78 Manchester-bound Vessels.)

TABLE 3.  
VESSELS (OTHER THAN THOSE DEALT WITH IN TABLE 2) SUBJECTED TO MEASURES OF RAT DESTRUCTION.

Number of Vessels Fumigated by SO <sub>2</sub> .	Number of Rats Killed.	Number of Vessels Fumigated by HCN.	Number of Rats Killed.	Number of Vessels on which Trapping, Poisoning, etc., were employed.	Number of Rats Killed.	Number of Fumigation Certificates Issued on Form "Port 10."	Number of Other Certificates Issued.	Remarks.
1.	2.	3.	4.	5.	6.	7.	8.	9.
139	* 3,151	1	15	99	2,662	133	9	

\* The above figures include 164 mice.

TABLE 4.

TABLE SHOWING THE NUMBER OF RATS AND MICE OBTAINED ON SHIPS AND QUAYS  
BY THE AUTHORITY'S RAT-CATCHERS.

Year.	NUMBER OBTAINED.			NUMBER EXAMINED.			NUMBER DESTROYED.		
	From Ships.	From Quays.	Total.	From Ships.	From Quays.	Total.	From Ships.	From Quays.	Total.
	1917	9,174	1,551	10,725	6,379	1,457	7,836	2,795	94
1918	7,251	1,188	8,439	5,541	1,159	6,700	1,710	29	1,739
1919	8,971	1,336	10,307	6,023	1,287	7,310	2,948	49	2,997
1920	8,088	1,593	9,681	5,276	1,517	6,793	2,812	76	2,888
1921	8,867	2,405	11,272	5,031	2,195	7,226	3,836	210	4,046
1922	10,642	2,830	13,472	5,520	2,519	8,039	5,122	311	5,433
1923	12,097	1,625	13,722	5,629	1,460	7,089	6,466	167	6,633
1924	13,509	1,963	15,472	4,981	1,658	6,639	8,528	305	8,833
1925	11,088	2,508	13,596	4,882	2,065	6,947	6,206	443	6,649
1926	•8,827	2,800	11,627	4,493	2,312	6,805	4,334	488	4,822
Total.....	98,514	19,799	118,313	53,755	17,629	71,384	44,757	2,172	46,929

• 3,395 rats and 149 mice were obtained after fumigation and a further 253 mice are also included in these figures.

TABLE 5.

NUMBER AND SPECIES OF RATS CAUGHT, EXAMINED, OR DESTROYED, RESPECTIVELY, IN THE CITY  
AND PORT OF LIVERPOOL, DURING THE YEAR 1926.

1926.	Warehouses.		Sewers.		Other Places.		Total.		Ships.		Quays.		Other Sources.		Total.	
	Black.	Brown.	Black.	Brown.	Black.	Brown.	Black.	Brown.	Black.	Brown.	Black.	Brown.	Black.	Brown.	Black.	Brown.
January ...	144	156	—	334	5	369	149	859	830	—	77	14	27	55	934	69
February ...	275	256	—	370	7	361	282	987	1,144	—	183	18	13	10	1,340	28
March ...	220	255	—	457	—	430	220	1,142	521	—	105	38	36	3	662	41
April ...	136	195	—	397	4	496	149	1,088	637	—	112	52	24	4	773	56
May ...	76	264	—	498	—	383	76	1,145	405	—	107	8	26	8	538	16
June ...	33	225	—	563	—	561	33	1,349	941	—	91	24	47	4	1,079	28
July ...	91	204	—	428	11	463	102	1,095	704	—	77	2	21	4	802	6
August ...	113	219	—	257	—	336	113	812	541	—	88	8	50	26	679	34
September ...	192	471	—	336	3	530	195	1,337	844	3	86	13	41	9	971	25
October ...	229	670	—	244	5	440	234	1,354	932	1	186	23	76	3	1,194	27
November ...	274	752	—	404	1	474	275	1,630	634	—	171	24	180	28	985	52
December ...	227	444	—	344	4	549	231	1,337	526	—	208	13	133	6	867	19
TOTAL ...	2,010	4,111	—	4,632	40	5,392	2,050	14,135	8,659	4	1,491	237	674	160	10,824	401

TABLE 5.—Continued.

1926.	Examined (City).		Destroyed (City)		Examined (Port).		Destroyed (Port).		Total Caught.	
	Black.	Brown.	Black.	Brown.	Black.	Brown.	Black.	Brown.	Black and Brown.	City and Port.
January ...	24	95	125	764	559	60	375	9	2,011	
February ...	17	116	265	871	643	27	697	1	2,637	
March ...	9	140	211	1,002	446	41	216	—	2,065	
April ...	12	110	128	978	434	46	339	10	2,057	
May ...	8	124	68	1,021	432	16	106	—	1,775	
June ...	2	112	31	1,237	574	15	505	13	2,489	
July ...	3	83	99	1,012	445	6	357	—	2,005	
August ...	8	58	105	754	405	15	274	19	1,638	
September ...	80	252	115	1,085	516	21	455	4	2,528	
October ...	28	100	206	1,254	489	26	705	1	2,809	
November ...	49	105	226	1,525	623	45	362	7	2,942	
December ...	20	88	211	1,249	674	19	193	—	2,474	
TOTAL	260	1,383	1,790	12,752	6,240	337	4,584	64	27,430	



TABLE 6.

The combined returns of all rats and mice caught and destroyed by shipping firms employing their own rat-catchers, by rat-catching companies, and by the Public Health Authorities, during the year 1926, are as follows:—

	Rats.	Mice.	Rats.	Mice.
<b>PORT—</b>				
In vessels ... ..	36,265	164		
On quays ... ..	2,562	238		
			38,827	402
<b>CITY—</b>				
In warehouses ... ..	6,121	30		
In sewers and from other sources ...	10,064	65		
			16,185	95
			<b>TOTAL ...</b>	<b>497</b>
			<b>55,012</b>	<b>497</b>

Number of Visits to <b>Vessels</b> by Rat Catchers ... ..	4,378
Do. do. do. Rat Searchers ... ..	3,728
Do. do. <b>Quays, Sheds, etc.,</b> by Inspectors ...	564
Do. do. do. do. Rat Searchers	471
Do. do. do. do. Rat Catchers	2,658

### Visit of Foreign Medical Officers.

On the 6th and 7th of October the port was visited by a party of 17 medical officers, who were making a tour of the ports of Northern Europe at the invitation of the Health Committee of the League of Nations. The party was under the presidency of Dr. Josephus Jitta, President of the Health Council of the Netherlands, and included—

Dr. Chrom, of Copenhagen,	Dr. Wassen, of Gothenburg,
Dr. Vigne, of Havre,	Dr. Hoesen, of Rotterdam,
Dr. Apers, of Antwerp,	Dr. Shanzberg, of Riga,
Dr. Sanneman, of Hamburg,	Dr. Kervickis, of Memel,
Dr. Robin, of Nantes,	Dr. Trakmane, of Moscow,
Dr. Giersvold, of Bergen,	Dr. Stock, of the Ministry of Health,
Dr. Stade, of Danzig,	and
Dr. Dreyer, of Bremerhaven,	Dr. White, of Liverpool.
Dr. Hesinger, of Helsingfors,	

The tour had already included the ports of Riga, Libau, Danzig, Stettin, Copenhagen, Hamburg, Bremen, Bremerhaven, Rotterdam, Amsterdam, Antwerp, Havre, and Southampton. After leaving Liverpool the medical officers were to proceed to the port of London and thence to Geneva for a final conference. In the day and a half which the party was to spend in this port, it was impossible to shew them all the details of the administration, and it was decided to concentrate on a few special points. After a general explanation of port sanitary administration in Liverpool by the Medical Officer of Health, the party were taken by a special motor bus to the docks, where they were shewn examples of rat-proofing on board ship and on shore; they then proceeded to the s.s. "Holbein," kindly put at the disposal of the Port Sanitary Authority by Messrs. Lamport and Holt, where they were given a demonstration of the methods of catching and handling rats for bacteriological examination for plague and of the various ways in which vessels are fumigated for rat destruction in this port. The London Fumigation Company, and Messrs. Fumigation Services, Limited, gave demonstrations of the Cyclon B. and the Liquid Hydrogen Cyanide methods respectively. A visit was made to the Alexandra Dock Cold Stores, where the inspection of frozen meat was demonstrated. Thence the party were taken to see the new Gladstone Docks, which was approaching completion, and which were described by representatives of the Engineer's Department of the Mersey Docks and Harbour Board. Leaving Gladstone Docks, the tour was continued to the City Hospital

for Infectious Diseases, Fazakerley, where the Medical Superintendent explained the administrative details of the system of bed isolation of infectious diseases. A walk round the hospital and the adjoining Tuberculosis Sanatorium completed the day's programme. On the following day the party were taken over the Government wool disinfecting station, where the method of disinfecting anthrax-infected wool was demonstrated by the director of the station. Next the Seamen's Dispensary for the treatment of venereal diseases was inspected. After this a visit was made to the School of Hygiene and the laboratories of the City Bacteriologist and the City Analyst. Here the visitors were able to see the bacteriological examination of rats from the docks and city and also the chemical analysis of various articles of food. A tour of the museum provided opportunities for explaining various points in connection with the public health administration of the city and port of Liverpool.

The visiting medical officers expressed their keen appreciation of the hospitality shewn them by the Lord Mayor and the Port Sanitary and Hospitals Committee during their stay in Liverpool and said that their visit had been intensely interesting and instructive.

#### **Boarding Launch.**

The steam launch "Snowflake" was purchased in 1922 from the Mersey Docks and Harbour Board, who had used her for surveying purposes but required a vessel with greater speed. After a complete overhaul and reclassification with Lloyd's the "Snowflake" was put in commission in April, 1922. Since that date the launch has given very satisfactory service and proved that the duties of the port medical officers can be carried out much more expeditiously and satisfactorily by this means than under the old system of hiring tugs for the boarding of vessels in the river. Not only has it been possible to visit many more ships, but the delay and inconvenience to incoming vessels which not infrequently arose in the past owing to the difficulty of obtaining a tug to take off the medical officer, has been avoided. The efficiency of the measures taken to prevent the importation of infectious disease from abroad has therefore been increased, while at the same time hindrance to the trade of the port has been entirely obviated.

During the year the launch fell due for Lloyd's survey of hull and machinery, and unfortunately on examination a defect was found in

the boiler which, though capable of temporary repair, would necessitate the provision of a new boiler before long. The Port Sanitary Authority were advised by consulting engineers that in view of the age of the launch and the condition of the hull it would be more economical to purchase a new launch than to instal a new boiler in the old one. The matter was fully investigated by the Port Sanitary Committee, and plans were eventually approved, for a new launch 65 feet long, 14 feet beam, with twin screws driven by semi-Diesel engines, and to have a speed of 11 to 11½ knots. A tender by Messrs. Yarwood Bros., of Northwich, to construct such a launch was accepted.

### Venereal Diseases.

Satisfactory results are still being achieved through the scheme for the prevention and treatment of venereal diseases.

The clinics, now of several years' standing, have been fully availed of. There were 3,809 new cases, male and female, and the total attendances at the clinics, including the Seamen's Dispensary (41,720), were 93,264, representing an increase of over 22,000 on the previous year.

The greatest increase was at the Seamen's Dispensary, where the attendances rose from 27,265 in 1925 to 41,720 in 1926.

A table shewing attendances, etc., at each of the clinics is given :—

RETURN SHOWING THE NUMBER OF **NEW CASES** ATTENDING THE **VENEREAL DISEASES CLINICS** DURING THE YEAR 1926, ALSO **TOTAL ATTENDANCES AND IN-PATIENT DAYS OF OLD AND NEW PATIENTS** DURING SAME PERIOD.

	Seamen's Dispensary	Royal Infirmary.	Royal Southern Hospital.	David Lewis Northern Hospital.	Stanley Hospital.	TOTAL.
New Cases ... ..	1,369	1,292	483	277	349	3,761
<b>Old and new patients</b>						
Total attendances	41,720	24,507	8,536	10,403	8,098	93,264
In-patient Days	—	24	3,557	—	256	3,837

### Seamen's Dispensary.

The value of the above clinic, which was opened early in 1924, has again been demonstrated, the attendances shewing a very marked increase on previous years. The patients are very attentive to treatment, and take an intelligent interest in their progress.

During the year, 1,855 cases were under treatment, the total attendances numbering 41,720. Irrigations average about 100 per diem.

The classification of persons dealt with at the clinic for the first time was as follows:—

Suffering from Syphilis...	...	...	...	444
„ „ Soft Chancre ...	...	...	...	136
„ „ Gonorrhœa ...	...	...	...	780
				—
			Total ...	1,360
				—

The following examinations of pathological material were made:—

For Spirochaetes ...	...	...	...	31
„ Gonococci ...	...	...	...	1,813
„ other ...	...	...	...	—
„ Wasserman Reaction (at City Laboratory)..				766

Seamen constitute the bulk (85 per cent.) of the patients at this clinic, but the hours prove convenient for those following such occupations as motor drivers, barmen, and certain shopkeepers. Of the seamen attending, about 15 per cent. are of foreign nationality, and their attendance as a rule is of short duration. Before sailing they are advised to apply for treatment in every convenient port, and to pay off if possible on arrival at their home port with a view to procuring efficient treatment there. A transfer card (V. 44) is given to them on which details of treatment already given at the Seamen's Dispensary are entered. A considerable number of patients—about 30 per cent.—cease to attend before sufficient treatment has been given to ensure that they are out of danger as far as consequences to themselves and to others are concerned. Of these absentees about half attend on the first occasion only, although informed of the nature and dangerous character of their disease and the amount of treatment required.

A system adopted by one shipping company of requiring any man known to have suffered from venereal disease to submit a certificate of health from the medical officer of the dispensary before accepting him for sea service has much to commend it, and presents a method by which venereal disease among seamen could, to some extent, be controlled. A copy of the certificate issued is appended :—

CITY OF LIVERPOOL.

SEAMEN'S DISPENSARY,

CLEVELAND SQUARE,

LIVERPOOL,.....19.....

This is to certify that.....

is fit for sea service for.....months.

Medical Officer,

i/c of Treatment Centre.

**Educational Propaganda.**

Emphasis was laid by the Royal Commission on Venereal Diseases on the subject of educational propaganda in relation to these diseases, and a scheme of lectures and other educational measures has been inaugurated in the Merseyside area. These addresses have been well attended and much appreciated. Lectures on the dangers of venereal diseases are now included in the series on first aid and hygiene given to mercantile marine cadets and also a series of addresses to associations for boys in various parts of the city.

Further particulars of the services rendered by the various centres in the city, which are also available for seamen, for the treatment of venereal diseases are given in the Medical Officer's Report to the Health Committee of the city.

