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# PORT OF LIVERPOOL



## ANNUAL REPORT

OF THE

## MEDICAL OFFICER OF HEALTH

TO THE

## PORT SANITARY AUTHORITY

FOR THE YEAR

**1933**

BY

W. M. FRAZER, M.D., M.Sc., D.P.H.,  
*Port Medical Officer of Health.*

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# PORT SANITARY AUTHORITY OF LIVERPOOL.

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REPORT FOR THE YEAR 1933.

BY THE

MEDICAL OFFICER OF HEALTH.

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This is the 61st Annual Report on the work of the Liverpool Port Sanitary Authority.

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

(a) the measures adopted under the Port Sanitary Regulations, 1933;

(b) the measures taken to reduce the number of rats on dock quays and in ships, and to ascertain the existence of plague among any such rats;

(c) the measures taken in regard to the sanitation of vessels;

(d) the inspection of imported foodstuffs under the Public Health (Imported Food) Regulations, 1925, and the Public Health (Imported Food) Amendment Regulations, 1933;

(e) the medical inspection of aliens under the Aliens Order, 1920;

together with observations on various aspects of Port Sanitary Administration.

### Jurisdiction of the Port.

The limits of jurisdiction of the Port Sanitary Authority are those of the Customs Port of Liverpool as defined in the Treasury Warrant of November 3rd, 1896, which are as follows:—

“ From the Red Stones in Hoylake on the Point of Wirral and  
 “ continued up the river Mersey on the Cheshire shore thereof to  
 “ the Western side of the entrance to the Manchester Ship Canal  
 “ at Eastham, thence in an easterly direction across the said  
 “ entrance and along the Cheshire shore of the river to Ince  
 “ Ferry, the western termination on the Cheshire shore of the  
 “ Port of Manchester, thence crossing the said river Mersey in a  
 “ supposed straight line to Dungeon Point, being the western  
 “ termination on the Lancashire shore of the said Port of  
 “ Manchester, and continued along the coast of the County of  
 “ Lancashire to the southern boundary of the Port of Preston,  
 “ viz., an imaginary line drawn in a true north-north-west direc-  
 “ tion from the inner north-west sea-mark on the beach at Formby  
 “ Point, shown on the Admiralty chart of the survey of the West  
 “ Coast of England from Formby Point to Kirkcudbright, published  
 “ on the 23rd day of October, 1893. And the said Port shall include  
 “ all islands, rivers, bays, channels, roads, bars, strands, harbours,  
 “ havens, streams, and creeks (except the said Manchester Ship  
 “ Canal) within the said limits contained, and shall extend sea-  
 “ ward to a distance of three miles from low water-mark along  
 “ the coast within the aforesaid limits.”

The contributing Riparian Authorities are the County Boroughs of Birkenhead, Bootle and Wallasey, and the Urban District Council of Bebington.



**Amount of Shipping Entering the Port during the Year 1933.**

Class of Vessels.	Number.	Tonnage.	Number Inspected.		Number reported to be defective.	Number of vessels on which defects were remedied.	Number of Vessels reported as having, or having had, during the voyage infectious disease on board.
			By the Medical Officer.	By the Sanitary Inspector.			
	(1)	(2)	(3)	(4)	(5)	(6)	(7)
<b>SAILING FOREIGN—</b>							
Steamers ...	6,520	13,712,048	761	3,851	472	438	223
Motor ...			—	—	—	—	—
Sailing ...			—	3	—	—	—
Fishing ...			—	—	—	—	—
<b>TOTAL FOREIGN...</b>	<b>6,520</b>	<b>13,712,048</b>	<b>761</b>	<b>3,854</b>	<b>472</b>	<b>438</b>	<b>223</b>
<b>SAILING COASTWISE—</b>							
Steamers ...	7,464	2,718,991	—	1,143	59	53	1
Motor ...			—	—	—	—	—
Sailing ...			—	13	1	1	—
Fishing ...			—	—	—	—	—
<b>TOTAL COASTWISE...</b>	<b>7,464</b>	<b>2,718,991</b>	<b>—</b>	<b>1,156</b>	<b>60</b>	<b>54</b>	<b>1</b>
<b>TOTAL FOREIGN AND COASTWISE ...</b>	<b>13,984</b>	<b>16,431,039</b>	<b>761</b>	<b>5,010</b>	<b>532</b>	<b>492</b>	<b>224</b>

Figures in columns 1 and 2 supplied by H.M. Collector of Customs for this Port.



### Character of Trade of Port.

The Port of Liverpool trades with all parts of the world, and almost every conceivable kind of cargo is carried by ships arriving in the Mersey.

#### *Passenger Traffic during 1933.*

No. of Passengers ...	1st Class.	2nd Class.	3rd Class.	Tourist Class.	Transmigrants.
Inwards ...	6,142	8,806	16,783	9,402	1,449
Outwards ...	12,884	10,923	9,107	9,905	1,997

### Source of Water Supply.

The water used in the docks on the Liverpool side of the River Mersey is supplied by the Liverpool Corporation. Vessels in dock are supplied from hydrants from the same source, and vessels in docks on the Birkenhead side of the River Mersey are supplied with water by the Birkenhead Corporation and the Wallasey Corporation.

There are no water boats in use in the Port of Liverpool, all water being drawn from hydrants on the quayside.

Port Sanitary Regulations, 1933.

Arrangements for dealing with Declaration of Health. The Declaration of Health of a vessel from a foreign port, and obtained by the Assistant Port Medical Officer, who board these vessels before leaving.

(b) Vessels from a foreign port. The Declaration of Health from a vessel arriving from a foreign port, and obtained by the Assistant Port Medical Officer, who board these vessels before leaving.

Infectious Diseases.

The measures adopted in this regard to prevent the introduction of infectious diseases from abroad are as follows:

# PORT SANITARY REGULATIONS

1933.

(a) Vessels from a foreign port. The Declaration of Health from a vessel arriving from a foreign port, and obtained by the Assistant Port Medical Officer, who board these vessels before leaving.

(2) The visiting of vessels in dock by sanitary inspectors, and the carrying out of such duties as may be required.

(3) The reporting of cases of disease, and the carrying out of such duties as may be required.

(4) Cooperation with the officers of H.M. Customs, who report to the Port Sanitary Authority, if they obtain information of cases of disease on board vessels visited by them.

Information of the arrival of vessels subject to the regulations of the Port Sanitary Authority, must be furnished by the port medical officer before docking, is obtained through the assistance of the pilot.

All vessels except very small craft, must be navigated into the port by a licensed pilot or a master or mate holding a license issued by the Port Sanitary Authority. With the assistance of a pilot, the vessel must be navigated into the port.

Information of the arrival of vessels subject to the regulations of the Port Sanitary Authority, must be furnished by the port medical officer before docking, is obtained through the assistance of the pilot.

All vessels except very small craft, must be navigated into the port by a licensed pilot or a master or mate holding a license issued by the Port Sanitary Authority. With the assistance of a pilot, the vessel must be navigated into the port.

## Port Sanitary Regulations, 1933.

### Arrangements for dealing with Declarations of Health.

(a) *Vessels from Infected Ports.* The Declarations of Health of vessels arriving from Infected Ports are obtained by the Assistant Port Medical Officers who board these vessels before docking.

(b) *Vessels from Non-Infected Ports.* The Declarations of Health from vessels arriving from non-infected ports are obtained by the Customs Officers who transmit them either by post or by hand to the Port Sanitary Office.

### Infectious Disease.

The measures adopted in Liverpool to prevent the importation of infectious disease from abroad are 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 in which infectious disease exists at the time of arrival, or has occurred during the voyage.

(2) The visiting of 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. All vessels, 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. Willing assistance has always been given by the pilots in carrying out the regulations.



All pilots are supplied by the Liverpool Port Sanitary Authority with a book containing questions to be put to the master immediately on boarding, and also a list of infected ports where dangerous infectious disease is known to exist. These instructions, together with the list of infected ports, are amended from time to time, and during the year 1933, were as follows:—

### 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 six weeks 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 "PORTELTH, 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) When opposite Rock Light, to hoist the flag signal "L.I.M." by day and by night either by Morse Lamp continuously flash "Q" until answered by the Port Sanitary Launch "Moyley," or sound "Q" continuously on the ship's siren until answered by the Port Sanitary Launch.

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

Pilots should, therefore:—

- (1) Carry out these directions in regard 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.

JAVA PORTS

RANGOON

INDIAN PORTS

COLOMBO

ALEXANDRIA

BEYROUT

GRECIAN PORTS

MADAGASCAR

LAGOS

PERUVIAN PORTS

GUAYAQUIL

RIVER PLATE PORTS

DAKAR

BAHIA

Other ports are added or deleted from time to time according to the prevalence of disease.

PORT SANITARY AUTHORITY.