TABLE 7.

## INFECTIOUS DISEASE.

The actual number of cases of Infectious Sickness landed from vessels arriving in the Port of Liverpool during the years 1925 and 1926, and the comparison with the average of the preceding 5 years, is shown in the following table:—

Diseases.	Number of Cases.		Average for the 5 years 1920-1924.
	1925.	1926.	
Smallpox .....	1	0	1·6
Scarlet Fever .....	12	5	11·0
Cerebro-Spinal Meningitis .....	0	0	0·0
Typhus .....	0	0	0·0
Enteric Fever and Paratyphoid...	13	8	10·2
Do.    (suspected) .....	4	2	3·6
Diphtheria.....	3	2	12·0
Measles and German Measles .	23	10	22·0
Erysipelas .....	4	4	3·2
Chicken Pox .....	23	24	9·2
Cholera and Choleraic Diarrhœa.	0	0	0·0
Yellow Fever.....	0	0	0·0
Plague .....	0	0	0·0
Suspected Plague .....	0	3	0·6
Phthisis .....	64	68	52·8
Tuberculosis (other forms of).....	5	10	3·2
Pneumonia and Influenza .....	18	14	14·0
Malaria .....	19	17	24·6
Dysentery .....	2	6	3·8
Encephalitis Lethargica .....	0	0	0·4
Do.    (suspected) .....	0	1	0·0
<b>Totals.....</b>	<b>191</b>	<b>174</b>	<b>172·2</b>

TABLE 8.

## INFECTIOUS DISEASE.

The number of cases of Infectious Sickness reported to have occurred on Liverpool-bound ships during the years 1925 and 1926, and which were disposed of prior to the arrival of the vessel at this port, and the average of such cases for the preceding 5 years, are as follows :—

Diseases.	Number of Cases.		Average for the 5 years 1920-1924.
	1925.	1926.	
Smallpox .....	15	5	11·2
Scarlet Fever .....	2	3	2·2
Cerebro-Spinal Meningitis .....	1	0	0·6
Enteric Fever .....	15	31	14·0
Typhus .....	0	0	0·2
Para-Typhoid .....	2	0	0·6
Diphtheria .....	2	1	3·6
Measles and German Measles ...	46	49	29·2
Erysipelas .....	2	4	1·4
Chicken Pox ...	17	41	13·6
Cholera (suspected) .....	0	1	0·8
Malaria .....	297	220	474·2
Yellow Fever .....	1	0	0·0
Plague .....	0	2	1·0
Suspected Plague .....	0	6	0·4
Phthisis .....	25	31	20·0
Tuberculosis (other forms of)	12	13	7·0
Pneumonia and Influenza ...	20	44	33·0
Dysentery .....	25	13	9·6
Anthrax .....	0	0	0·2
Totals.....	482	464	622·8



The following table gives particulars of the vessels infectious disease on board, with the measures adopted

TABLE 9.

**PLAGUE.**

Date, 1926.	Name of Vessel.	Where from.	No. of Cases.
Feb. 8	Castalia ... ..	Bombay ... ..	1 ?
Aug. 8	San Fraterno ... ..	Tuxpan via Avonmouth ...	1 ?
Sept. 12	Zaria ... ..	West Coast Africa ... ..	2 2 ?
Dec. 3	Britannia ... ..	Bombay ... ..	1 ?
„ 17	Amarapoora ... ..	Rangoon via Avonmouth ...	1 ?

**CHOLERA ?**

Nov. 25	Telemachus ... ..	Singapore ... ..	1
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**SMALLPOX.**

Mar. 3	Carinthia ... ..	World's Cruise ... ..	1
June 16	Albion ... ..	Nanking ... ..	1
„ 28	Calcium ... ..	Fleetwood ... ..	1
Sept. 6	Stanley Hall ... ..	Karachi ... ..	1
Nov. 26	Montcalm ... ..	Montreal ... ..	1

**ENTERIC FEVER.**

Jan. 29	Governor ... ..	Calcutta ... ..	1
Feb. 16	Oxonian ... ..	Halifax ... ..	1
„ 22	Carlton ... ..	Galveston ... ..	1

reported on their arrival as having, or having had, in each case;—

Rating.	How dealt with.
Lascar ... ..	Landed Gibraltar (not plague).
Greaser ... ..	Landed Avonmouth.
Firemen ... ..	One died Sept. 2nd and the other Sept. 5th.
Do. ... ..	Admitted Port Sanitary Hospital, Liverpool. Proved not to be Plague.
Native ... ..	Do. do.
Native ... ..	Landed Avonmouth.
Quartermaster ...	Landed Singapore 27th Sept., and returned later to ship. Admitted to Port Sanitary Hospital, Liverpool on arrival as suffering from bed sores.
Passenger ... ..	Landed Yokohama.
Engineer ... ..	Landed and died at Shanghai.
Able seaman ...	Removed to hospital at Fleetwood.
Fireman ... ..	During outward voyage.
Passenger ... ..	Landed Quebec.
Native pantryboy ...	Landed St. Vincent.
Fireman ... ..	Landed Portland.
Seaman ... ..	Admitted Fazakerley Hospital, Liverpool.

## ENTERIC FEVER—Continued.

Date, 1926.	Name of Vessel.	Where from.	No. of Cases.
Mar. 15	Speaker ... ..	Vera Cruz ... ..	1
Apr. 24	Oriana ... ..	Valparaiso ... ..	1 ?
May 17	Tuscany ... ..	Rosario ... ..	1
„ 2	Araby ... ..	B. Aires ... ..	1
„ 24	Laconia ... ..	World cruise ... ..	1
June 8	Darian ... ..	New York ... ..	1
„ 8	Franconia ... ..	World cruise ... ..	1
„ 17	Andalusian ... ..	Alexandria ... ..	1
„ 25	Oropesa ... ..	Coronel ... ..	1
July 6	Browning ... ..	River Plate ... ..	1 ?
„ 19	Ayrshire ... ..	Australia ... ..	1 ?
„ 19	Ferndale ... ..	Australia ... ..	1 ?
„ 26	Tekoa ... ..	New Zealand ... ..	1
Aug. 2	Cortona ... ..	River Plate ... ..	1 ?
Sept. 4	Montcalm ... ..	Montreal ... ..	1 ?
„ 9	Norman Isles ... ..	India ... ..	1
„ 30	Lombardy ... ..	River Plate ... ..	1
Oct. 4	Carpio ... ..	Spanish Ports ... ..	6
„ 7	Colonial ... ..	Galveston ... ..	1
„ 24	Oriana ... ..	Peru ... ..	1
Nov. 8	Brompton Manor ... ..	Ghent ... ..	1
„ 9	Aghios Gerasimos ... ..	Rosario ... ..	1
„ 26	Telesfora de Larrinaga ... ..		1
Dec. 27	Eurylochus ... ..	Singapore ... ..	1
„ 28	Norwegian ... ..	Galveston ... ..	2

Rating.	How dealt with.
Third Officer ...	Admitted Fazakerley Hospital, Liverpool.
Trimmer ...	Convalescent, on arrival proceeded home.
Steward ...	Admitted Fazakerley Hospital, Liverpool.
Chief Steward ...	Admitted Fazakerley Hospital, Liverpool and, died there.
Musician ...	Admitted Fazakerley Hospital, Liverpool.
Fireman ...	Landed hospital Manchester.
Matron ...	Suffered during voyage, recovered on arrival.
Passengers ...	Landed New York.
Chief Officer ...	In hospital at Alexandria, rejoined ship later, well on arrival.
Passenger ...	Admitted Fazakerley Hospital, Liverpool.
Fireman ...	Landed Las Palmas.
Native ...	Landed Port Adelaide and returned to ship cured.
Native Seaman ...	Suffered during voyage, all well on arrival.
Steward ...	Landed Hull.
A.B....	Removed to hospital at Glasgow.
Steward ...	Admitted Fazakerley Hospital, Liverpool.
Wiper ...	Admitted Fazakerley Hospital, Liverpool.
4th Engineer ...	Landed Karachi.
A.B....	Landed Alexandria.
Fireman ...	Landed Alexandria.
A.B....	Landed Buenos Ayres.
Crew ...	Landed Barcelona.
A.B. ...	Admitted Fazakerley Hospital, Liverpool.
Passenger ...	Landed Callao.
Wireless Operator	Proceeded to Lytham.
Crew ...	Landed St. Vincent.
Engineer ...	Admitted Royal Infirmary, Liverpool.
2nd Officer ...	Landed and died at Singapore.
3rd do. ...	Landed Singapore.
Steward ...	Landed Singapore.
D.B.S. ...	Proceeded to Glasgow.

## DIPHTHERIA.

Date, 1926.	Name of Vessel.	Where from.	No. of Cases.
Jan. 8	Indefatigable ... ..	... ..	1
Apr. 13	Rimutaka ... ..	Australia ... ..	1
Dec. 4	Colorado Springs ... ..	Galveston ... ..	1

## SCARLET FEVER.

Jan. 1	Montnairn ... ..	St. John, N.B. ... ..	1
Mar. 27	Zaria ... ..	Lagos ... ..	1
June 7	Baltic ... ..	New York ... ..	1
Oct. 25	Doric ... ..	Montreal ... ..	1
Nov. 11	Corinaldo ... ..	River Plate ... ..	1
Dec. 6	Regina ... ..	Montreal ... ..	1
„ 14	California ... ..	Bombay ... ..	1
„ 24	Baltic ... ..	New York ... ..	1

## ERYSIPELAS.

Feb. 15	Alaunia ... ..	New York ... ..	1
May 31	Scythia ... ..	New York ... ..	1
July 17	Montclare ... ..	Montreal ... ..	1
„ 23	Montroyal ... ..	Quebec ... ..	1
Aug. 5	Palm Branch ... ..	Peru ... ..	1
Oct. 4	Montcalm ... ..	Montreal ... ..	1
„ 12	Samaria ... ..	New York ... ..	1
Nov. 6	Orcoma ... ..	Peru ... ..	1

Rating.	How dealt with.
Cadet ... ..	Admitted Fazakerley Hospital, Liverpool.
4th Officer ... ..	Landed Queensland.
A.B.... ... ..	Admitted Birkenhead Infectious Disease Hospital.
Passenger ... ..	Landed Greenock.
Passenger ... ..	Landed Lagos.
Passenger ... ..	Landed Queenstown.
Passenger ... ..	Admitted Fazakerley Hospital, Liverpool.
A.B.... ... ..	Admitted Port Hospital, New Ferry.
Passenger ... ..	Admitted Fazakerley Hospital, Liverpool.
Passenger ... ..	Admitted Stanley Hospital, Liverpool.
Passenger ... ..	Admitted Grafton Street Hospital, Liverpool.
Greaser... ... ..	Admitted Fazakerley Hospital, Liverpool.
Passenger ... ..	Landed Queenstown.
Passenger ... ..	Admitted Fazakerley Hospital, Liverpool.
Passenger ... ..	Admitted Fazakerley Hospital, Liverpool.
	Landed Sao Francisco (Brazil).
Sanitary Engineer...	Suffered during voyage, proceeded to his home.
Musician ... ..	Landed to hospital, New York.
Passenger ... ..	Admitted Fazakerley Hospital, Liverpool.

## MEASLES.

Date, 1926.	Name of Vessel.	Where from.	No. of Cases.
Jan. 25	Celtic ... ..	New York ... ..	1
„ 27	Olympia ... ..	Bombay ... ..	2
Feb. 3	St. Mungo ... ..	Coasting vessel ... ..	1
„ 15	Alaunia ... ..	New York ... ..	1
„ 26	Ekari ... ..	West Coast Africa ... ..	2
Mar. 1	Montclare ... ..	St. Johns ... ..	1
„ 16	Abinsi ... ..	West Coast Africa ... ..	1
„ 22	Montcalm ... ..	St. John ... ..	1
„ 29	Circassia ... ..	Bombay ... ..	1
„ 30	Samaria ... ..	World Cruise ... ..	2
			1
April 3	Montnairn ... ..	St. John, N.B. ... ..	1
			1
„ 12	Oroya ... ..	Peru ... ..	2
			2
			1
„ 12	Doric ... ..	New York ... ..	1
„ 15	Antilochus ... ..	Yokohama ... ..	1
„ 17	Montcalm ... ..	St. John ... ..	1
„ 26	Adriatic ... ..	New York ... ..	1
„ 26	Gloucestershire ... ..	Rangoon ... ..	1
„ 30	Assyria ... ..	Bombay ... ..	3
May 2	Cedric ... ..	New York ... ..	1
			1
„ 2	Scythia ... ..	St. John ... ..	1
„ 2	Metagama ... ..	St. John ... ..	1
„ 10	Caronia ... ..	New York ... ..	1
„ 11	Aurania ... ..	Quebec ... ..	1
„ 12	Doric ... ..	Quebec ... ..	1
„ 14	Montrose ... ..	Quebec ... ..	1
„ 22	Montclare ... ..	Montreal ... ..	1
„ 31	Scythia ... ..	New York ... ..	1
June 14	Aurania ... ..	Montreal ... ..	1
„ 19	Regina ... ..	Montreal ... ..	1
„ 22	Winifredian ... ..	Boston ... ..	1
July 5	Doric ... ..	New York ... ..	1

Rating.	How dealt with.
Seaman ... ..	Suffered on outward voyage.
Passengers ... ..	One suffered on outward voyage, the other landed Bombay.
Crew	Removed to Garston Hospital, Liverpool.
Passenger ... ..	Landed Ellis Island.
Stewards ... ..	Suffered on outward voyage.
Passenger ... ..	Suffered on outward voyage.
Passenger ... ..	Landed Plymouth.
Passenger ... ..	Proceeded to Edinburgh (well on arrival).
Passenger ... ..	Landed Marseilles.
Passengers ... ..	Landed Gibraltar.
Passenger ... ..	Landed Alexandria.
Passenger ... ..	Admitted Fazakerley Hospital, Liverpool.
Passenger ... ..	Proceeded to his home.
Passengers ... ..	Landed Valparaiso.
Passengers ... ..	Landed Antofagasta.
Passenger ... ..	Landed Callao.
Passenger ... ..	Landed Halifax.
Pilgrim ... ..	Landed Kamaran.
	Landed St. Johns.
Passenger ... ..	Proceeded to his home in Liverpool.
Crew ... ..	Landed Marseilles
Passengers ... ..	On outward voyage.
Passenger ... ..	Landed New York.
Steward ... ..	Well on arrival.
Passenger ... ..	Well on arrival.
Passenger ... ..	Landed St. Johns (outward).
Tourist ... ..	Admitted Fazakerley Hospital, Liverpool.
Passenger ... ..	Removed to her home in Liverpool.
Passenger ... ..	Well on arrival.
Passenger ... ..	On outward voyage.
Passenger ... ..	Well on arrival.
Passenger ... ..	Proceeded to Accrington.
Passenger ... ..	Admitted Fazakerley Hospital, Liverpool.
Passenger ... ..	Admitted Fazakerley Hospital, Liverpool.
Passenger ... ..	Proceeded to Scarborough.
Tourist ... ..	Admitted Fazakerley Hospital, Liverpool.



## MEASLES—Continued.

Date, 1926.	Name of Vessel.	Where from.	No. of Cases.
July 9	Hildebrand ... ..	Manaos ... ..	1
„ 24	Oriana ... ..	Peru ... ..	3
Sept. 7	Celtic ... ..	New York ... ..	1
„ 27	Montrose ... ..	Montreal ... ..	4
Nov. 2	Deseado ... ..	River Plate ... ..	1
„ 23	Doric ... ..	Montreal ... ..	1
Dec. 3	Montclare ... ..	Montreal ... ..	4

## MALARIA.

Jan. 1	Bata ... ..	Lagos ... ..	1
„ 4	Adda ... ..	West Coast Africa ... ..	1
„ 6	Onitsha ... ..	West Coast Africa ... ..	3
„ 9	Loreto ... ..	West Coast South America	1
„ 21	Solon ... ..	Mauritius ... ..	1 ?
„ 23	Ebani ... ..	Lagos ... ..	1
„ 25	Elmina ... ..	West Coast Africa ... ..	1
„ 26	Egori ... ..	West Coast Africa ... ..	1
Feb. 8	Heathpark ... ..	Lagos ... ..	1
„ 8	Gaboon ... ..	West Coast Africa ... ..	1
„ 9	Colorado ... ..	Rangoon ... ..	1
„ 10	Salaga ... ..	West Coast Africa ... ..	2
„ 16	Elizabetta ... ..	Dakar ... ..	5
„ 19	Devonshire ... ..	— ... ..	1
„ 21	Bereby ... ..	West Coast Africa ... ..	1
„ 24	Biafra ... ..	West Coast Africa ... ..	3
„ 26	Ekari ... ..	West Coast Africa ... ..	5
			2
			2

Rating.	How dealt with.
Passenger ... ..	Landed Para.
Passengers ... ..	Landed Lisbon.
Bell boy ... ..	Well on arrival.
Passenger ... ..	Landed New York.
Passengers ... ..	On outward voyage.
Passenger ... ..	Died and buried at sea.
Passenger ... ..	Landed Vigo.
Passenger ... ..	Admitted Fazakerley Hospital, Liverpool.
Passengers ... ..	Landed Quebec.

Quartermaster ... ..	Attending Tropical Ward, Royal Infirmary, Liverpool.
Apprentice ... ..	Suffered on voyage, well on arrival.
Crew ... ..	do. do.
Passenger ... ..	do. do.
Crew ... ..	do. do.
A.B. ... ..	Left in Hospital at Dakar.
Deck boy ... ..	Suffered during voyage, well on arrival.
Wireless Watcher ...	Removed Royal Infirmary.
Pantryman ... ..	Suffered on voyage, well on arrival.
Second Officer ... ..	do. do.
Deck boy ... ..	do. do.
A.B. ... ..	do. do.
O.S. ... ..	do. do.
Fourth Engineer ... ..	do. do.
Native Fireman ... ..	Removed Tropical Ward, Royal Infirmary, Liverpool.
Bosun ... ..	Suffered on voyage.
Third Officer ... ..	Left in Hospital at Rangoon.
Deck boy & Cadet... ..	Suffered on voyage.
Crew ... ..	do.
Ship's Officer ... ..	Treated at his home in Liverpool.
Clerk ... ..	Died and buried at sea.
Crew ... ..	Suffered on voyage, recovered on arrival.
Crew ... ..	do. do.
Passengers ... ..	do. do.
Crew ... ..	do. do.

## MALARIA—Continued.

Date, 1926.	Name of Vessel.	Where from.	No. of Cases.
Mar. 1	Ethiopian ... ..	Lagos ... ..	2
" 1	Adda ... ..	Lagos ... ..	6
" 2	Scindia ... ..	Bombay ... ..	1
" 13	Ediba ... ..	West Coast Africa ... ..	9
" 18	Bellerophon ... ..	Singapore ... ..	1
" 23	Boma ... ..	Lagos ... ..	1
" 29	Oropesa ... ..	Peru ... ..	1
" 29	Circassia ... ..	Bombay ... ..	1
" 30	Baron Belhaven ... ..	Singapore ... ..	1
April 1	Lisbon ... ..	Jaffa ... ..	1
" 5	Ashantian ... ..	West Coast Africa ... ..	1
" 12	Onitsha ... ..	West Coast Africa ... ..	1
" 22	Regina ... ..	Halifax ... ..	1
" 27	Ebani ... ..	Lagos ... ..	1
			1
			1
			1
			2
" 27	Adda ... ..	West Coast Africa ... ..	2
" 30	Assyria ... ..	Bombay ... ..	1
			1
May 3	Singkep ... ..	Batavia ... ..	1
" 3	Egori ... ..	West Coast Africa ... ..	1
" 3	Orcoma ... ..	Peru ... ..	1
" 17	Olympia ... ..	Bombay ... ..	4
" 18	Britannia ... ..	Bombay ... ..	4
" 24	Biafra ... ..	West Coast Africa ... ..	10
" 24	City of Exeter ... ..	Bombay ... ..	1
" 24	Laconia ... ..	World Cruise ... ..	1
June 3	Delilian ... ..	Galveston ... ..	1
" 7	Ediba ... ..	West Coast Africa ... ..	1
			1
" 23	Egba ... ..	Lagos ... ..	7
" 24	Gascony ... ..	Rosario ... ..	1
" 26	Eboe ... ..	Lagos ... ..	1
" 28	Boma ... ..	West Coast Africa ... ..	2
" 28	Adda ... ..	West Coast Africa ... ..	3
" 30	Bathurst ... ..	Lagos ... ..	1
			1

Rating.	How dealt with.	
Donkeyman and Carpenter ...	Suffered on voyage.	
Crew ...	do.	
Passenger ...	Suffered on voyage.	
Crew ...	do.	
Pilgrim ...	Died during voyage and buried at sea	
Purser ...	Died at Grand Bassam.	
Passenger ...	Landed in France.	
Crew ...	Occurred during voyage.	
Cook ...	Recovered on arrival.	
A.B. ...	Proceeded to Tropical Ward, Royal Infirmary.	
A.B. ...	Recovered on arrival.	
Wireless watcher ...	Proceeded to Tropical Ward, Royal Infirmary.	
Passenger ...	Landed Halifax.	
Doctor ...	Died and buried at Sherbro.	
Chief Officer Third Officer Fourth Officer Q.M. ... A.B. ...	} All suffered during voyage, well on arrival.	
Passengers ...		Suffered during voyage.
Passenger ...		Recovered on arrival.
Native ...		Proceeded to Tropical Ward, Royal Infirmary, Liverpool.
Cook ...		Well on arrival.
A.B....	Suffered during voyage.	
Passenger ...	Landed La Pallice.	
Crew ...	Recovered on arrival.	
Native seaman ...	Well on arrival.	
Crew ...	Suffered during voyage.	
Passenger ...	Well on arrival.	
Bosun ...	Suffered during voyage.	
A.B. ...	Landed Houston.	
Fifth Engineer ...	Well on arrival	
Deck boy ...	do.	
Crew ...	do.	
A.B. ...	Admitted Tropical Ward, Royal Infirmary, Liverpool.	
Fifth Engineer ...	Well on arrival.	
Seaman & Deck boy	do.	
Passengers ...	do.	
Wireless watcher ...	do.	
Cadet ...	do.	

## MALARIA—Continued.

Date, 1926.	Name of Vessel.	Where from.	No. of Cases.
July 1	Fylingdale ... ..	Pensacola ... ..	1
" 6	Ashantian ... ..	West Coast Africa ... ..	1
" 15	Onitsha ... ..	Lagos ... ..	2
			2
" 20	Hesbaye ... ..	West Coast Africa ... ..	5
" 26	Targis ... ..	West Coast America ... ..	1
" 26	Troilus ... ..	Yokohama ... ..	1
" 28	Elmina ... ..	Lagos ... ..	2
Aug. 8	Aba ... ..	West Coast Africa ... ..	1
			1
" 8	Bassa ... ..	West Coast Africa ... ..	1
" 16	Adda ... ..	West Coast Africa ... ..	5
			2
" 16	Nigerian ... ..	Lagos ... ..	1
" 28	Elmina ... ..	Lagos ... ..	1
" 30	Salaga ... ..	Lagos ... ..	9
" 30	Abinsi ... ..	West Coast Africa ... ..	1
			1
" 30	Egori ... ..	West Coast Africa ... ..	1
Sept. 9	Lisbon ... ..	Constantinople ... ..	1
" 13	Biafra ... ..	West Coast Africa ... ..	1
" 13	Ediba ... ..	West Coast Africa ... ..	1
			1
" 15	Adda ... ..	West Coast Africa ... ..	1
" 16	Yangtze ... ..	Japan ... ..	1
" 28	Eurybates ... ..	Shanghai ... ..	1
Oct. 1	Boma... ..	Lagos ... ..	1
			1
" 6	Elmina ... ..	West Coast Africa ... ..	5
" 12	Adda ... ..	West Coast Africa ... ..	6
" 20	Egba ... ..	West Coast Africa ... ..	2
" 24	Massillia ... ..	West Coast Africa ... ..	3
" 26	Accra ... ..	West Coast Africa ... ..	1
			1
Nov. 4	Onitsha ... ..	West Coast Africa ... ..	8
" 8	Inverarda ... ..	Tampico ... ..	1
" 8	Badagry ... ..	West Coast Africa ... ..	1
" 9	Aghios Gerasimos ... ..	Rosario ... ..	2
" 9	Appam ... ..	West Coast Africa ... ..	1

Rating.	How dealt with.	
Apprentice ... ..	Landed Las Palmas.	
Fourth Engineer ...	Well on arrival.	
Trimmer and O.S....	Proceeded to Tropical Ward, Royal Infirmary,	
Assistant Cook and assistant Steward	Both well on arrival. <span style="float: right;">Liverpool.</span>	
Crew ... ..	All well on arrival	
Seaman ... ..	A German subject working passage back to Germany.	
D.B.S. ... ..	Well on arrival.	
Crew ... ..	Admitted Tropical Ward, Royal Infirmary, Liverpool.	
Fourth Engineer	Suffered during voyage } Well on arrival.	
Marconi Operator ...		Suffered during voyage }
Cadet ... ..		Suffered during voyage }
Passengers ... ..	Well on arrival.	
Crew ... ..	Well on arrival.	
Assistant Steward...	Well on arrival.	
Steward ... ..	Admitted Tropical Ward, Royal Infirmary, Liverpool.	
Crew ... ..	Well on arrival.	
D.B.S. ... ..	Well on arrival.	
Cook ... ..	Well on arrival.	
Deck boy ... ..	Well on arrival.	
D.B.S ... ..	Admitted Tropical Ward, Royal Infirmary, Liverpool.	
Deckboy ... ..	Suffered during voyage.	
Third Officer ...	Suffered during voyage.	
Q.M. ... ..	Suffered during voyage.	
Crew ... ..	Admitted Royal Infirmary, Liverpool.	
Able-bodied seaman	Landed Singapore.	
Crew ... ..	Suffered during voyage, well on arrival.	
Chief Officer ...	Suffered during voyage, well on arrival.	
Deck boy ... ..	Suffered during voyage, well on arrival.	
Crew ... ..	Suffered during voyage, well on arrival.	
Passengers ... ..	Suffered during voyage, well on arrival.	
Crew ... ..	Well on arrival.	
Crew ... ..	Well on arrival.	
Cadet ... ..	Well on arrival.	
Steward ... ..	Well on arrival.	
Crew ... ..	Well on arrival.	
Seaman ... ..	Admitted Royal Infirmary, Liverpool.	
Q.M. ... ..	Suffered during voyage.	
Crew ... ..	Landed Las Palmas.	
Q.M. ... ..	Well on arrival.	

## MALARIA—Continued.

Date, 1926.	Name of Vessel.	Where from.	No. of Cases.
Nov. 14	Ebani ... ..	West Coast Africa ... ..	1
„ 14	Circassia ... ..	Bombay ... ..	1
„ 15	Trevithoe ... ..	Singapore ... ..	1
„ 16	Bassa ... ..	West Coast Africa ... ..	1
„ 22	Aba ... ..	West Coast Africa ... ..	1
„ 23	Tydeus ... ..	China ... ..	1
„ 25	City of Mandalay ... ..	Calcutta ... ..	1
„ 29	Nigerian ... ..	Sierra Leone ... ..	1
			1
			1
Dec. 1	Novian ... ..	Vera Cruz ... ..	1
„ 2	Abinsi ... ..	West Coast Africa ... ..	2
„ 3	Britannia ... ..	Bombay ... ..	3
„ 6	Salaga ... ..	West Coast Africa ... ..	5
„ 20	Accra ... ..	West Coast Africa ... ..	1
„ 21	Biafra ... ..	West Coast Africa ... ..	1
„ 22	Thos. Holt ... ..	West Coast Africa ... ..	1
„ 24	Ediba ... ..	West Coast Africa ... ..	2
			1
			1
„ 25	Oropesa ... ..	Valparaiso ... ..	1
„ 31	J. A. Holt ... ..	West Coast Africa ... ..	1
„ 31	Elmina ... ..	West Coast Africa ... ..	1

## PULMONARY TUBERCULOSIS.

Jan. 1	Montnairn ... ..	St. John ... ..	1
„ 16	Metagama ... ..	St. John ... ..	1
„ 25	Montcalm ... ..	St. John ... ..	1
„ 27	Descado ... ..	Buenos Ayres ... ..	1
Feb. 8	Desna ... ..	Buenos Ayres ... ..	1
„ 9	Regina ... ..	New York ... ..	1
„ 20	Montcalm ... ..	St. John ... ..	1
Mar. 1	Doric ... ..	New York ... ..	1
			1

Rating.	How dealt with.
Assistant Purser ...	Suffered during voyage } Well on arrival.
Q.M. ...	
Saloon passenger ...	
Able-bodied seaman	Landed Calcutta.
Assistant steward ...	Left at Sekondi.
Assistant steward ...	Well on arrival.
Third Officer ...	Well on arrival.
Third Engineer ...	Landed Calcutta.
Fourth Engineer ...	Landed Calcutta.
A.B. ...	Landed Calabar.
Chief Officer ...	Well on arrival.
Steward ...	Well on arrival.
A.B. ...	Well on arrival.
Fireman ...	Admitted Fazakerley Hospital, Liverpool for observation.
Cadets ...	Well on arrival.
Crew ...	do.
Crew ...	do.
Steward ...	do.
Deck Boy ...	do.
Chief steward ...	do.
A.B. ...	do.
O.S. ...	do.
Carpenter ...	do.
Hospital stewardess	Landed Santander.
A.B. ...	Removed from his home in Moreton to Hospital.
Passenger ...	Died on voyage.
Passenger ...	Proceeded to Darwen.
Seaman ...	In transit to Norway.
Passenger ...	en route to Czecho Slovakia.
Passenger ...	Landed Vigo.
D.B.S. ...	Proceeded to Holyhead.
Deport ...	Proceeded to Edmonton.
Passenger ...	Proceeded to Cork.
Passenger ...	Proceeded to Robin Hood's Bay, Yorks.
Passenger ...	Proceeded to Norway.