A medical officer is available both day and night for the purpose of boarding, by means of the boarding launch "Moyley," incoming vessels from infected ports, or vessels which have cases of infectious disease on board at the time of arrival. During the year, 614 vessels from



infected ports were boarded in the river by the assistant port medical officers, and in addition 147 vessels were visited for the purpose of alien and other inspection. Of the vessels boarded in the river 72 were bound for Manchester. Vessels, whether from infected ports or not, arriving in Liverpool are visited as soon as possible after docking by a sanitary inspector, who enquires into the occurrence of any sickness during the voyage, and if necessary communicates with the port medical officer.

The deratisation or alternatively the deratisation exemption certificate is inspected, and if found to be in order the inspector proceeds to the examination of the sanitary condition of the vessel, pointing out any defects and suggesting the remedy to be adopted. It has been found that the shipping companies are always ready and willing to remedy any defects in their vessels which have been pointed out to them by the port sanitary inspectors.

#### **Motor Launch "Moyles."**

The motor launch "Moyles" has continued to give satisfactory service during the year and except for the period of annual overhaul has been on continuous duty. The launch, which is able to develop a speed of over eleven knots, enables the medical officers to deal expeditiously with vessels arriving from infected ports.

#### **Arrangements for disposal of cases of Infectious Disease and for observation or surveillance of contacts.**

Cases of smallpox, plague, cholera or yellow fever are removed from the vessel before docking by the motor launch "Moyles," and conveyed to the Port Sanitary Hospital, New Ferry, by water. Cases of infectious disease other than the above are removed, usually after the vessel docks, to one of the city hospitals by means of the Health Committee's motor ambulances. Contacts of infectious cases living at addresses in the city, if not removed to hospital, are kept under observation by the city sanitary inspectors, and in the event of any contact proceeding to an address outside the city, the medical officer of health of the district concerned is advised.

### Mooring Stations.

*Outer Mooring Station.* That part of the River Mersey known as the Sloyne and situated in Tranmere Bay has been designated the Liverpool Outer Mooring Station.

*Inner Mooring Stations.* Every discharging and loading berth within the docks has been designated an Inner Mooring Station.

### Particulars of any standing exemptions from the provisions of Article 14.

The following notice in the form of a leaflet has been issued to all Customs Officers with regard to exemptions from the provisions of Article 14.

## PORT OF LIVERPOOL SANITARY AUTHORITY

### PORT SANITARY REGULATIONS, 1933

(coming into force on May 1st, 1933),

#### Article 14 (1).

Where a ship arrives in a district from a foreign port, and it appears to the Customs Officer from answers to questions in the **Declaration of Health** or from answers to inquiries made by him or otherwise,

(a) that during the voyage (or where the voyage has lasted more than 6 weeks, during the last 6 weeks) there has been on the ship a death from illness suspected to be of an \*infectious nature or of a case of such illness;

or

(b) that during the voyage the ship has called at a port or sea-board included in the list of infected ports (see local list as supplied to Customs Officers and Pilots);

or

(c) that during the voyage (or where the voyage has lasted more than 6 weeks, during the last 6 weeks) Plague has occurred or been suspected among rats or mice on the ship, or sickness

---

\*Plague, Cholera, Yellow Fever, Smallpox or Typhus.



or death not attributable to poisoning or other measures for destruction has occurred among the rats or mice on the ship; he shall direct the ship to be taken to and detained at a mooring station unless the medical officer or other authorised person of the Sanitary Authority otherwise allows.

For the purpose of this article, standing **exemption** from detention is granted for the following diseases, in which case the Medical Officer should be immediately notified:—

Acute Polio-Encephalitis.	German Measles (Rubella).
Cerebro-Spinal Meningitis	Measles.
(Cerebro Spinal Fever).	Malaria.
Chickenpox.	Membranous Croup.
Continued Fever.	Pneumonia (either Primary
Diphtheria.	or Influenzal).
Dysentery.	Relapsing Fever.
Epidemic Infantile Paralysis	Scarlatina or Scarlet Fever.
(Acute Poliomyelitis).	Trench Fever.
Encephalitis Lethargica.	Tuberculosis (all forms).
Erysipelas.	Typhoid or Enteric Fever.

N.B.—Standing Exemption means that unless exceptional circumstances occur, vessels are to be cleared in the usual manner without the attendance of the Boarding Medical Officer.

### **Restriction on Boarding or Leaving Ship (Article 16).**

(a) *Vessels from Infected Ports, or Infected or Suspected Vessels.*—No person is allowed to board or leave any such vessel until it has been cleared by the Assistant Port Medical Officer and a certificate stating that “pratique may be issued” has been given.

(b) *Vessels from Non-Infected Ports.*—No person is allowed to board or leave any such vessel until the Customs Officer has satisfied himself that there are no reasons requiring the attendance of the Port Medical Officer.

No difficulty has been experienced in carrying out the provisions of Article 16.

### **Premises and Waiting Rooms for Medical Inspection.**

A room has been suitably equipped on the Prince's Landing Stage for use of the medical officers for medical examinations.

### **Arrangements for disinfection of Infected Quarters, Bedding, Clothing, etc.**

Infected quarters are disinfected as soon as possible by means of liquid sulphur dioxide (sulphume) or by spraying with disinfectant by the staff of the Port Sanitary Authority; the bedding, clothing, etc., are removed by vans to the Charters Street disinfecting station and there disinfected by steam.

### **Arrangements for Cleansing of Persons.**

This is carried out at either the City Hospital, Sparrow Hall, or the City Hospital North, Netherfield Road, to which the persons are conveyed by motor ambulance and where temporary accommodation is available.

### **The Port Isolation Hospital.**

The Isolation Hospital was erected in 1877 at New Ferry, in the County of Cheshire, on land adjoining the River Mersey, and close to the quarantine station in the Sloyne anchorage ground. A slipway extends from the hospital to the water edge, and is available for the landing of patients from half-tide to high water.

The hospital was extended in 1901 and 1902 by the addition of a new pavilion, a suitable laundry and steam disinfector, also additional nurses' quarters.

The premises are chiefly used for the isolation of sea-borne cases of infectious disease, but from time to time cases have been received on behalf of neighbouring authorities, under special agreement, when accommodation has been available. By the agreement with the Manchester Port Sanitary Authority signed on December 6th, 1933 (see Appendix 2), arrangements are made by which suitable cases may be admitted from vessels lying in the Ship Canal. On the other hand, owing to the different types of infectious disease occurring on vessels



### Infectious Diseases.

The number of cases of infectious disease *landed from vessels* arriving in the Port of Liverpool and those occurring on Liverpool bound ships which were disposed of *prior to the arrival* of the vessels at the port, together with the average for the preceding five years, are shown in the following tables :—

**Cases of Infectious Sickness Landed from Vessels.**

Diseases.	No. of Cases during 1933.		No. of Vessels concerned.	Average No. of Cases for previous 5 years.
	Passengers.	Crew.		
Plague ... ..	—	—	—	—
Cholera... ..	—	—	—	—
Yellow Fever... ..	—	—	—	—
Smallpox ... ..	—	1	1	0·4
Typhus Fever ... ..	—	—	—	—
Scarlet Fever... ..	6	3	5	8
Enteric Fever and Paratyphoid Fever ... ..	1	—	1	7
Diphtheria ... ..	1	3	4	4
Measles ... ..	10	—	2	14
Chickenpox ... ..	4	1	5	16
Tuberculosis ... ..	34	18	44	67
Pneumonia ... ..	5	7	12	14
Dysentery ... ..	1	1	2	2
Malaria ... ..	2	26	17	35
Cerebrospinal Fever ... ..	—	—	—	1
Erysipelas ... ..	—	1	1	2
	64	61	94	170

**Cases of Infectious Sickness occurring on Vessels during the Voyage  
but Disposed of Prior to Arrival.**

Diseases.	No. of Cases during 1933.		No. of Vessels concerned.	Average No. of Cases for previous 5 years.
	Passengers.	Crew.		
Plague ... ..	—	—	—	—
Cholera ... ..	—	—	—	2
Yellow Fever... ..	—	—	—	2
Smallpox ... ..	—	9	6	7
Typhus Fever ... ..	—	—	—	—
Scarlet Fever... ..	3	3	5	8
Enteric Fever and Paratyphoid Fever ... ..	—	5	5	18
Diphtheria ... ..	3	2	5	4
Measles and German Measles ...	25	—	9	42
Chickenpox ... ..	2	1	3	32
Tuberculosis ... ..	20	8	26	37
Pneumonia ... ..	2	30	29	38
Dysentery ... ..	1	4	5	13
Malaria ... ..	10	157	62	219
Cerebrospinal Fever... ..	—	—	—	—
Erysipelas ... ..	1	—	1	3
	67	219	156	425

In all these diseases it is not only a fatal issue which is dreaded, but there are some diseases, e.g., malaria and venereal disease,\* which, if left untreated will become chronic or incurable. The reasons why sailors are more exposed to such diseases than other men are plain enough. Their calling continually brings them into contact with countries where infective diseases are prevalent, often in epidemic form, and when ashore they mix with that part of the population which is frequently infected.

\* There were 163 cases of venereal disease reported on board 132 vessels arriving in the port during the year. These were referred where circumstances required, for treatment at the Seamen's Dispensary. (See page 29).



### Smallpox.

One case of smallpox was landed at Liverpool during the year, and 9 cases occurred in vessels bound for the port of Liverpool, details of which are given below. During the early part of the year 4 cases occurred in vessels from Alexandria, where smallpox was then prevalent.

s.s. "STAR OF ALEXANDRIA." The s.s. "Star of Alexandria," from Alexandria arrived in the Mersey on January 2nd, 1933, bound for Manchester and was boarded in the river by the Assistant Port Medical Officer. It was reported that the carpenter had been landed at Alexandria on December 19th, 1932, suffering from smallpox. Vaccination and disinfection were carried out at Alexandria. The crew was examined at Liverpool, but no further cases were discovered. Manchester Port Sanitary Authority was informed by telephone of the arrival of the vessel, together with all essential particulars.

s.s. "AMASIS." The s.s. "Amasis" arrived in the Mersey from Alexandria on January 29th, 1933, and was boarded in the river by the Assistant Port Medical Officer. It was reported that one definite case and one suspected case of smallpox had been landed at Alexandria on January 12th, 1933. Re-vaccination and disinfection had been carried out at Alexandria and no further cases were discovered on examination at Liverpool. The names and addresses of all persons on board were forwarded to the medical officers of health of the districts concerned.

s.s. "HATASU." The s.s. "Hatasu" arrived in the Mersey on March 17th, 1933, from Alexandria and was boarded in the river by the Assistant Port Medical Officer. It was reported that one case of smallpox had been landed at Malta on March 6th, 1933; the diagnosis of smallpox was subsequently confirmed by a telegram received from the Ministry of Health on March 20th, 1933. Re-vaccination and disinfection had been carried out prior to arrival at Liverpool and no further cases were revealed on examination. The names and destinations of all persons on board were forwarded to the medical officers of health concerned.

s.s. "VOLTURNO." The s.s. "Volturmo" arrived in the Mersey on March 24th, 1933, from Alexandria, and was boarded in the river by the Assistant Port Medical Officer. It was reported that one case of smallpox had been landed on March 3rd, 1933, at Alexandria.



Vaccination and disinfection were carried out at Alexandria, and no further cases occurred nor were discovered on examination at Liverpool. As the period of incubation had expired, the names and addresses were taken as a precautionary measure, but no further action was deemed necessary.

s.s. "CALIFORNIA." The s.s. "California" arrived in the Mersey from Bombay on March 27th, 1933, and was boarded in the river by the Assistant Port Medical Officer. The ship's surgeon reported that one case of chickenpox was isolated in the hospital. On examination the case was diagnosed by the Assistant Port Medical Officer as smallpox, and the patient was removed to the Port Sanitary Hospital, New Ferry. All persons on board were examined by the Assistant Port Medical Officers, but no further cases were discovered. The entire personnel had written evidence of recent vaccination or re-vaccination. The patient stated that he had been re-vaccinated on October 30th, 1932, but that the vaccination did not take. The names and addresses of all persons on board were checked and forwarded to the medical officers of destination. Disinfection of the patient's quarters had been carried out by the ship's surgeon prior to arrival; the ship's isolation hospital with all bedding was disinfected by the staff of the Liverpool Port Sanitary Authority. The vessel sailed for Glasgow within 24 hours and all essential particulars were sent to the Medical Officer of Health for the Port of Glasgow.

### **Yellow Fever.**

No cases of yellow fever were reported in Liverpool-bound vessels during the year.

### **Anthrax.**

The importation of large amounts of animal products, which are handled in transit to stores or manufactories, has associated with it the risk of human infection with the anthrax bacillus, causing a condition known as malignant pustule or cutaneous anthrax.

During the year 1933, two cases of this disease were admitted to the Liverpool City Hospital, Fazakerley. Both of these patients were tannery hands who were employed outside the city. The source of the hides with which they worked is unknown. Both cases ended by recovery.



# Anthrax.

Cases treated at Liverpool City Hospital, Fazakerley, during 1933.

Series No. continued from 1932.	Age.	Sex.	Occupation.	Days ill on admission.	Site of Infection.	Clinical Notes.	Serum injected daily. Each dose expressed in ccs.	Complications.	Result.
57	24	M.	Tannery hand	3	Root of neck in front.	Local oedema, dys- phagia and some aphonia.	300 300 300	Nil	Recovery.
58	34	M.	Tannery hand	3	Right cheek	Mild infection .....	300 200 200	Serum rash ...	Recovery.

All serum was given intravenously. Both cases received in addition to the serum, 0.3 mgm. and 0.45 mgm. of Neokharsivan intravenously on the first and third day of treatment respectively.

The fatal cases frequently quoted in these reports emphasise the importance of early diagnosis and serum treatment in all cases of this disease, and the Health Department has taken steps to make facilities for diagnosis available for the public.

The business firms connected with the hide and skin trade in Liverpool and neighbourhood have also recognised the importance of early diagnosis and treatment of cases of anthrax, and have conferred with the Liverpool Health Authorities with the object of taking further measures to educate the workers as to the risks involved in handling goods of animal origin, particularly hides and skins, and the precautions to be observed.

Posters have been printed on the subject and are affixed in suitable places. A pocket card has also been issued containing full information regarding the appearance and symptoms of cutaneous anthrax and advice on the action to be taken. Arrangements are also made to admit all cases of anthrax or suspected anthrax direct to Fazakerley hospital.

During 1933 seventeen persons, mainly employed at the docks, or in tanneries or wool factories, attended at the hospital with suspicious boils, pimples, skin abrasions and the like, for anthrax investigation. In no instance was that disease found.

This practice is at all times encouraged, since early discovery of an infection implies early treatment and a greatly increased hope of recovery. In the past four years during which these facilities have been offered, 146 individuals suffering from various local infections and injuries have been specially examined and of these, seven were found to be cases of anthrax and as such reaped the benefit of prompt serum treatment.

Special arrangements have been made for the treatment of cases coming from districts outside Liverpool.

The question of the disinfection of hides and skins is still under consideration, but there are difficulties in evolving a method which will be successful, not only in destroying the anthrax spores without damaging the material, but one which can be utilised on a commercial scale. A method has recently been evolved depending upon a selective action of hydrogen sulphide upon anthrax spores.



In order to eliminate as far as possible the handling of hides by dock labourers and others, the hide trades connected with this port have agreed not to open bales of China hides at the docks beyond what is necessary for sampling purposes.

The disinfection of imported dangerous wools is carried out at the Government Wool Disinfecting Station, Love Lane, and the Liverpool Port Sanitary Authority assists by having samples of the untreated wools and those which have passed through the disinfecting process examined by the City Bacteriologist; this helps to confirm and control the Duckering disinfecting process. During the year 72 samples of treated and untreated wool, hair, etc., were examined and 7 untreated samples showed positive evidence of anthrax infection.

The Ministry of Agriculture has drawn attention to the danger to farm animals in Great Britain in connection with the shipment in foreign ports of commodities containing the spores of anthrax. The disease is prevalent in animals in many parts of the world from which supplies of raw hides, hair, wool and feeding stuffs, e.g., cattle cake and its ingredients are drawn. Infection may be conveyed to the farm by means of such animal substances from foreign countries, especially those places where inadequate or no precautions are taken.

Anthrax spores may be shaken from the above-mentioned animal products and may become mixed with foodstuffs or hold-sweepings, and thus infection may be indirectly conveyed to animals of the farm.

The spores of anthrax bacillus have great resisting power, and may remain active for years unless measures are taken to destroy them.

The suggestion is made that special precautions should be adopted so that dried hides, wool, hair, etc., should not be carried, mixed with, or be placed on top of grain or feeding stuffs, and that the holds which have contained animal products of this nature should be thoroughly disinfected; further, that the sweepings of holds containing grain, etc., should not be mixed with other foodstuffs.

### **Plague.**

No case of human plague was landed at Liverpool during the year.



### **Suspected Rodent Plague.**

On October 2nd, 1933, information was received from the City Bacteriological Department to the effect that the mouse submitted in Bag No. 423 was suspicious of *B. pestis* infection. This mouse had been caught by one of the rat-catchers of the Port Sanitary Authority on the top of an engineer's store at the west end of the North King's Dock, No. 2 Branch. Intensive trapping and searching was commenced immediately, all superfluous gear removed, and the whole area sprayed with disinfectant solution. The s.s. "Hilary," which was lying at the berth was breasted off six feet from the quayside; the names and addresses of the dock workers aboard the s.s. "Hilary," of the crew, and the passengers, together with those of the s.s. "Ardenhall," which vessel had previously occupied this berth, were obtained. The intensive trapping and searching was continued for ten days, during which time 73 rats and 26 mice were caught, but none showed evidence of plague infection. Information was subsequently received from the Ministry of Health that the mouse submitted in Bag 423 was not plague-infected.