## PULMONARY TUBERCULOSIS—Continued.

Date, 1926.	Name of Vessel.	Where from.	No. of Cases.
Mar. 3	Carinthia ... ..	World's cruise. ... ..	1
			1
" 6	Orita ... ..	Peru ... ..	1
			1
" 6	Montrose ... ..	St. John ... ..	1
" 8	Cedric ... ..	New York ... ..	1
			1 ?
" 9	Alondra ... ..	Canary Islands ... ..	1
" 12	Primrose ... ..	Foy ... ..	1
" 22	Montcalm ... ..	St. John ... ..	1
" 23	Celtic ... ..	New York ... ..	1
" 29	Alban ... ..	Manaos ... ..	1
April 3	Montnairn ... ..	St. John ... ..	1
" 10	Montrose ... ..	St. John ... ..	1
			1
" 12	Oroya ... ..	Peru ... ..	1
			1
" 12	Doric ... ..	New York ... ..	1
" 12	Baltic ... ..	New York ... ..	1
" 13	Stephen ... ..	Para ... ..	1
" 20	Alaunia ... ..	New York ... ..	1
" 26	Adriatic ... ..	New York ... ..	1
" 27	Adda ... ..	W.C. Africa ... ..	1
" 27	Samaria ... ..	New York ... ..	1
" 27	City of Mandalay ... ..	Hamburg ... ..	1
" 30	Assyria ... ..	Bombay ... ..	4
May 3	Cedric ... ..	New York ... ..	1
" 3	Orcoma ... ..	Peru ... ..	1
" 10	Baltic ... ..	New York ... ..	1
" 11	Diplomat ... ..	Calcutta ... ..	1
" 14	Montrose ... ..	Quebec ... ..	1
" 15	Assyria ... ..	Bombay ... ..	1
" 17	Montcalm ... ..	Quebec ... ..	1
" 22	Regina ... ..	Quebec ... ..	1
" 22	Montclare ... ..	Montreal ... ..	1
" 24	City of Exeter ... ..	Bombay ... ..	2
" 24	Laconia ... ..	World cruise ... ..	1
" 31	Scythia ... ..	New York ... ..	1

Rating.	How dealt with.
Waiter ... ..	Proceeded to his home in Liverpool.
Engineer ... ..	Proceeded to his home in Waterloo. Liverpool,
Cook ... ..	Proceeded to his home.
Seaman ... ..	Admitted Fazakerley Sanatorium, Liverpool.
Deport ... ..	Proceeded home to Yorks.
Fireman ... ..	Proceeded home to Bootle, Liverpool.
Fireman ... ..	Proceeded home to Bootle, Liverpool.
Passenger ... ..	Proceeded home to Redcliffe-on-Trent, Notts.
Master ... ..	Brought to Port Sanitary Office, for removal to hospital, but died before arrival of ambulance.
Merchant ... ..	Proceeded to London.
Domestic ... ..	Proceeded to Co. Clare.
Passenger ... ..	Landed Lisbon.
Deport ... ..	Proceeded to Norway.
Passenger ... ..	Proceeded to Ireland.
Passenger ... ..	Proceeded to Scotland.
D.B.S. ... ..	Proceeded to Southampton.
3rd class Passenger	Landed La Pallice.
Fireman ... ..	Proceeded to his home in Liverpool.
Passenger (D.B.S.)...	Admitted Northern Hospital, Liverpool.
A.B. ... ..	Proceeded to Southsea.
Saloon steward ...	Proceeded to his home in Liverpool.
Steward ... ..	Proceeded to his home in Liverpool.
2nd class Passenger	Proceeded to Devonport.
Washerman ... ..	Proceeded to his home in Liverpool.
A.B. ... ..	Admitted to Brownlow Hill Institution.
Army ranks ... ..	Proceeded to Netley.
Trimmer ... ..	Proceeded to his home in Liverpool.
Bulgarian labourer	Landed La Pallice.
3rd class Passenger	Died and buried at sea.
Assist. pantryman	Admitted Mill Road Instn., Liverpool (came from S.S. "Inventor.")
Deport ... ..	Proceeded to Newcastle-on-Tyne.
A.B. ... ..	Admitted Mill Road Institution, Liverpool.
Passenger ... ..	Proceeded to Aberdeen.
Deport ... ..	en route for Finland.
Passenger ... ..	Proceeded to Lowestoft.
Natives ... ..	One remained on board and one (a saloon boy) sent to Brownlow Hill.
A.B. ... ..	Proceeded to Bootle.
1st class Passenger	Proceeded to Glamorgan.

## PULMONARY TUBERCULOSIS—Continued.

Date, 1926.	Name of Vessel.	Where from.	No. of Cases.
June 8	Pear Branch ... ..	Valparaiso ... ..	1
" 14	Teucer ... ..	Yokohama ... ..	1
" 19	Montclare ... ..	Montreal ... ..	1
" 25	Oropesa ... ..	Coronel ... ..	1
" 28	Adda ... ..	West Coast Africa ... ..	1
" 28	Cedric ... ..	New York ... ..	1 ?
July 6	Nortonian ... ..	New Orleans ... ..	1
" 6	John Holt ... ..	West Coast Africa ... ..	1
" 12	Clan Kenneth ... ..	Mombasa ... ..	1
" 12	Explorer ... ..	Calcutta ... ..	1
" 14	Rialto ... ..	Rotterdam ... ..	1
" 16	City of Baroda ... ..	India... ..	1
" 24	Oriana ... ..	Peru ... ..	1
" 28	Elmina ... ..	Lagos ... ..	1
" 29	Denis ... ..	Para ... ..	1
" 30	Montrose ... ..	Montreal ... ..	1
Aug. 2	Laconia ... ..	New York ... ..	1
" 2	Themistocles ... ..	Australia ... ..	1
" 4	Valdirosa ... ..	Norfolk, Va. ... ..	1
" 7	Montcalm ... ..	Quebec ... ..	1
" 12	Thames Maru ... ..	Baltimore ... ..	1
" 16	Regina ... ..	Montreal ... ..	1
" 28	Alban ... ..	Manaos ... ..	1
Sept. 13	Regina ... ..	Montreal ... ..	1
" 28	Laconia ... ..	New York ... ..	1
Oct. 1	Benicia ... ..	Australia ... ..	1
" 4	Montcalm ... ..	Montreal ... ..	1
" 4	Demerara ... ..	River Plate ... ..	2
" 5	Celtic ... ..	New York ... ..	1
" 9	Oroya ... ..	Valparaiso ... ..	1
" 19	Cedric ... ..	New York ... ..	1
" 25	Baltic ... ..	New York ... ..	1
Nov. 1	Scindia ... ..	Bombay ... ..	1
" 2	Deseado ... ..	River Plate ... ..	1

Rating.	How dealt with.
Steward ... ..	Proceeded to his home in Liverpool.
Pilgrim Passenger	Died during voyage.
Deport ... ..	Proceeded to Bolton.
3rd Class Passenger	Died and buried at sea.
3rd Class Passenger	Landed Santander.
Steward ... ..	Proceeded to his home in Wallasey, Cheshire.
Trimmer ... ..	Proceeded to Carlisle.
Quartermaster ... ..	Proceeded to Seaforth.
Fireman ... ..	Died and was buried at sea.
Greaser ... ..	Landed Beira.
Cook ... ..	Landed Colombo.
Fireman ... ..	Admitted Brownlow Hill Institution, Liverpool.
Steward ... ..	Admitted Brownlow Hill Institution, Liverpool.
Steward ... ..	Proceeded to his home.
D.B.S. ... ..	Proceeded to Hull.
D.B.S. ... ..	Proceeded to his home in Liverpool.
Deport ... ..	Proceeded to Manchester.
3rd Class Passenger	Proceeded to Barrow-in-Furness.
Passenger ... ..	Died and buried at sea.
Seaman ... ..	Returning home to Genoa.
Deport ... ..	En route for Finland.
Cook ... ..	Remained on board.
Deport ... ..	En route for Holland.
Domestic ... ..	Proceeded to Belfast.
Passenger ... ..	Landed Oporto.
Transmigrant ... ..	En route for Roumania.
Passenger ... ..	Landed Queenstown.
Fourth Engineer ... ..	Landed Durban.
Passenger ... ..	Proceeded to his home in Liverpool.
Passengers ... ..	Landed Lisbon.
Trimmer ... ..	Proceeded to his home in Liverpool.
Passenger ... ..	Landed Valparaiso.
Passenger ... ..	Landed La Pallice.
Deport ... ..	Proceeded to Belfast.
Passenger ... ..	Proceeded to Killinagh, Co. Mayo.
Fireman ... ..	Proceeded to his home in Liverpool.
Passenger ... ..	Admitted to Fazakerley Hospital, Liverpool.
Lascar ... ..	Died and buried at sea
Passenger ... ..	Landed Lisbon.

## PULMONARY TUBERCULOSIS—Continued.

Date, 1926.	Name of Vessel.	Where from.	No. of Cases.
Nov. 8	Regina ... ..	Montreal ... ..	1
„ 15	Megantic ... ..	Montreal ... ..	1
„ 22	Caronia ... ..	New York ... ..	1
„ 22	Baltic ... ..	New York ... ..	1
Dec. 6	Regina ... ..	Montreal ... ..	1
„ 14	Montroyal ... ..	St. John ... ..	1
„ 20	Metagama ... ..	St. John ... ..	1
Dec. 20	Baltic ... ..	New York ... ..	1

## TUBERCULOSIS (Other Forms).

Jan. 1	City of Venice ... ..	Bombay ... ..	1
„ 25	Defender ... ..	Mauritius ... ..	1
„ 27	Tantalus ... ..	Yokohama ... ..	1
Feb. 15	Coracero ... ..	Buenos Ayres ... ..	1
„ 22	Carmania ... ..	New York ... ..	1
Mar. 1	Montclare ... ..	St. John's ... ..	1 ?
„ 3	Carinthia ... ..	World's cruise ... ..	1
April 19	Celtic ... ..	New York ... ..	1
May 22	Montclare ... ..	Montreal ... ..	1
„ 24	Laconia ... ..	World cruise... ..	1 ?
„ 31	Scythia ... ..	New York ... ..	1
June 2	Orita ... ..	Talcahuano ... ..	1
„ 2	Berwickshire ... ..	Avonmouth ... ..	1
„ 19	Regina ... ..	Montreal ... ..	1
„ 21	Adriatic ... ..	Montreal ... ..	1
		New York ... ..	1 ?
July 19	London Corporation. ... ..	Pacific Ports... ..	1
Sept. 4	Orita ... ..	San Antonio ... ..	1
„ 19	Cedric ... ..	New York ... ..	1
Dec. 1	City of Lincoln ... ..	Bombay ... ..	1
„ 6	City of Shanghai ... ..	Port Said ... ..	1
„ 27	Astronomer ... ..	Mauritius ... ..	1
„ 29	Denis ... ..	Manaos ... ..	1
„ 29	Capitan Josef Plissen ... ..	Baltimore ... ..	1

Rating.	How dealt with.
Deport ... ..	En route for Norway.
Cook ... ..	Proceeded to Seaforth.
Matron ... ..	Proceeded to her home.
D.B.S. ... ..	Proceeded to his home.
Deport ... ..	Proceeded to Sunderland.
Deport ... ..	En route for Finland.
Deport ... ..	En route for Denmark.
Clerk ... ..	En route for Denmark.
Passenger ... ..	Removed to Fazakerley Sanatorium, Liverpool.
Serang ... ..	Suffered during voyage.
D.B.S. ... ..	Landed London.
Seaman ... ..	Removed Bootle Borough Hospital.
Cook ... ..	Removed Fazakerley Hospital.
Passenger ... ..	Died on homeward passage.
Steward ... ..	Proceeded to Manchester.
Deport ... ..	Proceeded to Sailors' Home, Liverpool.
Passenger ... ..	Proceeded to Auchteraden, Perthshire.
Cook ... ..	Proceeded to his home in Everton.
Passenger ... ..	Proceeded to Waterloo (Liverpool).
Passenger ... ..	Landed La Pallice.
Lascar ... ..	Treated at Newport, will be transhipped to India.
Passenger ... ..	Has come to England to consult a Specialist.
Deport ... ..	En route for Finland.
Apprentice ... ..	Landed Balboa.
Passenger ... ..	Landed Santander.
Steward ... ..	Proceeded home.
Native fireman ... ..	Admitted to Brownlow Hill Institution, Liverpool.
Native fireman ... ..	Landed Port Said.
Native A.B. ... ..	Landed Mauritius,
Passenger ... ..	Died and buried at sea.
Fireman ... ..	Admitted Garston Hospital, Liverpool.