### **Malaria.**

During the year 1933, 36 new cases of malarial fever were notified, which were either landed in Liverpool or had recovered abroad, on 18 vessels; the names and addresses of the patients, with particulars of the treatment given, together with the movements of the vessels, were forwarded to the Ministry of Health.

### **Psittacosis.**

One suspected case of this disease was reported in the city during the year, but was not confirmed. The suspected source of infection was a budgerigar which had been imported from another town.

The Parrots (Prohibition of Import) Regulations, 1930, are still in force, and during the year 1933 the number of orders issued was 36.

The Sanitary Authority enforce the Regulations, Sections 4 and 5 which state as follows:—

4. A person shall not import any \*parrot into England or Wales whether for sale or otherwise :

Provided that nothing in these regulations shall be deemed to prohibit the importation of any parrot which is proved to the satisfaction of the Medical Officer of Health to be required for purposes of medical or veterinary research, or which is consigned to the Zoological Society of London or to a person for the time being specially authorised by the Minister (Health) to import parrots otherwise than for sale.

5. The master of every ship approaching any port shall, if he has reason to believe that a parrot is on board, bring these regulations to the notice of the person having the custody or control of the parrot, and shall immediately on the arrival of the ship notify the proper officer of Customs and Excise accordingly.

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\* "Parrot" means a bird of the order Psittaciformes, and includes any of the birds commonly called parrots, parrakeets, lovebirds, macaws, cockatoos, conures, caiques, lories and lorikeets.

## VENEREAL DISEASES.

A very important subject which has close association with venereal life is the prevention of venereal diseases. As a result of the report of the Royal Commission, the Public Health (Venereal Diseases) Regulations were passed in 1915. The regulations were issued in order that the treatment of affected persons should be carried out so as to effect their cure and to prevent the further spread of infection. The various county and borough councils were required to prepare schemes for the treatment at or in hospitals or institutions of persons suffering from these diseases and for the free distribution of suitable drugs to properly qualified medical practitioners. The Government originally paid 2 per cent. of the expenditure, but this payment by the Government is now included in the block grant and subject to revision from time to time. The public are entitled to be informed of the danger of these diseases by a scheme of educational propaganda so that they may know of the danger of contracting these diseases and the facilities provided for their treatment.

## VENEREAL DISEASES.

The scheme has had an extensive trial and very good results may be claimed for it. The free facilities and supply of special drugs have been fully taken advantage of by many classes of patients and their numbers are increasing. The accompanying graph (page 32) shows the total number of new cases of the two principal venereal diseases from 1914 to 1918. Following the War there was a high prevalence of venereal diseases but subsequently the number fell. Following upon the provision of additional facilities there was again a rise in the number of cases, but the numbers have again fallen. It is believed that there is a real reduction in the prevalence of venereal diseases, especially in syphilis. Syphilis rates have been especially reduced in all countries since the outbreak and in the striking of places where they were particularly high. A special note known as the venereal disease register was opened in 1917 for the treatment of venereal diseases in London. It has proved a great success and has now a high average attendance. During the past year there were 1,200 cases and 1,200 were treated for a new infection. Cases at Mill Road Infirmary, which will be opened on January 1st, 1919. Like the venereal disease register, it will be open daily from 9 a.m. to 5 p.m. for consultation treatment and there will be two clinics



## Venereal Diseases.

A very important subject which has close association with seafaring life is the prevalence of venereal diseases. As a result of the Report of the Royal Commission, the Public Health (Venereal Diseases) Regulations were passed in 1916. The regulations were issued in order that the treatment of affected persons should be carried out so as to effect their cure and to prevent the further spread of infection. The various county and borough councils were required to prepare schemes for free treatment at or in hospitals or institutions of persons suffering from these diseases and for the free distribution of suitable drugs to properly qualified medical practitioners. The Government originally paid 75 per cent. of the expenditure, but this payment by the Government is now included in the Block Grant and subject to revision from time to time. The public were generally to be informed of the dangers of these diseases by a scheme of educational propaganda so that they might know of the dangers of contracting these disorders and the facilities provided for free treatment should they unfortunately be contracted. The Regulations came into force in Liverpool in 1917.

The scheme has had an extensive trial and very good results may be claimed for it. The free facilities and supply of special drugs have been fully taken advantage of by many classes of patients and their medical advisers. The accompanying graph facing page 30 shows the total number of new cases of the two principal venereal diseases year by year. Following the War there was a high prevalence of venereal disease, but subsequently the numbers fell. Following upon the provision of additional facilities there was again a rise in the numbers of new cases, but the numbers have again fallen. It is believed that there is a real reduction in the prevalence of venereal disease, especially of syphilis. Seamen have been especially catered for at centres situated near the docks and in the vicinity of places where they congregate or sign off. A special centre known as the Seamen's Dispensary which was opened in 1924 for the treatment of venereal diseases in sailors, has proved a great success and has now a high average attendance. During the past year plans were drawn up and approved for a new Central Clinic at Mill Road Infirmary, which will be opened on January 1st, 1934. Like the Seamen's Dispensary it will be open daily from 9-30 a.m. to 8-0 p.m. for continuation treatment and there will be two clinics



	Syphilis.		Soft Chancres.		Gonorrhoea.		Conditions other than Venereal.		TOTALS.		
	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	Totals.
1. Number of cases on 1st January under treatment or observation ... ..	957	428	35	2	1,005	406	36	26	2,033	862	2,895
2. Number of cases removed from the register during any previous year which returned during the year under report for treatment or observation of the same infection ... ..	106	23	5	...	124	26	...	...	235	49	284
3. Number of cases dealt with for the first time during the year under report (exclusive of cases under Item 4) suffering from :—											
Syphilis, primary ... ..	168	25	...	...	...	...	...	...	168	25	193
" secondary ... ..	60	33	...	...	...	...	...	...	60	33	93
" latent in 1st year of infection ... ..	14	12	...	...	...	...	...	...	14	12	26
" all later stages ... ..	221	89	...	...	...	...	...	...	221	89	310
" congenital ... ..	20	47	...	...	...	...	...	...	20	47	67
Soft Chancres ... ..	...	...	143	...	...	...	...	...	143	...	143
Gonorrhoea, 1st year of infection ... ..	...	...	...	...	1,195	174	...	...	1,195	174	1,369
" later ... ..	...	...	...	...	168	30	...	...	168	30	198
Conditions other than venereal ... ..	...	...	...	...	...	...	958	105	958	105	1,063
4. Number of cases dealt with for the first time during the year under report known to have received treatment at other Centres for the same infection ... ..	181	21	14	...	230	20	...	...	425	41	466
	1,727	678	197	2	2,722	656	994	131	5,640	1,467	7,107
5. Number of cases discharged after completion of treatment and final tests of cure ... ..	90	24	65	...	394	49	969	122	1,719	195	1,914
6. Number of cases which ceased to attend before completion of treatment and were, on first attendance, suffering from :—											
Syphilis, primary ... ..	155	47	...	...	...	...	...	...	155	47	202
" secondary ... ..	32	26	...	...	...	...	...	...	32	26	58
" latent in 1st year of infection ... ..	21	22	...	...	...	...	...	...	21	22	43
" all later stages ... ..	166	105	...	...	...	...	...	...	166	105	271
" congenital ... ..	20	45	...	...	...	...	...	...	20	45	65
Soft Chancres ... ..	...	...	27	1	...	...	...	...	27	1	28
Gonorrhoea, 1st year of infection ... ..	...	...	...	...	557	175	...	...	557	175	732
" later ... ..	...	...	...	...	99	37	...	...	99	37	136
7. Number of cases which ceased to attend after completion of treatment but before final tests of cure ... ..	67	34	11	...	174	46	...	...	262	80	332
8. Number of cases transferred to other centres or to institutions, or to care of private practitioners ... ..	375	167	66	1	471	173	...	...	912	341	1,253
9. Number of cases remaining under treatment or observation on 31st December ... ..	891	208	27	...	827	176	25	9	1,680	393	2,073
	1,727	678	197	2	2,722	656	994	131	5,640	1,467	7,107
10. Number of cases in the following stages of syphilis included in Item 6 which failed to complete one course of treatment :—											
Syphilis, primary ... ..	62	21	...	...	...	...	...	...	62	21	83
" secondary ... ..	16	7	...	...	...	...	...	...	16	7	23
" latent in 1st year of infection ... ..	7	7	...	...	...	...	...	...	7	7	14
" all later stages ... ..	42	22	...	...	...	...	...	...	42	22	64
" congenital ... ..	8	25	...	...	...	...	...	...	8	25	33
11. Number of attendances :—											
(a) for individual attention of the medical officers ... ..	14,880	5,646	792	...	26,833	4,071	2,013	303	44,518	10,020	54,538
(b) for intermediate treatment, e.g., irrigation, dressing ... ..	991	38	1,076	...	63,432	8,761	...	...	63,499	5,799	71,298
TOTAL ATTENDANCES ... ..	15,871	5,684	1,868	...	90,265	9,832	2,013	303	110,017	15,819	125,836
12. In-patients :—											
(a) Total number of persons admitted for treatment during the year ... ..	2	4	2	...	5	19	...	...	9	23	32
(b) Aggregate number of "in-patient days" of treatment given ... ..	39	156	11	...	18	1,959	...	...	68	2,115	2,183



daily for both males and females. A description of the clinic is given in a later section.

The clinics established by the Corporation were as follows during 1933 :—

- Seamen's Dispensary—Males only.
- †Royal Infirmary—Males and Females.
- David Lewis Northern Hospital—Males and Females.
- †Royal Southern Hospital—Males and Females.
- †Stanley Hospital—Males and Females.
- †Edge Lane Hospital—Females.

The following summarises the work of the treatment centres for the year 1933 :—

Return shewing the number of **New Cases** attending the Venereal Diseases Clinics during the year 1933, also **Total Attendances and In-Patient Days of Old and New Patients** during the same period.

	Seamen's Dispensary Males only.	Royal Infirmary. Males and Females.	Royal Southern Hospital. Males and Females.	David Lewis Northern Hospital. Males and Females.	Stanley Hospital. Males and Females.	Edge Lane Medical Home. Females.	<b>TOTAL</b> Males and Females.
Cases ... ..	1,944	1,295	285	109	295	120	4,048
and new patients							
total attendances	48,024	50,542	14,049	3,476	9,745	—	125,836
in-patient Days	—	59	2,060	—	64	7,103	9,286

The Seamen's Dispensary, Mill Road Special Clinic and the Royal Infirmary are open all day for treatment of these diseases in the male, while Mill Road Special Clinic is also open all day for females, and at the Royal Infirmary treatment for females is provided each day at hours convenient to the greatest number of patients. At the other centres clinics are held at specified times which are set out in the Time Table below :—

†Beds for In-patients are reserved at these Institutions.

## Venereal Diseases.—Time Table of Treatment Centres

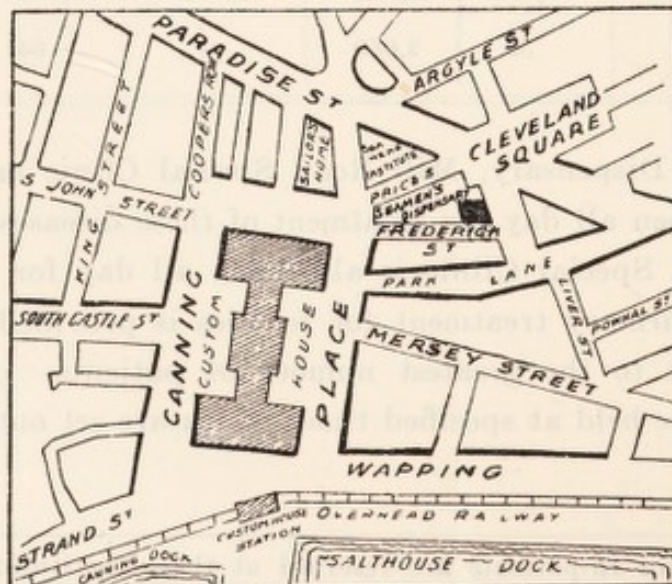
Monday :	Seamen's Dispensary	9.30 a.m. to 1 p.m. .. and 3 to 8 p.m.	Thursday	Seamen's Dispensary	9.30 a.m. to 1 p.m. and 3 to 8 p.m.
	Royal Infirmary .....	10 a.m. to 1 p.m. and 5.30 to 6.30 p.m.		Royal Infirmary .....	5 to 6 p.m.
	Mill Road Infirmary...	10 a.m. to 1 p.m. and 6 to 8 p.m.		R. Southern Hospital Mill Road Infirmary...	4.30 to 6 p.m. 10 a.m. to 1 p.m. and 6 to 8 p.m.
Tuesday :	Seamen's Dispensary	9.30 a.m. to 1 p.m. and 3 to 8 p.m.	Friday :	Seamen's Dispensary	9.30 a.m. to 1 p.m. and 3 to 8 p.m.
	Royal Infirmary ...	10 a.m. to 1 p.m.		Royal Infirmary .....	10 a.m. to 1 p.m. and 7 to 8 p.m.
	R. Southern Hospital }	4.30 to 6 p.m.		Mill Road Infirmary...	10 a.m. to 1 p.m. and 6 to 8 p.m.
Wednesday :	Seamen's Dispensary	9.30 a.m. to 1 p.m. an 3 to 8 p.m.	Saturday :	Seamen's Dispensary	9.30 a.m. to 1 p.m.
	Royal Infirmary .....	10 a.m. to 1 p.m. and 5.30 to 6.30 p.m.		Royal Infirmary .....	By arrangement.
	Mill Road Infirmary...	10 a.m. to 1 p.m. and 6 to 8 p.m.		R. Southern Hospital Mill Road Infirmary...	1 p.m. 10 a.m. to 1 p.m. and 6 to 8 p.m.

## Clinics in Other Merseyside Areas.

Birkenhead General Hospital ...Monday, Wednesday and Friday... 5.30 p.m.

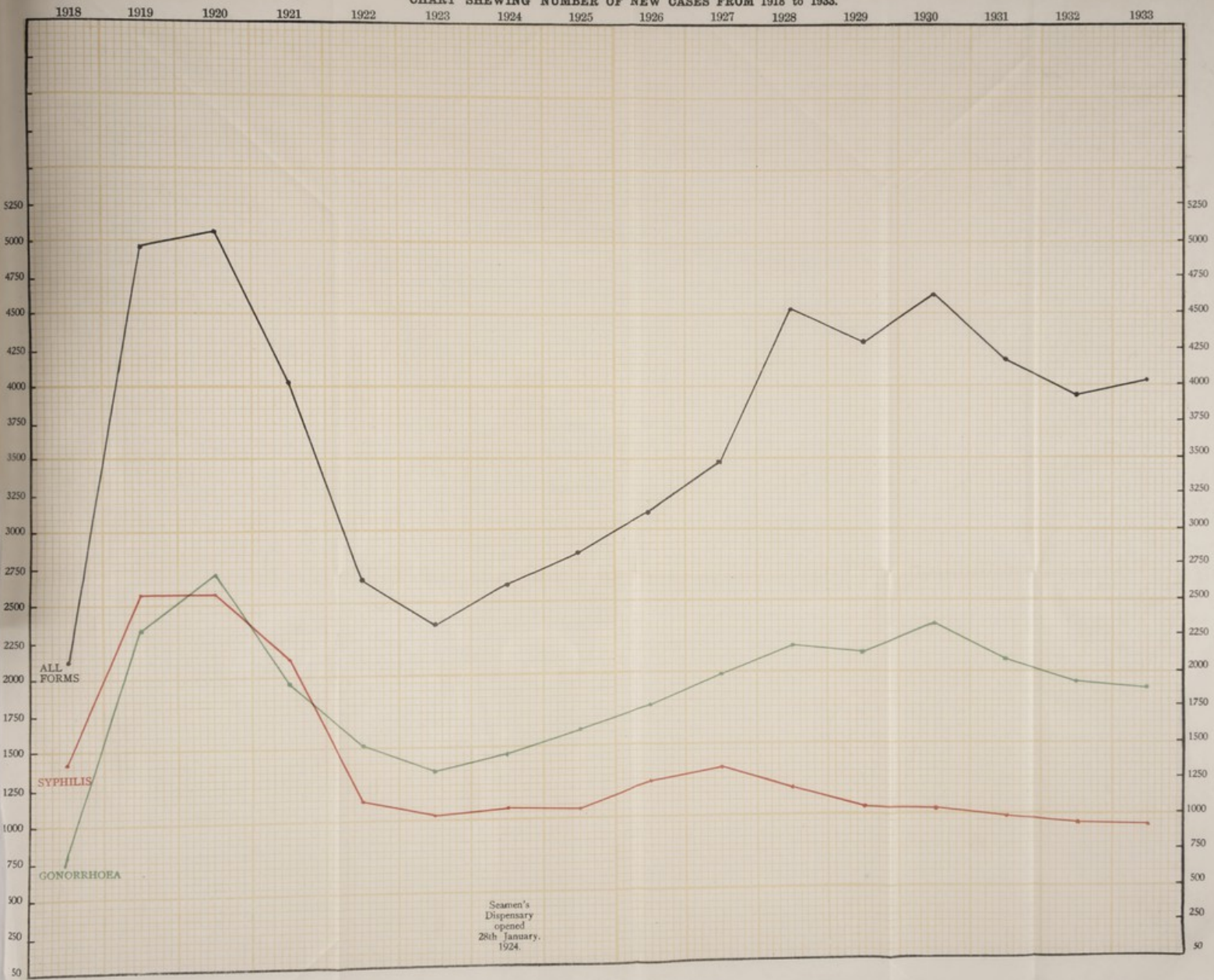
Bootle General Hospital ...Monday ... .. 5.0 p.m.  
Tuesday, Wednesday and Friday 6.0 p.m.