## PNEUMONIA.

Date, 1926.	Name of Vessel.	Where from.	No. of Cases.
Jan. 6	Dalila ... ..	Dakar ... ..	1
" 8	Stockwell ... ..	Calcutta ... ..	1
" 12	Kyno ... ..	Alexandria ... ..	1
" 29	Elmina ... ..	West Coast Africa ... ..	1
Feb. 3	Devonian ... ..	New York ... ..	1
" 18	City of Madras ... ..	East via Glasgow ... ..	1
" 19	Massilia ... ..	Bombay ... ..	1
" 26	Burma ... ..	Rangoon ... ..	1
Mar. 15	Alaunia ... ..	New York ... ..	1
" 17	Explorer ... ..	Calcutta ... ..	1
" 30	Aurania ... ..	New York ... ..	1
" 30	Regina ... ..	New York ... ..	1
April 1	Laomedon ... ..	Singapore ... ..	1
" 5	Deseado ... ..	Buenos Aires ... ..	1
" 7	Mahana ... ..	New Zealand ... ..	1
" 9	Henzada ... ..	Rangoon ... ..	1
" 14	Henzada ... ..	Rangoon ... ..	1
" 24	Westmoreland ... ..	Australia ... ..	1
" 26	Gloucestershire ... ..	Rangoon ... ..	1
" 30	Assyria ... ..	Bombay ... ..	1
May 1	Newfoundland ... ..	Boston ... ..	1
" 11	Aurania ... ..	Quebec ... ..	1
" 12	Doric... ... ..	Quebec ... ..	1
" 16	Erato ... ..	Lisbon ... ..	2
" 18	Britannia ... ..	Bombay ... ..	1
" 24	Laconia ... ..	World cruise ... ..	1
" 29	Maronian ... ..	Genoa ... ..	1
" 31	Darro ... ..	Vigo ... ..	2
June 19	Regina ... ..	Montreal ... ..	1
" 30	Desna ... ..	River Plate ... ..	1
July 5	Sagaing ... ..	Rangoon ... ..	1
" 6	Laconia ... ..	New York ... ..	1
" 9	Hildebrand ... ..	Manaos ... ..	1
" 10	Montcalm ... ..	Quebec ... ..	1
" 17	Oroya ... ..	West Coast South America ... ..	1
Sept. 13	Samaria ... ..	New York ... ..	1
			1

Rating.	How dealt with.
Fireman ... ..	Admitted to Brownlow Hill Infirmary, Liverpool.
Fireman ... ..	Admitted to Walton Institution, Liverpool.
Donkeyman ... ..	Left in hospital at Alexandria.
Native deck boy ... ..	Landed Sierra Leone.
D.B.S. ... ..	Removed to Stanley Hospital, Liverpool.
Steward ... ..	Removed to Hospital, Glasgow.
Native fireman ... ..	Left in Hospital at Port Sudan.
Native fireman ... ..	Suffered on voyage.
Passenger ... ..	Landed Queenstown
Native seaman ... ..	Landed to hospital at London.
Passenger ... ..	Landed Halifax.
Quarter Master	Well on arrival.
Pilgrim	Landed Yokohama
Passenger ... ..	Died and buried at sea.
Able bodied seaman	Removed to hospital at Glasgow.
Lascar ... ..	Died and buried at sea.
Fireman ... ..	Admitted Brownlow Hill Institution, Liverpool.
Fireman ... ..	Landed Colombo.
Passenger ... ..	Died and buried at sea.
Native fireman ... ..	Admitted hospital here.
Steward ... ..	Admitted Belmont Road Institution, Liverpool.
Passenger ... ..	Landed Quebec.
Passenger ... ..	Suffered during voyage.
Crew ... ..	Admitted hospital in Oporto.
Deck hand ... ..	Landed Suez.
Passenger ... ..	Recovered on arrival.
Assistant Purser ... ..	Admitted to Northern Hospital, Liverpool.
Able-bodied seaman	Landed Genoa.
Passengers ... ..	Died and buried at sea
Passenger ... ..	Well on arrival.
Passenger ... ..	Died and buried at sea.
Lascar ... ..	Admitted Brownlow Hill Institution, Liverpool.
Passenger ... ..	Landed Queenstown.
Fireman ... ..	Admitted Southern Hospital, Liverpool.
Passenger ... ..	Died on 25th June.
Crew ... ..	Admitted Belmont Road Institution, Liverpool
Waiter ... ..	Landed New York.
Storekeeper ... ..	Well on arrival.



## PNEUMONIA—Continued.

Date, 1926.	Name of Vessel.	Where from.	No. of Cases.
Sept. 27	Doric ... ..	Montreal ... ..	1
Oct. 22	Sardinero ... ..	Huelva ... ..	1
„ 24	Oriana ... ..	Peru ... ..	1
Nov. 14	Circassia ... ..	Bombay ... ..	1
„ 25	Telemachus ... ..	Singapore ... ..	1
Dec. 4	Orita ... ..	Coronel ... ..	1
„ 6	Regina ... ..	Montreal ... ..	1
„ 7	Adda ... ..	West Coast Africa ... ..	1
„ 7	Samaria ... ..	New York ... ..	1
„ 16	Clan Chattan ... ..	Capetown ... ..	1
„ 20	Nestor ... ..	Australia ... ..	1
„ 20	Baltic ... ..	New York ... ..	1
„ 25	Oropesa ... ..	Valparaiso ... ..	1
„ 27	Eurylochus ... ..	Singapore ... ..	1
„ 29	Elysia ... ..	Bombay ... ..	1
„ 31	Tapti ... ..	Calcutta ... ..	1

## CHICKENPOX.

Jan. 1	Hildebrand ... ..	Brazil ... ..	1
„ 5	Suevic ... ..	Australian Ports via Southampton ... ..	2
„ 17	Amarapoora ... ..	Rangoon ... ..	5
„ 18	Do. ... ..	Do. ... ..	1
„ 25	Celtic ... ..	New York ... ..	1
Feb. 20	Ortega ... ..	Valparaiso ... ..	8
April 11	Castalia ... ..	Bombay ... ..	1
„ 13	Megantic ... ..	New York ... ..	1
„ 15	Ascanius ... ..	Australia ... ..	1
„ 27	Pegu ... ..	Rangoon ... ..	6
„ 28	Pegu ... ..	Rangoon ... ..	3
„ 29	Pegu ... ..	Rangoon ... ..	1
June 19	Regina ... ..	Montreal ... ..	1

Rating.	How dealt with.
Steward ... ..	Landed Montreal.
Fireman ... ..	Admitted Garston Hospital, Liverpool.
Passenger ... ..	Well on arrival
Fireman ... ..	Well on arrival.
Assistant steward ..	Well on arrival
Passenger ... ..	Died during voyage.
Passenger ... ..	Removed to Fazakerley Hospital, Liverpool.
Passenges ... ..	Died during voyage.
Steward ... ..	Died during voyage.
Greaser ... ..	Landed to Hospital at New York.
Lascar ... ..	Admitted Brownlow Hill Institution, Liverpool.
Passenger ... ..	Admitted Nursing Home, Liverpool.
Passenger ... ..	Proceeded to Norway
Passenger ... ..	Landed Havana.
Cook ... ..	Proceeded to his home.
Able-bodied seaman	Died and buried at sea.
Native ... ..	Admitted to Southern Hospital, Liverpool.
Native ... ..	Landed Newport.
Passenger ... ..	Landed Manaos.
Passenger and ship's surgeon	Suffered on voyage, recovered before arrival.
Natives ... ..	Admitted Port Sanitary Hospital, New Ferry.
Native ... ..	Admitted Fazakerley Hospital, Liverpool.
Passenger ... ..	Well on arrival, proceeded home to Kilmarnock.
Passengers ... ..	8 children suffered on outward passage, two landed Callao, one at Iquique and five at Valparaiso.
Passenger ... ..	Treated on board.
Passenger ... ..	Landed New York.
Passenger ... ..	Proceeded to London.
Natives ... ..	Admitted Port Sanitary Hospital, New Ferry.
Natives ... ..	Admitted Port Sanitary Hospital, New Ferry.
Native cook ... ..	Admitted Port Sanitary Hospital, New Ferry.
Passenger ... ..	Admitted Fazakerley Hospital, Liverpool.

## CHICKENPOX—Continued.

Date, 1926.	Name of Vessel.	Where from.	No. of Cases.
June 22	City of Cairo ... ..	Bombay ... ..	1
July 15	Celtic ... ..	New York ... ..	1
Aug. 13	Ekari ... ..	West Africa ... ..	1
Oct. 23	Montrose ... ..	Montreal ... ..	10
Nov. 2	Deseado ... ..	River Plate ... ..	1
„ 4	Onitsha ... ..	West Coast Africa ... ..	3
Dec. 31	Patrician ... ..	South Africa ... ..	5 11

## DYSENTERY.

Jan. 28	Meinam ... ..	Alexandria ... ..	1
Feb. 10	Sabor ... ..	South America, via Hamburg	1
„ 16	Elizabetta ... ..	Dakar ... ..	1
Mar. 1	Adda ... ..	Lagos ... ..	1
„ 16	Abinsi ... ..	West Coast Africa ... ..	1
„ 17	Senator ... ..	Brazil ... ..	1
„ 30	Samaria ... ..	World Cruise ... ..	1 1
May 7	Highland Prince ... ..	Alexandria ... ..	1
„ 24	Oak Branch ... ..	Peru ... ..	1
June 28	Adda ... ..	West Coast Africa ... ..	1
Aug. 30	Salaga ... ..	Lagos... ..	1
Sept. 20	Craftsman ... ..	East Africa, via Calcutta ...	1
Oct. 6	Boutry ... ..	West Coast Africa ... ..	1
„ 29	Bata ... ..	West Coast Africa ... ..	1
Dec. 13	West Maximus ... ..	New Orleans... ..	1
„ 28	Dido ... ..	Alexandria ... ..	1

Rating.	How dealt with.
Passenger ... ..	Landed Plymouth.
Passenger ... ..	Landed Queenstown.
Native steward ... ..	Admitted Port Sanitary Hospital, Liverpool, for observation.
Passengers ... ..	(Children) landed Quebec.
Passenger ... ..	Landed Rio.
Natives ... ..	Three kroo boys left at Monrovia.
Lascars ... ..	Admitted Port Sanitary Hospital, Liverpool.
Lascars ... ..	Eleven other cases during voyage but recovered on arrival.
Bosun ... ..	Proceeded to Tropical Ward, Liverpool.
Seaman ... ..	Landed Pernambuco.
Bosun ... ..	Removed to hospital, Dakar, recovered and returned to ship.
Passenger ... ..	Suffered during voyage.
Passenger ... ..	Proceeded to his home in Bolton. Recovered on arrival. Treated at Pernambuco.
Passenger ... ..	Landed Tuelon.
Passenger ... ..	Recovered on arrival.
Fireman ... ..	Died and buried at sea.
A.B. ... ..	Attended Bootle Borough Hospital while in port.
Stewardess ... ..	Well on arrival.
Chief Officer ... ..	Landed Lagos.
Crew ... ..	Landed Zanzibar.
Crew ... ..	Admitted Tropical Ward, Liverpool.
Engineer ... ..	Well on arrival.
Engineer ... ..	Admitted Fazakerley Hospital, Liverpool.
D.B.S. ... ..	Recovered, proceeded to Antwerp.

## BERI-BERI

Date, 1926.	Name of Vessel.	Where from	No. of Cases.
April 1	Laomedon ... ..	Singapore ... ..	1 8
July 19	Ayrshire ... ..	Australia ... ..	1 ?
„ 26	Troilus ... ..	Yokohama ... ..	(2)

## ENCEPHALITIS LETHARGICA ?

Nov. 1	Aurania ... ..	Montreal ... ..	1
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## ENTERITIS.

Dec. 1	Novian ... ..	Vera Cruz ... ..	1
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Rating.	How dealt with.
Chinese fireman ... Do.	Admitted Tropical Ward, Royal Infirmary, Liverpool. Recovered on arrival.
Native fireman ... Chinese firemen ...	Died during voyage During voyage.
Deport ...	Proceeded home to Mirfield, Yorks.
Trimmer ...	Admitted Fazakerley Hospital, Liverpool, for observation.

### Hygiene of Crews' Spaces.

All vessels in the docks are inspected as soon as practicable after berthing by a sanitary inspector of the Port Sanitary Authority, who enquires into the occurrence of any cases of sickness during the voyage, the source of the water supply, fumigation, cleansing of tanks and bilges, and all matters affecting the health of passengers and crew. The inspector then proceeds to inspect the living quarters on board and leaves with the officer in charge an intimation notice calling attention to any defects found, and requesting that they shall be remedied. These notices are always complied with, and it has never been found necessary to issue a statutory notice.

There has recently been some discussion on the subject of the accommodation provided for the crews of British ships. In this connection the table facing will be of interest. In Liverpool for some years a record of the conditions existing in the vessels using the port has been kept on a card index. For the purpose of compiling the figures given in the table the record cards of the British cargo vessels were selected and then divided into those relating to vessels built before the year 1916 and those built between 1916 and 1926. Each group was then divided into those carrying crews of over 30 and those with crews of under 30, which seemed to be the most satisfactory way of classifying the vessels in order to compare the crew accommodation. Only the firemen's and sailors' quarters were considered, officers' accommodation being excluded.

From the point of view of hygiene accommodation aft is undoubtedly superior to accommodation forward, because there is more room, ventilation and lighting are better, and there is less likelihood of dampness and weather damage. Taking the larger vessels with white crew only, built prior to 1916, in only 20·8 per cent were all the crew berthed aft, whereas of similar vessels built between 1916 and 1926 in





PARTICULARS OF THE ...  
 ...

TABLE A - THE ...

...	...	...	...	...
...	...	...	...	...
...	...	...	...	...
...	...	...	...	...
...	...	...	...	...

TABLE B - THE ...

...	...	...	...	...
...	...	...	...	...
...	...	...	...	...
...	...	...	...	...
...	...	...	...	...

TABLE C - THE ...

...	...	...	...	...
...	...	...	...	...
...	...	...	...	...
...	...	...	...	...
...	...	...	...	...

TABLE D - THE ...

...	...	...	...	...
...	...	...	...	...
...	...	...	...	...
...	...	...	...	...
...	...	...	...	...

70·6 per cent. the crew were all berthed aft. In the smaller vessels the corresponding figures are 11·1 per cent. and 71·4 per cent. With regard to coloured crews the corresponding figures are 45·7 per cent. and 92·3 per cent. This shews a marked improvement in the situation of the accommodation in all classes of ships. In regard to the nature of accommodation open forecastles are still the rule, but the tables shew that in 28·4 per cent. of the larger vessels with white crew only the quarters were divided up into cubicles.

Mess rooms are now provided much more commonly than before 1916 (63·0 per cent., as opposed to 12·8 per cent.). Wash-houses are nearly always provided, and 7·5 per cent. of the newer larger vessels had baths for the use of the crew. The improvement in hospital accommodation is also very marked.

These figures therefore prove beyond question that steady progress is being made in the provision of healthier conditions of life for seafaring men.

### Canal Boats.

The Port sanitary inspectors have been appointed canal boat inspectors under the Canal Boats Act, 1877 and 1884. This is rendered necessary by the large number of canal boats which are to be found lying in the Liverpool docks. By rotation, one inspector devotes one whole day per week for a period of five months at a time to this work, as it has been found that in this way it is easier to follow up any boat that may be defective. These boats are for the most part kept in very good repair.

Eight hundred and twenty-one boats were inspected during the year, of which 52 were found to have some condition contravening the regulations.

## INSPECTION OF SHIPPING.

Year 1926.

TABLE 10.

Nationality.	Visits.	Re-visits.	Total.
British ... ..	4,519	3,081	7,600
Norwegian ... ..	240	111	351
Swedish... ..	85	43	128
Spanish... ..	92	63	155
Danish ... ..	90	33	123
Japanese ... ..	25	30	55
Italian ... ..	26	27	53
Portuguese ... ..	2	4	6
Russian ... ..	21	16	37
French ... ..	55	38	93
Brazilian ... ..	12	14	26
Dutch ... ..	78	37	115
Greek ... ..	40	26	66
American ... ..	185	116	301
Belgian ... ..	18	12	30
German ... ..	84	27	111
Argentine ... ..	4	1	5
Finnish ... ..	29	8	37
Jugo Slav ... ..	6	5	11
Roumanian ... ..	1	—	1
Latvian ... ..	1	—	1
Total ... ..	<u>5,613</u>	<u>3,692</u>	<u>9,305</u>

TABLE 12.

THE FOLLOWING TABLE SHOWS THE NUMBER AND NATIONALITIES OF THE VESSELS ON WHICH DEFECTS WERE DETECTED DURING THE YEAR 1926.

NATIONALITY.	Number of Ships.	Dirty Forecasts	Dirty Wash-houses, Store houses, etc.	Keel Water Cases	Keel Bilges.	Foal W.C.s.	Accumulations of offensive refuse.	Crews stowed in Crew's Quarters.	Dirty Quarters.	Water leaking from Forepeak Tank.	Animals kept, causing nuisance	Leaky Decks overhead.	Defective Stoves.	Defective Bulkheads.	Defective Ports and Sky-light.	Defective Ventilators.	Defective Flooring Boards	Defective Hatches Lockers.	Defective Chain Pipes.	Defective Hose Pipes.	Defective W. C. Fittings.	Defective Soil Pipes.	Inadequate Ventilation.	Inadequate Lighting	Inadequate Drainage.	Rare Iron not Sheathed	W.C.s. deficient in Ventilation situation bad	Total number of Defects.	Total Remedied.
British ...	878	2981	19	...	2	242	20	...	9	2	...	71	54	8	190	10	...	1	...	9	13	5	1	...	2	...	...	3639	3527
Norwegian ...	5	7	...	...	...	...	1	...	...	...	...	1	1	...	1	...	...	...	...	...	...	...	...	...	...	...	...	11	10
Swedish ...	1	3	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	3	3
Spanish ...	8	27	2	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	29	29
Danish ...	4	4	...	...	...	...	...	...	...	...	...	...	...	...	3	...	...	...	...	...	...	...	...	...	...	...	...	7	7
Italian ...	3	8	2	...	...	1	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	11	11
French ...	2	11	...	...	2	2	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	15	15
Greek ...	7	21	...	...	...	2	...	...	...	...	...	...	4	...	4	...	...	...	...	2	...	...	...	...	...	...	...	33	31
American ...	9	5	4	...	...	3	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	12	12
Dutch ...	3	4	...	...	...	...	1	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	5	5
Brazilian ...	3	12	2	...	...	2	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	16	16
Russian ...	2	7	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	7	7
Belgian ...	3	7	...	...	...	...	...	...	...	...	...	...	2	...	...	...	...	...	...	...	...	...	...	...	...	...	...	9	9
German ...	1	...	...	...	...	...	...	...	...	...	...	1	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	1	1
Portuguese ...	1	2	...	...	...	2	...	...	...	...	...	...	...	...	6	...	...	...	...	...	...	...	...	...	...	...	...	10	10
<b>Total ...</b>	<b>930</b>	<b>3099</b>	<b>29</b>	<b>...</b>	<b>4</b>	<b>254</b>	<b>22</b>	<b>...</b>	<b>9</b>	<b>2</b>	<b>...</b>	<b>73</b>	<b>61</b>	<b>8</b>	<b>204</b>	<b>10</b>	<b>...</b>	<b>1</b>	<b>...</b>	<b>11</b>	<b>13</b>	<b>5</b>	<b>1</b>	<b>...</b>	<b>2</b>	<b>...</b>	<b>...</b>	<b>3808</b>	<b>3613</b>



## SUMMARY OF INSANITARY CONDITIONS.

TABLE 11.

Class of Vessels.	Number Inspected.	Number on which Nuisances were found.	Per cent.
FOREIGN—			
Steamers ... ..	4,242	878	20·69
Sailing ... ..	—	—	—
Total... ..	4,242	878	20·69
COASTWISE—			
Steamers ... ..	1,360	51	3·75
Sailing ... ..	11	1	9·09
Total... ..	1,371	52	3·79

Nationality.	Number Inspected.	Number on which Nuisances were found.
British ... ..	4,519	878
Foreign ... ..	1,094	52
	5,613	930

## Nuisances arising through

Defects of Original Construction. (a)	Per cent. of Total Defects.	Structural Defects through wear and tear. (b)	Per cent. of Total Defects.	Dirt, and other conditions prejudicial to health. (c)	Per cent. of Total Defects
3	0·07	386	10·14	3,419	89·78

### Medical Examination of Aliens.

The following table gives the total number of aliens arriving in the port of Liverpool during 1926 and the number in each of the categories under which alien passengers are classified by the Immigration Department of the Home Office :—

Total aliens	Transmigrants	Residents returning	In transit
17,781	2,408	270	1,161
Visitors of 6 months or less		Diplomats & persons on Foreign Govt. Missions.	Seamen
On holiday, tourists, &c.	On Business		
12,387	601	119	94
Seamen under Contract to join ships in British Waters.		Ministry of Labour Permits	Other Aliens
69		39	663

The Medical inspection of aliens is carried out by the assistant port Medical Officers. The object of inspection is to ascertain if any of the alien passengers are—

- (1) suffering from any disease likely to be a danger to the Public Health of this country ;
- (2) suffering from any disease or deformity likely to cause such aliens or their dependents to become a public charge.

Cases of the ordinary infectious diseases are reported to the port Medical Officer by the ship surgeon or the captain on arrival of the vessel, whether the infected persons are aliens or not. In Liverpool there is little risk of importation of typhus, and a close scrutiny of transmigrants, in order to detect those who are infested with lice, is not necessary, as they practically all come from the United States or Canada, and are clean, healthy people.

No alien is allowed to take up employment in this country without a permit to do so from the Minister of Labour, consequently it is not often that the medical inspector has to consider the earning capacity of an alien. Certificates of rejection are therefore few, the majority of aliens being visitors, either touring or coming to see relatives in this country. During 1926 medical certificates were issued in respect of 10 aliens, 2 on account of acute infectious disease; 2 for venereal disease; 1 for tuberculosis; 1 for lunacy; 1 for senility and double cataract; 1 for arthritis; 1 for diabetes; and 1 for tropical ulcer.

A medical inspection room has been provided on the Landing Stage at the north end of the new Customs examination room. This is well fitted for medical examinations, but unfortunately the immigration staff prefer to conduct their examination on board the ships, consequently it is only when a vessel has to leave the stage to proceed to dock before the examination of passengers is completed that the accommodation ashore is utilised.

### **Transmigrants.**

Elaborate precautions are taken by the United States Public Health Service to prevent the occurrence of typhus fever amongst emigrants from Central Europe to America. Special stations have been erected, through one or other of which all transmigrants must pass. Here, they are medically inspected, freed from vermin, and all their clothing disinfected. All second and third class passengers bound for the U.S.A., whether from the Continent or the British Isles, are inspected by a Medical Officer of the American Public Health Department, immediately before sailing, and if any are found to be in a verminous condition, they are sent to the City hospitals, Netherfield Road, or Sparrow Hall, where suitable accommodation is available for the destruction of vermin in the clothing and belongings of each person. The cost of the disinfection is defrayed by the shipping company concerned, the transmigrants dealt with under this arrangement approximating 400 during the year 1926.



### Emigration.

The number of emigrants leaving the port of Liverpool during the year 1926 was 116,672, an increase compared with the previous year, when the number of emigrants leaving the port was 111,918.

The following is a return of the number of emigrants and clearances of ships, including those passenger vessels in which medical inspection was not required, from 1913-1926 :—

TABLE 25.

In 1913, 347,541 Emigrants, and 1,199 Clearances of Ships.

„ 1914,	232,954	„	1,065	„
„ 1915,	75,387	„	677	„
„ 1916,	58,749	„	562	„
„ 1917,	18,908	„	379	„
„ 1918,	13,588	„	287	„
„ 1919,	120,187	„	673	„
„ 1920,	204,868	„	769	„
„ 1921,	161,132	„	714	„
„ 1922,	120,691	„	804	„
„ 1923,	159,874	„	850	„
„ 1924,	122,201	„	869	„
„ 1925,	111,918	„	894	„
„ 1926,	116,672	„	850	„

*The following Tables, Nos. 26 and 27, relating to Emigration have been kindly supplied by the Board of Trade.*

TABLE 26.

Statement showing the number of Passengers (Emigrants and others), distinguishing British subjects and Aliens, who left the Port of Liverpool for places out of Europe in the year 1926 :—

DESTINATION.	British Subjects.	Aliens.	Total.
British North America ...	36,830	21,770	58,600
Australia and New Zealand ... ..	6,329	44	6,373
British South Africa ...	1,866	58	1,924
India (including Ceylon)...	5,530	183	5,713
Other British Colonies and Possessions ...	6,934	293	7,227
<b>Total British Empire ...</b>	<b>57,489</b>	<b>22,343</b>	<b>79,837</b>
United States ... ..	16,006	12,580	28,586
Other Foreign Countries	7,372	877	8,249
<b>Total Foreign Countries...</b>	<b>23,378</b>	<b>13,457</b>	<b>36,835</b>
<b>Grand Total ...</b>	<b>80,867</b>	<b>35,805</b>	<b>116,672</b>

TABLE 27.

Number of Passengers (Emigrants and others), distinguishing British subjects and Aliens, as given in Table No. 25, who left the Port of Liverpool in each month of the year 1926 :—

MONTH.	British Subjects.	Aliens.	Total.
January ... ..	4,088	1,296	5,384
February ... ..	4,693	1,648	6,341
March ... ..	6,844	2,969	9,813
April ... ..	8,267	2,694	10,961
May ... ..	6,636	1,922	8,558
June ... ..	5,166	1,927	7,093
July ... ..	7,146	4,252	11,398
August ... ..	8,578	7,244	15,822
September ... ..	10,159	4,932	15,091
October ... ..	9,868	2,677	12,545
November ... ..	5,461	2,583	8,044
December ... ..	3,961	1,661	5,622
<b>Total ... ..</b>	<b>80,867</b>	<b>35,805</b>	<b>116,672</b>

### Emigrant Inspections.

All emigrants travelling second class or steerage on board vessels outward bound are subject to inspection by the Medical Officers of the Board of Trade. The crews of all such vessels bound for America are also subjected to inspection by these officers. An Inspector of the Port Sanitary Authority attends these clearances in order to supervise the removal of any persons who may be rejected on account of actual or suspected infectious disease.

There were 212 such inspections, and 23 persons were rejected on account of infectious disease.

TABLE 28.

Date 1926.	Name of Vessel.	Nature of Sickness.	Where taken to	Description of Patient.
Feb. 6	Aurania ...	Chicken Pox ...	Sparrow Hall ...	Children (2)
„ 27	Carmania ...	Diphtheria ...	Fazakerley Hospital ...	Child
Mar. 19	Montrose ...	Mumps ...	Sparrow Hall ...	Children (2)
April 1	Montelare ...	Ringworm ...	Returned home ...	Children (2)
„ 23	Montcalm ...	Mumps ...	Returned home ...	Adult
„ 24	Celtic ...	Impetigo ...	Returned ashore ...	Adult
„ 30	Regina ...	Chicken Pox ...	Sparrow Hall ...	Children (2)
May 1	Adriatic ...	Scarlet Fever ...	Fazakerley Hospital ...	Adult
„ 21	Montcalm ...	Scarlet Fever ? ...	Returned home ...	Child
„ 27	Pakeha ...	Measles ...	Fazakerley Hospital ...	Child
„ 29	Adriatic ...	Measles ...	Fazakerley Hospital ...	Adult
June 4	Montroyal ...	Measles ...	Fazakerley Hospital ...	Adult
July 24	Athenia ...	Scarlet Fever ...	Grafton Street Hospital ...	Infant
„ 31	Cedric ...	Scabies ...	Returned home ...	Adult
Sept. 10	Aurania ...	Mumps ...	Brownlow Hill Hospital ...	Child
Nov. 12	Regina ...	Erysipelas ? ...	White Star Boarding house ...	Adult
Dec. 3	Montcalm ...	Chicken Pox ...	Sparrow Hall Hospital ...	Children (2)
„ 31	Montcalm ...	Diphtheria ...	Fazakerley Hospital ...	Child

The numbers of transmigrants notified from other Port Sanitary Authorities, or discovered upon examination in Liverpool to be suffering from "Trachoma" or "Conjunctivitis," during the year were:—

Cases under treatment, 1/1/26	...	...	...	...	2
„ notified from Hull or other ports	...	...	...	...	176
„ discovered in Liverpool	...	...	...	...	15
					193
Number of above who sailed for U.S.A. and Canada	...	...	...	...	180
„ „ recovered or waiting to sail	...	...	...	...	2
„ „ returned home	...	...	...	...	5
„ „ diverted to other ports	...	...	...	...	6
					193

#### Supervision of Food Importations.

Since June, 1925, the duties involved in the examination of foodstuffs landed from vessels in the port of Liverpool have been carried out under the Public Health (Imported Food) Regulations, 1925.

The regulations have greatly simplified the work of meat inspection and the schedules relating to the various types of meat prohibited or "conditionally admissible" into this country have proved most useful. The staff of food inspectors consists of seven fully qualified officers, who have had many years of experience in the inspection of imported foodstuffs. The procedure followed in the first instance is one of sampling to be followed, when the condition of the consignment demands it, by a more detailed examination of the whole consignment. Inspectors, from experience, know when unsatisfactory conditions are likely to be found, and many sources of information are open to them as they move about the docks.

The inspection and control of imported food is very complete, being carried out without any serious delay or inconvenience to the trade. Whilst much unsound food is destroyed the great bulk, whenever possible, is released under suitable guarantee for industrial purposes, great care being taken to prevent it being marketed in any form for human consumption, only firms approved of by the Medical Officer of Health being allowed to receive the material.

Damage to meat cargoes may arise from faulty refrigeration during the voyage, or grain may be damaged through sweating, bilge water, fire, etc., the material being utilised wherever possible for industrial purposes.

Under the Public Health (Preservatives in Food) Regulations, 1925, which are now in operation, no person may import in England and Wales any article of food intended for human consumption which contains certain prohibited preservatives or colouring matters (see page 78).