Wallasey, Mill Lane Hospital ...Wednesday... .. 7.30 to 8.30 p.m.

SEAMEN'S DISPENSARY.  
CLEVELAND SQUARE.



CITY OF LIVERPOOL.  
**VENEREAL DISEASES.**  
 CHART SHEWING NUMBER OF NEW CASES FROM 1918 to 1933.



# VENEREAL

## CHART SHEWING NUMBER OF





Laboratory services for the diagnosis and control of treatment are provided at the City Laboratories, the Thompson Yates Laboratory of the University and the Mill Road Infirmary Laboratory.

At the Seamen's Dispensary and at the Mill Road Clinic all the necessary microscopic examinations are done on the premises, but the other clinics send their material to the City Laboratories, except the Royal Infirmary, which works with the University Laboratory.

At the City Laboratory, Wassermann reaction tests are done thrice weekly, rapid diagnosis obviating delay in treatment.

Wherever possible an effort is made to ascertain the person responsible for the patient's infection, with a view to bringing him or her under observation and treatment.

### **Seamen's Dispensary**

The function of this clinic is to provide free and expert treatment for seamen of all nations, to act in an advisory capacity to medical officers of ships, ships' captains, and foreign consulates, and to provide a laboratory service for rapid diagnosis.

The clinic, which is open all day, is well equipped for the services demanded of it, and during the past ten years it has been a valuable adjunct to the scheme for combating venereal disease.

The staff consists of four part-time medical officers and four highly trained orderlies.

Excellent results have been recorded both in the treatment of gonorrhœa and of syphilis, and special schemes of treatment particularly suited to the needs of the seafaring population have proved efficient.

By careful interrogation of patients and the keeping of records over several years it has been established that usually the seaman who becomes infected has not practised any prophylaxis, and that the taking of alcohol to excess is not such a contributory factor in the acquisition of venereal disease as is generally supposed. It would appear, however, that in men over thirty years of age, venereal disease is



frequently associated with the taking of alcohol, not necessarily to excess.

During the year under review, 2,985 cases have been advised and treated, of whom 1,944 reported for the first time. Of these, 586 were found not to be suffering from venereal disease.

The classification of the persons dealt with at the Seamen's Dispensary for the first time during the year, and also for the five previous years, was as under :—

	1928	1929	1930	1931	1932	1933
Syphilis ... ..	435	413	419	346	293	304
Soft Chancre... ..	131	150	141	92	106	136
Gonorrhœa ... ..	1,031	1,112	1,113	970	834	918
Non-Venereal Cases ...	446	446	589	563	440	586
	2,043	2,121	2,262	1,971	1,673	1,944

This clinic is visited by patients of all classes of occupation, but the majority are seafaring men.

Experience has shown that it is the close personal touch with the patient and the interest in his case which helps to stimulate the sufferer to continue treatment, but the absence of any feeling of ill-health or discomfort may cause the development of a sense of indifference and the desire to avoid the irksome routine of attendance.

Many patients who are suffering from gonorrhœa unfortunately do not report for treatment until a few weeks have elapsed and the disease has extended considerably from the original point of infection, in many cases having complications, and involving important organs. This neglect or inability to seek medical advice may be attributed to the nature of employment or absence on ship at sea, but those who reside locally frequently can and do come for treatment at an earlier stage; the disease, however, is well established in the majority before they present themselves for treatment.



An analysis of the various types of the total actual number of new venereal disease cases met with at the clinics is as follows:—

					Percentage of total cases of diagnosed Venereal disease.
Syphilis	...	...	...	...	30·5%
Soft chancre	...	...	...	...	5·3%
Gonorrhœa	...	...	...	...	64·2%

The figures for Liverpool correspond to those for the country generally.

#### *Educational Propaganda.*

At the inauguration of the venereal diseases scheme the Ministry of Health approved of certain educational work being conducted to acquaint the general public and those likely to come into contact with venereal disease of the dangers arising therefrom. After several years' effort in Liverpool, the work culminated in the merging of the various Merseyside boroughs into a scheme for this and general health purposes under the Merseyside Boroughs Health Education Committee.

Unfortunately, owing to financial stringency, the connection with the Merseyside Boroughs Health Education Committee has had to be terminated. Arrangements are made, however, for the showing, early in 1934 of an educational film, entitled "Damaged Lives," at a number of cinemas in the City.

#### **Central Clinic at Mill Road Infirmary.**

The establishment of a central all-day clinic, similar in character to the Seamen's Dispensary, has been under consideration for some time past, and the principle was fully endorsed and approved by the Ministry of Health. Such a clinic, it was felt, should be available for female patients equally with male. The main difficulty was to find a suitable site which should be accessible from all parts of the City.

The transfer of the poor-law hospitals to the Municipality presented an opportunity for this purpose. A ward-block, formerly occupied by mental patients, was vacated at Mill Road Infirmary, off Caird Street, West Derby Road, the patients having been transferred in 1931 to more



suitable accommodation at Smithdown Road Hospital, and the ground floor proved to be suitable for a central clinic with entirely separate accommodation for men and women.

In 1932 a full report was prepared by the Medical Officer of Health upon the provision of facilities for the treatment of venereal diseases in the city, and a proposal was put forward for the conversion of the ground floor of "F" and "G" ward-block into a central clinic. This report was considered by a special sub-committee of the Port Sanitary and Hospitals Committee and approved. The report also suggested that with the establishment of the central clinic certain small clinics held at the outlying voluntary hospitals would become redundant and should be closed. Accordingly arrangements were made with the authorities at the David Lewis Northern Hospital and the Stanley Hospital that the clinics held there should be closed when the new clinic was opened.

Plans were prepared by the Land Steward and Surveyor with the advice of officers of the Ministry of Health and were then submitted to the Ministry. With certain minor modifications these plans were approved in August, 1933; the final plans are shown in the attached drawing. The clinic was completed during 1933 and was opened on January 1st, 1934. The clinic is felt to be of excellent design and has proved to be easy to run and economical in structure and use. The cost of conversion was £1,697.

Patients upon entering the Infirmary gate are directed, the men to the east and the women to the west, past the main building. They then enter the clinic through entirely separate doors into waiting rooms on opposite sides of the building. The male and female clinics are entirely separate and the only communication between the two is reserved for the medical staff.

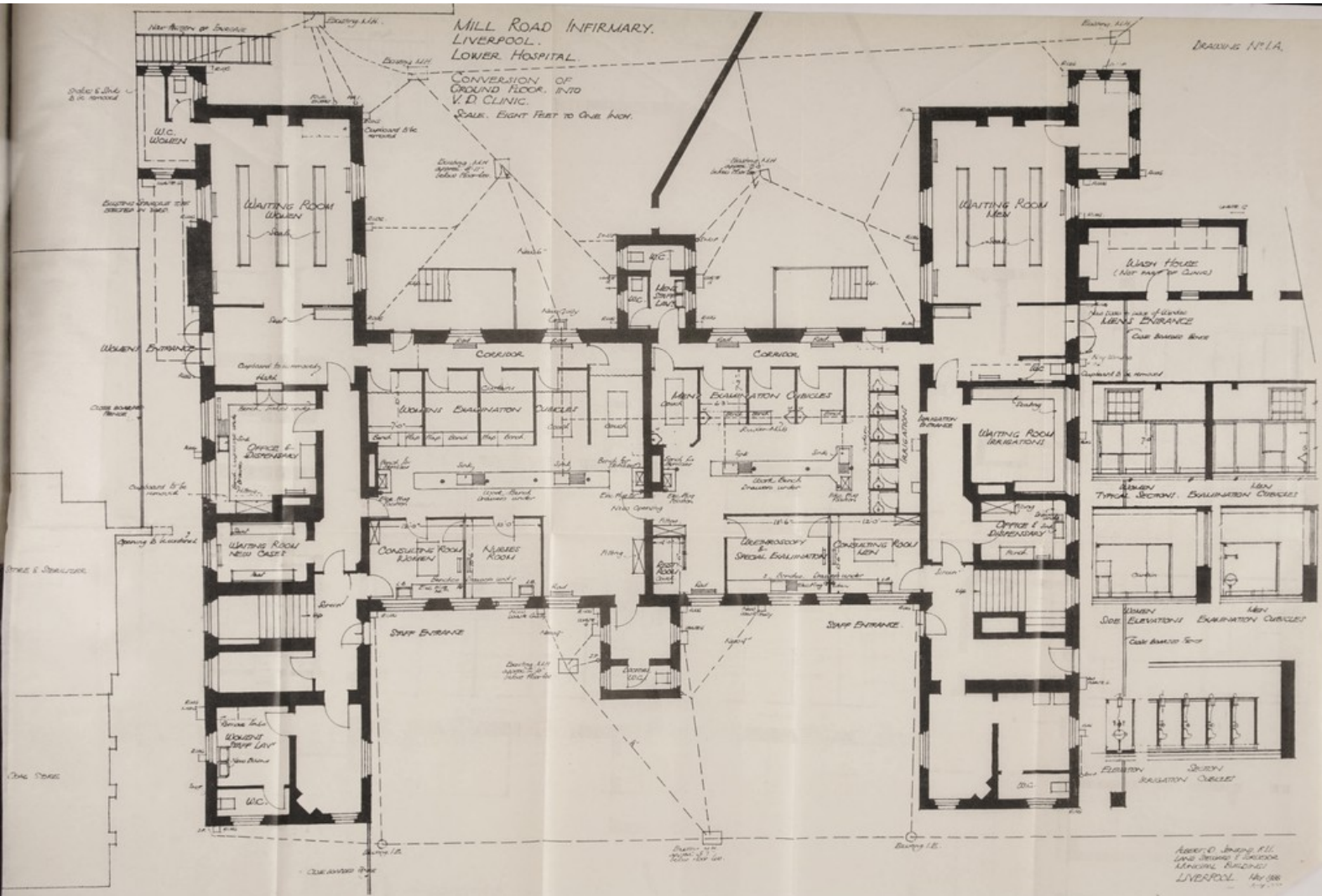
The men's clinic lies to the east. It contains (a) 4 cubicles for medical examination, (b) 6 cubicles, of smaller dimensions, for irrigation. These cubicles (a) and (b) are entered by the patients from the outer side and are separated by curtains from an inner corridor in which the medical officers and orderlies work, enabling these officers to pass freely from one patient to another. The outer doors of the cubicles, when opened, show a red light bearing a number, corresponding to that of the cubicle, in the waiting room.



# MILL ROAD INFIRMARY, LIVERPOOL. LOWER HOSPITAL.

CONVERSION OF  
GROUND FLOOR, INTO  
V.D. CLINIC.  
SCALE: EIGHT FEET TO ONE INCH.

DRAWING N.P.A.



Approved by the  
LIVERPOOL  
MAY 1900





In addition to the above, the male clinic contains (*c*) medical officer's room, (*d*) urethroscopy room, (*e*) recovery room (*f*) dispensary and store, and (*g*) small waiting room for patients attending for continuation treatment.

The women's clinic is closely similar to the men's. There is, however, only one range of five cubicles, two of which are fitted with gynæcological chairs.

The clinic is centrally heated and is not overlooked by the hospital or other buildings. The approaches to the clinic are indicated by illuminated signs marked "Special Clinic." The clinic is open from 9-30 a.m. to 8 p.m. on week-days. The staff of the clinic is as follows :—

- 1 Venereal Diseases Officer (part-time).
- 1 Senior Assistant Medical Officer (part-time).
- 1 Male and 1 Female Medical Officer (whole-time).

The Pathological Examinations are carried out by the Pathologist to Mill Road Infirmary, in the Infirmary Laboratory, with the exception of complement-fixation tests which are carried out by the City Bacteriologist.





## Measures against Rodents.

The importance of rats in the spread of many plague is well known and requires no emphasis. It is therefore of the utmost importance that the rat population both in ships and on the dock estate should be reduced to a minimum, and the following paper details the measures which are adopted for this purpose, and also for the detection of plague amongst rats.

(a) All vessels trading with foreign countries have since 1925 been required under Article 25 of the International Convention of 1903 to be provided with a certificate not more than 6 months old, either of destruction by an approved agency or of examination after a thorough inspection which has revealed no evidence of rats.

(b) All vessels arriving from abroad are examined when at anchor and during the absence of rats by trained rat catchers.

## MEASURES AGAINST RODENTS.

Historically, this practice has been carried out in Liverpool since 1901 and has resulted in the discovery of a number of specimens of rat plague in ships, which would probably otherwise have been overlooked.

(c) A trained staff of rat-catchers is employed who catch rats in houses, yards, especially those from plague-infected ports, and also upon the docks and waterfronts. A large proportion of the rats and mice so caught (75%) per year in 1925 are sent to the City Rat Catchers for examination for plague. 75% rats were found to be plague-infected during the year.

(d) Rat-proofing of ships. During the routine inspection of ships for certificates or otherwise, arrangements for rats which is capable of elimination is often found. Inspectations are then made to the owners or agents and such arrangements as either eliminated or the certificate endorsed.

(e) Rat-proofing of docks. Under the Acts and Mice (Destruction) Act 1910, it is an offence to permit any premises to act as a

## Measures against Rodents.

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(a) All vessels trading with foreign countries have since 1928 been required under Article 28 of the International Convention of Paris to be provided with a certificate, not more than 6 months old, either of deratisation by an approved process or of exemption after a thorough inspection which has revealed no evidence of rats;

(b) All vessels arriving from abroad are examined soon after arrival and during the discharge of cargo by trained rat-searchers. These men not only examine for evidence of rat infestation, but also search for dead rats, which are forwarded to the City Bacteriologist. This practice has been carried out in Liverpool since 1901, and has resulted in the discovery of a number of epizootics of rat plague on shipboard, which would probably otherwise have been overlooked;

(c) A trained staff of rat-catchers is employed who catch rats in incoming vessels, especially those from plague-infected ports, and also upon the docks and warehouses, etc. A large proportion of the rats and mice so caught—63·01 per cent. in 1933—are sent to the City Bacteriologist for examination for plague. No rats were found to be plague-infected during the year;

(d) Rat-proofing of ships. During the routine inspection of ships for certificates or otherwise, harbourage for rats which is capable of elimination is often found. Representations are then made to the owners or agents and such harbourage is either eliminated or the certificate endorsed;

(e) Rat-proofing of docks. Under the Rats and Mice (Destruction) Act, 1919, it is an offence to permit any premises to act as a



Notes: 1. The following are the results of the analysis of the samples.