Under the recently-issued Public Health (Imported Food) Regulations, in addition to certain prohibited meats, there are meats which are "conditionally admissible," i.e., those requiring an official certificate recognised by Ministry of Health to be attached to the container. These include lard, dripping, edible tallow and similar rendered fats.

It is not anticipated that there will be any difficulty regarding the administration of these important regulations, which will be carried out by the Port Sanitary Authority in conjunction with the officers of the Customs. Already, arrangements have been made whereby certain food-stuffs containing preservatives, the sale of which is not restricted in other countries, will be admitted for exportation, and provided that full information is given by the importers and others concerned regarding the arrivals and destinations of these consignments it is not anticipated that there will be any difficulties or much formality to be observed.

The difficulties experienced during the previous year as to the importation of compounds which were found to contain hog-fat and which contravened the regulations have not been met with this year, as analyses made of the various compounds imported show that they do not contain hog-fat. The large imports of lard from China previously received at this port have been temporarily suspended, but an "official certificate" has now been recognised for lard imports from Hong Kong.

The condition of meat and offal on discharge from ships is subject to careful observation. The quarters of beef are examined for firmness, etc., and if satisfactory, are allowed under certain conditions to be removed to cold store. This is all that can be done on landing, as owing to the hardness of the meat it is impossible to conduct a detailed examination. Examination is continued in cold store, and no portion of the meat is released until it is made suitable for human consumption. Articles reserved for special examination are ox tongues, for actinomycosis, and all offal which is frozen in a solid mass.

These are sent to cold store, semi-defrosted and examined similarly to the quarters of beef as already mentioned.

Owing to the huge quantities of meat imported into this port it is not possible to examine every mark or brand in the ship for bone-taint

unless the condition is suspected: this is usually discovered later when the meat is being cut up. Only one class of offal should be packed loose in the same bag or box, and the contents, number and weight clearly stencilled on the outside of the container.

A printed memorandum on the packing of boneless meats to facilitate inspection on arrival and quick despatch from quay if satisfactory was issued in 1913 by the Liverpool Port Sanitary Authority to all importers who have sent a copy to their packing-houses overseas. As a result of this, very little boneless meat has required to be defrosted, and the risk of spoilage reduced to a minimum. This memorandum, herewith appended, has been favourably commented upon in Australia and other countries.

#### PORT OF LIVERPOOL SANITARY AUTHORITY.

##### MEMORANDUM ON THE FREEZING AND PACKING OF BONELESS MEATS IN REFERENCE TO EARLY EXAMINATION AND QUICK DESPATCH AT PORT OF ENTRY.

To facilitate examination, the freezing and packing of boneless meats must be carefully attended to and the following points noted:

##### A.—TO FACILITATE THE IDENTIFICATION AND CHARACTER OF GOODS FOR CUSTOMS AND OTHER PURPOSES.

1. There must be a true declaration of the contents of the bag or package.
2. Cuts of the same kind, only, must be placed in the same bag or package, there must be no mixture.
3. The goods must be carefully manifested, giving the number of packages of each kind of cut to be found in the shipment.

##### B.—TO FACILITATE INSPECTION.

1. The parts must be frozen separately.
2. Under Public Health (Imported Food) Regulations, 1925, no scraps or trimmings can be imported.

It is particularly requested that the cuts of meat shall be as large as possible, and when boned, must be brought in as near as possible the natural shape, no rolling or folding can be allowed.

If the goods are found to be folded and rolled it will be necessary to thaw them out.

CUT OF MEAT	SHAPE IN FREEZING	SEROUS MEMBRANES	GLANDS.
Flanks.	Frozen flat.	In the case of thin flanks the peritoneum to be left exposed	—
Necks.	Full necks, and natural shape as cut off the quarter.	—	—
Shins.	A full shin ; natural shape.	—	—
Buttocks.	To be laid open to expose interior (not folded) this especially in the case of inferior quality of beef.	—	Popliteal gland to be exposed for examination.
Clods.	Natural shape as cut from quarter.	Pleural membrane not removed.	Prescapular gland to be exposed and left.
Loins.	Natural shape as cut from quarter.	Peritoneal membrane not removed.	Lumbar glands left intact.
Loins and Flanks.	Frozen flat.	Serous (peritoneal) membrane not removed.	Lumbar glands left.
Chucks.	Natural shape as cut from quarter.	If the cut be large, pleural membrane to be left.	Prescapular gland to be left for examination.
Ribs.	Remove the rib bones, leaving the portions of flesh between the bones in its natural position.	Pleural membrane to be left (no stripping). It is inadvisable to remove the ribs and with them the pleural membrane when boning this cut.	—
Middles.	As ribs.	As ribs.	As ribs.
Shoulders.	Ought to be cut large and frozen flat.	If cut through the chest cavity, membrane and glands to be left.	Where glands are present to be left intact.
Rumps.	Left in natural shape and frozen.	—	Do.
Briskets.	Frozen flat, no folding.	Pleural membrane left intact.	Glands left intact.

Cheeks.

Full Cheeks frozen separately, no scraps.

Livers.

Tripe.

Kidneys (beef).

Tongues.

Skirts (with pleura and peritoneal membrane)

Tails.

Hearts.

Plucks.

Other boxed meats.

These are to be frozen separately, so that each organ, or part, when hard frozen, may be easily removable from the bag or box for examination.

LIVERPOOL PORT SANITARY OFFICES,  
PIER HEAD.

First issue, 13th July, 1913.



On April 1st the Public Health (Meat) Regulations, 1924, came into force, and under Part 6 the transport and handling of meat is dealt with. Under these regulations it is required that :—

“All vehicles (which include railway or other vans or wagons, ships, or barges) used for the transport of meat, and receptacles in which meat is placed, must be kept clean, and if open at the top, back or sides, or if other articles are being carried in the same vehicle, the meat must be adequately protected by a clean cloth or other suitable material.”

“No live animals shall be carried in the vehicle at the same time as meat.”

#### MEAT CARRIERS AND HANDLING.

“Every person, while engaged in the handling or transport of meat, shall not permit any part of the meat to come into contact with the ground, and all precautions against contamination must be taken.

Every person who employs a person to carry meat in or about a market or other place in which meat is sold by wholesale, or in or about any place wholly or mainly used for the storage of meat before it is distributed to retailers, shall cause such person while so occupied to wear, and every person while so occupied shall wear, a clean and washable head covering and overall.”

A very large cargo of imported meat was landed towards the end of the year 1925, and arrangements being made for examination in detail the work of trimming and passing carcasses was not completed for some considerable time. This supervision engaged the whole time of one inspector, and in addition he had the services of a large staff of butchers in connection with the trimming and re-conditioning of 35,000 quarters. There were 21,000 quarters sent direct from the ship's side to various works under guarantee to be boiled down for tallow or other purposes.

In May of this year a vessel arrived from Australia with a portion of her cargo of meat damaged through decomposition. The damaged portion was dealt with as in previous cases.

Consignments of meat, fat and beef tallow have been exported owing to the official certificate of the country of origin not being attached. Examination of all inedible tallow and lard oils is conducted before

delivery, and if any doubt exists a guarantee is obtained from the actual importer that the fat in question will only be utilised for soap making or some other industrial purpose.

The importation of fruit during the year 1926 has shown a very high figure. Examinations have been carried out with customary thoroughness.

Arsenic was found on the surface of certain apples and pears in the previous year, but in every case it was ascertained that it was due to the spraying with a view to the destruction of the Codlin Moth. This spraying gave rise on evaporation to a deposit which in some cases contained a small amount of arsenious oxide. Arrangements were immediately made to sample consignments of apples and pears arriving in the port. Reports show much variation as to quantity of deposit, which was found chiefly at the stem and calyx ends, but in no case was it in harmful amount. In many of the samples examined arsenic was not present. These samples still continue to be taken in the port of Liverpool.

The following table gives the particulars of samples of foodstuffs, etc., sent to the City Analyst and Bacteriologist during the year 1926 :—

TABLE 13.

CITY ANALYST.				CITY BACTERIOLOGIST.			
CANNED GOODS.—				CANNED GOODS.—			
Ox Tongue	...	...	1	Ox Tongue	...	...	1
Lunch Tongue	...	...	1	Lunch Tongue	...	...	1
Peas	...	...	2				
Compound Lard	...	...	2	Water	...	...	7
„ Vegetable	...	...	1	Wool	...	...	04
Margarine	...	...	2				
Selex "Fat compound"	...	...	1				
Refined Hard Fat	...	...	1				
Apples	...	...	17				
Pears	..	...	2				
Grapes	...	...	1				
Flour	...	...	1				
			<hr/> 32				<hr/> 113

The samples of tinned tongue examined shewed liquifaction of gelatin due to the action of staphylococci. No organisms of the food poisoning group were present. Seven samples of water were taken from ships on which the water was under suspicion of having caused diarrhœa amongst the crew. In five cases the water was reported to be "not reasonably fit for human consumption," in the other two the water was satisfactory. The 104 samples of wool were taken from the Government wool disinfecting station, and in no instance was anthrax bacilli discovered. All the samples sent for examination after treatment at the disinfecting station were sterile.

During the year 6,798 rats from ships, quays, etc., were examined, and all with the exception of those mentioned on page 8, ex s.s. "Zaria," a plague-infected vessel, were found to be free from the bacillus of plague.

PUBLIC HEALTH (PRESERVATIVES, &c., IN FOOD)  
AMENDMENT REGULATIONS, 1925,  
AS AMENDED 1926-27.

Following upon the report of the Departmental Committee on the use of preservatives in food, the Minister of Health, in the exercise of his powers, issued regulations relative to preservatives in food.

The dates on which the principal regulations as now amended will come into operation are as follows:—

- |  |        |                    |
|--|--------|--------------------|
| (1) All foods except those specified below   | ...    | 1st January, 1927. |
| (2) Bacon, ham, egg yolk and articles of food containing preservative necessarily introduced by the use in their preparation of preserved margarine  | ... .. | 1st July, 1927.    |
| (3) Butter, cream and articles of food containing preservative necessarily introduced by the use in their preparation of preserved bacon, preserved ham, preserved egg yolk or preserved cream | ... .. | 1st January, 1928. |
| (4) Articles of food containing preservative necessarily introduced by the use in their preparation of preserved butter  | ... .. | 1st July, 1928.    |

TABLE 14.

SHOWING THE NUMBERS OF CATTLE, SHEEP, AND SWINE EXPORTED FROM IRELAND TO LIVERPOOL DURING THE YEAR 1926, AND SHOWING THE PORTS IN IRELAND AT WHICH THE ANIMALS WERE SHIPPED.

	Cattle.	Sheep.	Swine.
Ballina ... ..	134	10,684	1,717
Belfast ... ..	1,678	7,931	197
Cork ... ..	26,938	16,251	13,522
Drogheda ... ..	18,378	41,058	763
Dublin ... ..	87,779	188,651	9,792
Dundalk ... ..	2,518	536	151
Londonderry ... ..	3,307	10,350	441
Newry ... ..	—	461	—
Sligo ... ..	25	8,370	5,221
Waterford ... ..	22,976	27,406	3,867
Limerick ... ..	926	85	65
Total ... ..	164,659	311,783	35,646

TABLE 15.

SHOWING THE TOTAL NUMBERS OF THE SEVERAL KINDS OF CATTLE, SHEEP AND PIGS EXPORTED FROM IRELAND TO LIVERPOOL DURING THE YEAR 1926.

CATTLE.	No.	SHEEP.	No.
Fat ... ..	130,136	Fat ... ..	128,438
Stores (for fattening)	31,004	Stores ... ..	58
Milch Cows ... ..	1,065	Lambs ... ..	183,287
Springers ... ..	307		
Calves ... ..	2,147	Total Sheep ...	<u>311,783</u>
Total Cattle ...	<u>164,659</u>	PIGS.	
		Fat ... ..	35,593
		Stores ... ..	53
		Total Swine ...	<u>35,646</u>

TABLE 16.

STATEMENT SHOWING THE NUMBER OF LIVE CATTLE, &c.,  
LANDED AND SLAUGHTERED AT THE FOREIGN ANIMALS  
WHARF (BIRKENHEAD, ALFRED AND WALLASEY  
LAIRAGES) DURING THE YEARS 1918 TO 1926 INCLUSIVE.

Year.	LANDED.				SLAUGHTERED.			
	Oxen.	Calves.	Pigs.	Sheep, Lambs and Goats.	Oxen.	Calves.	Pigs.	Sheep, Lambs and Goats.
1918	178,898	17	28,723	446,039	102,174	—	409	219,915
1919	252,790	977	29,052	362,137	175,302	—	591	241,247
1920	247,015	6,230	31,050	341,350	110,688	9	569	164,669
1921	195,785	—	19,224	325,982	63,178	—	2,766	165,963
	49,434	—	—	6,706	49,224	—	—	6,706
1922	262,601	8	31,257	418,604	63,002	1	515	153,381
	38,648	1	—	—	38,648	1	—	—
1923	166,994	7	77,536	194,296	50,432	—	4,886	90,736
	39,690	—	—	7,003	37,482	—	—	7,003
1924	217,176	—	58,690	358,310	54,572	—	4,985	134,207
	417	—	888	4,568	37	—	3	627
	52,193	—	—	4,252	42,324	—	—	4,252
1925	159,638	—	16,745	—	41,332	—	883	10,608
	218	—	366	253,617	32	—	2	349
	43,673	—	—	3,919	35,567	—	—	—
1926	165,187	—	35,785	312,745	45,876	—	1,681	150,378
	208	—	171	4,052	16	—	—	605
	38,870	—	490	—	28,997	—	490	—

Heavy type represents Irish.

† Isle of Man.

‡ Foreign.

TABLE 17.

SHOWING THE VALUES OF THE IMPORTS OF MEATS (EXCEPT POULTRY AND GAME) INTO THE PORT OF LIVERPOOL DURING THE YEARS 1918 to 1925.

Description.	Years.									
	1918.	1919.	1920.	1921.	1922.	1923.	1924.	1925.		
Bacon ... ..	£ 36,832,954	£ 38,708,464	£ 21,746,024	£ 13,472,791	£ 8,819,177	£ 8,506,723	£ 7,080,117	£ 8,612,930		
Beef, fresh and refrigerated ...	16,470,701	11,916,393	17,754,543	13,430,866	8,016,721	8,561,258	7,771,561	9,992,622		
Beef, salted... ..	66,238	180,015	—	—	—	—	—	—		
Hams ... ..	6,843,531	7,404,202	109,461	4,225,544	5,148,303	5,043,264	4,547,822	5,183,481		
Mutton, fresh and refrigerated ...	2,128,352	2,219,436	5,702,678	5,842,010	4,262,439	4,879,930	3,337,957	4,314,957		
Pork, fresh and refrigerated ...	424,056	310,654	1,639,590	920,772	419,018	948,484	555,610	623,824		
Pork, salted ... ..	17,544	100,808	—	—	—	—	—	—		
Rabbits ... ..	123,468	143,983	342,821	95,873	65,563	77,096	33,092	44,393		
Unenumerated, fresh, refrigerated and salted ... ..	930,022	2,588,273	973,877	678,012	—	419,381	—	—		
Preserved, otherwise than by salting ... ..	9,443,132	13,012,291	2,638,774	1,253,263	581,442	1,541,595	403,506	550,386		
Totals ... ..	£73,279,998	£76,584,519	£50,907,768	£39,919,131	£27,312,663	£29,977,731	£23,729,665	£29,322,593		

TABLE 18.  
SHOWING THE QUANTITY OF UNSOUND MEATS  
UTILISED UNDER SUPERVISION  
DURING THE YEARS 1922 to 1926.

Year.	Beef.				Mutton.				Pork.			
	Tons.	cwts.	qrs.	lbs.	Tons.	cwts.	qrs.	lbs.	Tons.	cwts.	qrs.	lbs.
1922 .....	44	18	1	19	10	9	1	8	2	12	1	18
1923 .....	28	5	3	10	33	9	3	31	—	16	1	9
1924 .....	40	14	1	8	6	17	1	13	1	6	3	13
1925 .....	1,184	15	1	5	7	10	1	1	—	4	1	15
1926 .....	336	0	2	2	4	6	1	1	—	7	2	26

TABLE 19.  
SHOWING THE QUANTITY OF UNSOUND OFFAL  
UTILISED UNDER SUPERVISION  
DURING THE YEARS 1922 to 1926.

Year.	Beef.	Mutton.	Pork.	Veal.
1922.....	30,794 pieces.	26,991 pieces.	5,129 pieces.	15 pieces.
1923.....	20,309 ,,	11,401 ,,	962 ,,	23 ,,
1924.....	13,468 ,,	14,574 ,,	4,998 ,,	13 ,,
1925.....	40,160 ,,	10,129 ,,	1,883 ,,	541 ,,
1926.....	13,889 ,,	31,217 ,,	1,566 ,,	209 ,,

TABLE 20.

TABLE SHOWING THE QUANTITY AND DESCRIPTION OF UNSOUND MEATS  
SUPERVISED\* DURING THE YEAR 1926.

DESCRIPTION.	TOTAL WEIGHT.		CAUSE OF DESTRUCTION.			
	Tons	cwts. qrs. lbs.	Tubercular.	Brine Stained, Mouldy and Decomposed.	Other causes. (Emaciation, Dropsy, etc.)	
	Tons	cwts. qrs. lbs.	Tons	cwts. qrs. lbs.	Tons	cwts. qrs. lbs.
Beef .....	336	0 2 2	—	335 12 2 14	0	7 3 16
Mutton.....	4	6 1 1	—	4 6 1 1	—	—
Pork .....	0	7 2 26	—	0 7 2 26	—	—
Veal .....	0	0 1 11	—	0 0 1 11	—	—
Total.....	340	14 3 12	—	340 6 3 24	0	7 3 16

\* These were destroyed or allowed to go for industrial purposes to the satisfaction of the Medical Officer.



TABLE 21.  
SHOWING THE QUANTITY AND DESCRIPTION OF OFFAL CONDEMNED  
DURING THE YEAR 1926.

Name of Organ.	Beef.		Mutton.		Pork.		Veal.	
	Number.	Weight, Pounds.	Number.	Weight, Pounds.	Number.	Weight, Pounds.	Number.	Weight, Pounds.
Livers...	2,479	23,475	24	33	407	1,210	24	79
Tongues ...	4,226	14,722	306	90	138	131	—	—
Hearts ...	186	481	4,509	1,439	2	2	—	—
Skirts ...	1,641	1,269	—	—	—	—	—	—
Cheeks ...	156	432	—	—	—	—	—	—
Kidneys ...	1,848	1,801	23,717	2,375	86	19	185	65
Udders ...	1,750	8,977	—	—	—	—	—	—
Tripe ...	117	697	—	—	—	—	—	—
Tails ...	171	341	—	—	—	—	—	—
Feet ...	994	4,136	2,008	973	200	224	—	—
Plucks ...	—	—	62	117	150	796	—	—
Heads ...	—	—	—	—	535	5,371	—	—
Lungs ...	—	—	—	—	28	28	—	—
Brains ...	—	—	141	28	—	—	—	—
Intestines ...	146	538	—	—	20	22	—	—
Sweetbreads ...	175	38	450	17	—	—	—	—
Totals ...	13,889	56,907	31,217	5,072	1,566	7,803	209	144

TABLE 22.

SHOWING QUANTITIES OF UNSOUND GENERAL FOOD-STUFFS UTILISED UNDER SUPERVISION DURING THE YEAR 1926.

Description.	No. of Tins.	Weight in Pounds.	Description.	No. of Tins.	Weight in Pounds.
<b>Canned Goods—</b>			<b>Beef ... ..</b>	5211	20106
Apples ...	43	323	<b>Mutton ... ..</b>	1275	7485
Apricot Pulp ...	519	4541	Tongues ...	747	4812
Apricots ...	15119	9499	Cooked Hams	3	43
Cherries ...	538	600	Pork & Beans	2416	2689
Fruit Salad ...	955	857	Rabbits ...	48	85
Loganberries ...	430	641	Partridges ...	45	45
Peaches ...	1816	2625	Lobster ...	319	113
Pears ... ..	3090	6885	<b>Sardines ... ..</b>	207	76
Peas ... ..	40	63	<b>Crab ... ..</b>	401	164
Pines ... ..	17810	23707	Pilchards ...	—	—
Raspberry Pulp	5	10	<b>Salmon ... ..</b>	6357	3013
Plums ...	104	277	Cray Fish ...	141	70
Tomatoes ...	56976	93243	Prawns ...	23	6
Fruits ...	1124	2125	Carrots ...	126	252
Condensed Milk.	171	149	Beans ...	60	54
Egg ... ..	327	14243			

Description.	Packages.	Weight.			
		Tons.	Cwts.	Qrs.	Lbs
<b>Fruit (Fresh)—</b>					
Apples ... ..	18328	354	8	1	22
Bananas... ..	15519	806	15	3	18
Oranges ... ..	3404	133	13	0	14
„ loose ... ..	—	331	14	1	8
Mandarines ...	1283	30	16	2	22
Pomegranates ...	6	—	5	1	12

TABLE 22—continued.

Description.	Packages.	Weight.			
		Tons.	Cwts.	Qrs.	Lbs.
<b>Fruit (Fresh) continued—</b>					
Pears ... ..	577	25	11	0	14
„ loose ... ..	—	1	0	0	0
Grape Fruit ... ..	1665	58	14	2	16
Lemons ... ..	58	2	5	0	0
Plums ... ..	329	2	8	0	14
Dansons ... ..	208	4	4	0	24
Peaches ... ..	50	0	5	1	12
Grapes ... ..	5907	109	12	1	18
Melons ... ..	215	10	14	0	2
Tomatoes ... ..	802	18	11	1	13
Dates ... ..	4	0	0	0	26
Sultanas ... ..	22	0	11	0	0
Currants ... ..	1	0	0	2	0
„ loose ... ..	—	—	3	2	0
Raisins, loose ... ..	—	—	—	2	17
Figs ... ..	15	0	2	2	20
Prunes ... ..	6	0	0	3	12
Chestnuts ... ..	20	0	7	0	16
Onions ... ..	1	0	0	3	26
Potatoes... ..	302	15	3	2	9
Turnips ... ..	493	26	1	3	20
„ loose ... ..	—	4	12	0	0
Carrots ... ..	150	7	0	0	0
Coco Nuts ... ..	1275	24	6	2	12
Brazil Nuts .. ..	40	3	10	0	0
„ „ loose ... ..	—	3	14	3	0
Pea Nuts ... ..	1180	52	13	2	8

TABLE 22--continued.

Description.	Packages.	Weight.			
		Tons.	Cwts.	Qrs.	Lbs.
<b>Fruit (Fresh) continued—</b>					
Desiccated Cocoanut ... ..	1	0	1	0	18
<b>Cereals—</b>					
Wheat ... ..	—	1,001	13	1	11
Maize ... ..	—	1,641	9	2	5
Maize Meal ... ..	—	1	0	0	0
Rice ... ..	142	10	16	0	2
„ loose ... ..	—	1	12	2	25
Peas ... ..	—	—	—	—	—
„ loose ... ..	—	—	12	3	22
Flour ... ..	1,867	117	19	2	24
„ loose ... ..	—	19	3	1	5
Flour (Malted)... ..	5	0	6	1	0
Barley, loose ... ..	—	78	11	2	12
Oats ... ..	10	0	10	0	0
„ loose ... ..	—	4	13	3	15
Rolled Oats ... ..	242	11	17	2	16
„ „ loose ... ..	—	—	3	0	26
Quaker Oats .. ..	—	2	0	0	0
Rye loose ... ..	—	7	0	0	20
<b>General—</b>					
Hams ... ..	—	—	10	2	24
Bacon ... ..	—	—	4	1	8
Lard ... ..	—	—	—	2	20
Dried Sausage ... ..	—	—	—	—	9
Eggs (3083) ... ..	—	—	2	3	15
Fruit Pulp ... ..	3	0	12	0	0

TABLE 22—*continued.*

Description.	Packages.	Weight.			
		Tons.	Cwts.	Qrs.	Lbs.
<b>General—<i>continued.</i></b>					
Lemons and Citron ... ..	91	54	12	0	0
Sugar ... ..	—	—	13	3	3
Butter ... ..	—	—	—	—	3
Margarine ... ..	24	0	3	0	0
Ginger ... ..	6	0	5	1	0
Cheese ... ..	—	—	—	—	25
Fish ... ..	—	33	17	0	6
Chocolate ... ..	—	—	—	2	2
Cocoa Beans ... ..	3	0	13	0	2
Ground Almonds ... ..	3	0	1	3	8
Broken Almonds ... ..	—	—	—	2	0
Rye Bread ... ..	—	—	—	2	0
Biscuits ... ..	1	0	5	1	10
Pickles ... ..	8	0	0	0	4

TABLE 23.

SHOWING THE TOTAL QUANTITIES OF THE DIFFERENT UNSOUND FOODSTUFFS UTILISED UNDER SUPERVISION DURING THE YEAR 1926.

	Tons.	Cwts.	Qrs.	Lbs.
Beef Mutton, Pork and Veal...	340	14	3	12
Offal (Beef, Mutton, etc.) ...	31	4	1	10
Canned Goods... ..	88	18	1	16
Fruit and Vegetables ... ..	2,029	11	1	1
Cereals ... ..	2,899	9	1	15
General (Fish, Poultry, Rabbits, etc.) ... ..	92	10	2	27
TOTAL ... ..	5,482	8	3	25

TABLE 24.

Showing comparative Value of the more important Food Stuffs imported at the principal Ports during the year 1925.

	London. 1	Liverpool. 2	Hull. 3	Glasgow. 4	Bristol. 5	Harwich. 6	Newcastle 7	Man- chester. 8	Leith. 9	South- ampton. 10
	£	£	£	£	£	£	£	£	£	£
Animals .....	—	5,062,372	—	2,685,571	432,841	—	—	975,665	—	—
Butter .....	25,872,706	1,460,312	3,308,493	718,287	436,019	1,820,890	3,853,553	174,235	4,061,158	2,040,543
Cheese .....	10,414,460	1,444,661	222,784	466,149	901,515	198,006	332,401	509,453	224,889	119,946
Cocoa .....	1,380,013	1,833,077	25,487	4,076	7,260	212,970	2,924	—	35,339	5,041
Coffee .....	3,784,070	36,328	—	—	724,925	—	—	—	—	104,880
Grain.....	29,913,640	20,656,606	14,387,054	7,104,429	9,452,001	42,571	2,280,376	7,400,160	4,292,465	641,684
Eggs .....	7,986,450	1,881,902	1,223,886	1,227,167	—	1,388,207	894,963	164,436	1,527,277	398,195
Fish .....	2,940,906	3,393,501	580,204	88,871	43,851	1,013,730	432,679	65,570	136,703	312,648
Fruit .....	15,667,013	10,805,369	2,148,352	2,599,237	3,462,073	477,952	456,647	1,437,730	141,966	2,333,467
Lard .....	2,026,362	3,646,910	538,471	255,608	531,289	37,013	684,070	1,231,694	70,387	166,719
Margarine .....	1,354,743	1,155,560	1,023,429	245,207	—	7,741,868	602,939	327,078	586,897	—
<b>MEAT:—</b>										
Bacon .....	8,210,886	8,612,930	2,257,727	402,771	410,139	10,086,499	3,835,496	147,758	307,644	1,550,859
Beef .....	23,528,071	9,992,662	204,749	546,916	80,717	—	193,547	173,508	—	1,130,359
Hams .....	1,126,267	5,183,481	—	1,539,719	187,366	—	—	114,095	—	89,129
Mutton .....	16,729,826	4,314,957	101,461	114,867	260,513	299,871	—	130,563	—	202,992
Pork .....	607,739	623,824	—	—	—	280,856	—	—	—	—
Rabbits .....	503,472	44,393	—	—	—	—	—	6,120	—	—
Unenumerated.....	1,613,148	550,386	514,723	462,663	107,738	569,516	278,116	—	701,923	308,456
Preserved .....	—	—	—	—	—	—	—	—	—	—
Milk, Condensed .....	2,734,038	581,027	661,746	50,379	168,600	230	474,646	316,547	218,650	26,786
Poultry and Game .....	1,124,474	150,810	4,897	—	—	103,758	—	—	—	159,275
Sugar.....	18,061,749	11,338,202	1,317,471	1,397,968	1,388,527	—	664,969	842,104	890,631	249,288
Vegetables .....	3,378,832	2,054,534	1,340,784	216,017	156,826	279,015	312,526	254,255	303,087	2,184,992

The Medical Officer to the Port Sanitary Authority desires to express his appreciation of the valuable assistance received from H.M. Collector of Customs and staff, the Mersey Docks and Harbour Board and their Officers, and the various Shipping Companies who have co-operated with the Port Sanitary Authority in the maintenance of Public Health and the prevention of disease in the port. The Consular Bodies have at all times also given courteous assistance.

A. A. MUSSEN, M.D.,  
*Medical Officer of Health.*

MUNICIPAL OFFICES,  
LIVERPOOL,

30th June, 1927.