1912		1913		1914		1915		1916		1917		1918		1919		1920		1921		1922		1923		1924		1925		1926		1927		1928		1929		1930		1931		1932		1933		1934		1935		1936		1937		1938		1939		1940		1941		1942		1943		1944		1945		1946		1947		1948		1949		1950		1951		1952		1953		1954		1955		1956		1957		1958		1959		1960		1961		1962		1963		1964		1965		1966		1967		1968		1969		1970		1971		1972		1973		1974		1975		1976		1977		1978		1979		1980		1981		1982		1983		1984		1985		1986		1987		1988		1989		1990		1991		1992		1993		1994		1995		1996		1997		1998		1999		2000		2001		2002		2003		2004		2005		2006		2007		2008		2009		2010		2011		2012		2013		2014		2015		2016		2017		2018		2019		2020		2021		2022		2023		2024		2025		2026		2027		2028		2029		2030		2031		2032		2033		2034		2035		2036		2037		2038		2039		2040		2041		2042		2043		2044		2045		2046		2047		2048		2049		2050		2051		2052		2053		2054		2055		2056		2057		2058		2059		2060		2061		2062		2063		2064		2065		2066		2067		2068		2069		2070		2071		2072		2073		2074		2075		2076		2077		2078		2079		2080		2081		2082		2083		2084		2085		2086		2087		2088		2089		2090		2091		2092		2093		2094		2095		2096		2097		2098		2099		2100		2101		2102		2103		2104		2105		2106		2107		2108		2109		2110		2111		2112		2113		2114		2115		2116		2117		2118		2119		2120		2121		2122		2123		2124		2125		2126		2127		2128		2129		2130		2131		2132		2133		2134		2135		2136		2137		2138		2139		2140		2141		2142		2143		2144		2145		2146		2147		2148		2149		2150		2151		2152		2153		2154		2155		2156		2157		2158		2159		2160		2161		2162		2163		2164		2165		2166		2167		2168		2169		2170		2171		2172		2173		2174		2175		2176		2177		2178		2179		2180		2181		2182		2183		2184		2185		2186		2187		2188		2189		2190		2191		2192		2193		2194		2195		2196		2197		2198		2199		2200		2201		2202		2203		2204		2205		2206		2207		2208		2209		2210		2211		2212		2213		2214		2215		2216		2217		2218		2219		2220		2221		2222		2223		2224		2225		2226		2227		2228		2229		2230		2231		2232		2233		2234		2235		2236		2237		2238		2239		2240		2241		2242		2243		2244		2245		2246		2247		2248		2249		2250		2251		2252		2253		2254		2255		2256		2257		2258		2259		2260		2261		2262		2263		2264		2265		2266		2267		2268		2269		2270		2271		2272		2273		2274		2275		2276		2277		2278		2279		2280		2281		2282		2283		2284		2285		2286		2287		2288		2289		2290		2291		2292		2293		2294		2295		2296		2297		2298		2299		2300		2301		2302		2303		2304		2305		2306		2307		2308		2309		2310		2311		2312		2313		2314		2315		2316		2317		2318		2319		2320		2321		2322		2323		2324		2325		2326		2327		2328		2329		2330		2331		2332		2333		2334		2335		2336		2337		2338		2339		2340		2341		2342		2343		2344		2345		2346		2347		2348		2349		2350		2351		2352		2353		2354		2355		2356		2357		2358		2359		2360		2361		2362		2363		2364		2365		2366		2367		2368		2369		2370		2371		2372		2373		2374		2375		2376		2377		2378		2379		2380		2381		2382		2383		2384		2385		2386		2387		2388		2389		2390		2391		2392		2393		2394		2395		2396		2397		2398		2399		2400		2401		2402		2403		2404		2405		2406		2407		2408		2409		2410		2411		2412		2413		2414		2415		2416		2417		2418		2419		2420		2421		2422		2423		2424		2425		2426		2427		2428		2429		2430		2431		2432		2433		2434		2435		2436		2437		2438		2439		2440		2441		2442		2443		2444		2445		2446		2447		2448		2449		2450		2451		2452		2453		2454		2455		2456		2457		2458		2459		2460		2461		2462		2463		2464		2465		2466		2467		2468		2469		2470		2471		2472		2473		2474		2475		2476		2477		2478		2479		2480		2481		2482		2483		2484		2485		2486		2487		2488		2489		2490		2491		2492		2493		2494		2495		2496		2497		2498		2499		2500		2501		2502		2503		2504		2505		2506		2507		2508		2509		2510		2511		2512		2513		2514		2515		2516		2517		2518		2519		2520		2521		2522		2523		2524		2525		2526		2527		2528		2529		2530		2531		2532		2533		2534		2535		2536		2537		2538		2539		2540		2541		2542		2543		2544		2545		2546		2547		2548		2549		2550		2551		2552		2553		2554		2555		2556		2557		2558		2559		2560		2561		2562		2563		2564		2565		2566		2567		2568		2569		2570		2571		2572		2573		2574		2575		2576		2577		2578		2579		2580		2581		2582		2583		2584		2585		2586		2587		2588		2589		2590		2591		2592		2593		2594		2595		2596		2597		2598		2599		2600		2601		2602		2603		2604		2605		2606		2607		2608		2609		2610		2611		2612		2613		2614		2615		2616		2617		2618		2619		2620		2621		2622		2623		2624		2625		2626		2627		2628		2629		2630		2631		2632		2633		2634		2635		2636		2637		2638		2639		2640		2641		2642		2643		2644		2645		2646		2647		2648		2649		2650		2651		2652		2653		2654		2655		2656		2657		2658		2659		2660		2661		2662		2663		2664		2665		2666		2667		2668		2669		2670		2671		2672		2673		2674		2675		2676		2677		2678		2679		2680		2681		2682		2683		2684		2685		2686		2687		2688		2689		2690		2691		2692		2693		2694		2695		2696		2697		2698		2699		2700		2701		2702		2703		2704		2705		2706		2707		2708		2709		2710		2711		2712		2713		2714		2715		2716		2717		2718		2719		2720		2721		2722		2723		2724		2725		2726		2727		2728		2729		2730		2731		2732		2733		2734		2735		2736		2737		2738		2739		2740		2741		2742		2743		2744		27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breeding ground for rats. The Liverpool docks are of solid construction and generally speaking present a minimum of rat harbourage. Certain places, such as engineers' stores, accessory structures of a temporary or semi-permanent character, etc., are liable to harbour rats. As a result of long-continued action such premises have been made ratproof, and by constant supervision are so maintained;

(f) In order to prevent rats passing to and from vessels, rat-guards are placed on the ropes between the ships and the quays.

As the result of these measures it may be affirmed that the risk of the introduction of rat plague has now been very greatly reduced.

#### **International Sanitary Convention of Paris, 1926. Article 28.**

During the year 1933, 137 fumigations were carried out for the purpose of obtaining Deratisation Certificates, and in addition 416 vessels were granted Deratisation Exemption Certificates, making a total of 553 examinations of vessels under Article 28. Compared with the previous year this shows an increase of 65 examinations. In 1933 there were 5 less fumigations than in 1932, and the number of exemptions shows an increase of 69 in 1933 over the previous year. Owing to the fact that an exemption certificate is only granted if the vessel shows no evidence of rats, these figures show that the steady improvement which has occurred since Article 28 was first brought into force is being maintained, and that each year a larger number of vessels exhibit no evidence of rat infestation. The accompanying table shows the number of rats which have been obtained after fumigation of vessels trading between Liverpool and the various ports of the world. This table covers the years 1929-1933 :—

#### **The Examination of Vessels for Deratisation or Deratisation Exemption Certificates.**

In view of the importance of a systematic inspection of vessels for rat infestation and the numerous inquiries we have had for details of the procedure adopted at Liverpool, it has been deemed useful to repeat the methods of procedure which were published in last year's report.



It is the routine procedure in the Port of Liverpool to examine and make estimates of the degree of rat infestation of all vessels, as soon as an application is made by the owners for either a Deratisation or Deratisation Exemption Certificate.

The examination for either form of certificate is identical, and the best results are obtained when the vessel is completely empty. Representation is made to the owners of the vessel that all holds should be swept up and cleaned 24 hours before the examination; by this means all old excreta are removed and only 24-hour excreta are present at the time of the examination. This fresh evidence, though small in amount, is recognised readily by the trained observer in situations where it would be overlooked by crew or dock workers employed about the vessel. Consequently the possibility of removal of this fresh evidence either by accident or design is minimised.

The examination is carried out by a sanitary inspector assisted by a rat searcher who are accompanied by a ship's officer, and is done systematically from stem to stern. The forepeak, stores, crew's quarters, and any other rooms in this vicinity are examined first. The rats obtain their food from the crew's quarters, and their nesting material and harbourage in the forepeak. The next compartment to be examined is the boatswain's store, which is of importance owing to the nature of its contents, which consist of ropes, canvas and other working gear. Particular attention is paid to any damage to ropes, or canvas, any gnawings of the woodwork and the presence of any excreta. Dirty marks of rat-runs may also be observed. If, as is often the case, it can be established definitely that this store contains an abundance of both fresh and stale excreta, two important facts are at once evident:—

(1) that the stores have not been properly cleaned for some considerable time and consequently may prove to be one of the headquarters of the rats in the ship; and

(2) that as shown by the presence of fresh excreta the rats have not forsaken this particular compartment.

The number, shape, colour, size and consistency of the fresh excreta are noted and efforts are made to discover what food has been available for the rats. By carefully weighing up the whole of the evidence obtained, an estimate of the number of rats inhabiting this part of



the vessel is made. The holds are then examined in turn, working from forward to aft, estimates of the number of rats in the individual holds being made at the conclusion of each examination.

The lower hold is visited first, the nature of the cargo which has been carried is observed in order to determine the possibility of its being used by the rats for food. Search is then made for any definite evidence of rat-runs in the ceilings, and feet and tail marks on the stringers and sparring. The number and characteristics of the excreta are noted carefully as before. On the completion of the examination of the holds the afterpeak is undertaken. The examination of this compartment is of importance as it is used in many ships as a provision store. The examination is conducted on the same lines as that of the forepeak.

Bunkers, engine room and tunnel are then examined in that order. In the bunkers, feet and tail marks in the coal dust are all that can be looked for. The runs to and from the bunkers can usually be found without much difficulty, as the constant passage of rats to and fro will keep the places of ingress and egress quite clear and free from coal dust. It is not at all usual to find rats in either the engine room, stokehold, or shaft alley, and if excreta be found it is difficult to distinguish their age owing to the heat of these particular compartments and the fact that they become dried up rapidly.

The main examination of the lower parts of the vessel is now complete and the examination of the quarters of the officers, petty officers, engineers and stewards, wireless and chart rooms, galleys, pantry, bakery, provision store rooms, and finally the lifeboats is proceeded with. In the living quarters, settee lockers, wardrobes, drawers and wash-bowl cupboards are examined for excreta, gnawings, nests and runs. In galleys, all food lockers, utensil cupboards, drawers and spaces behind stoves are examined. The runs and means of access to these places must be ascertained in order that they may ultimately be made rat-proof. Lifeboats should be inspected carefully because they are very liable to become headquarters for rats owing to the fact that they will remain undisturbed there for long periods. The evidence found in lifeboats consists of excreta and damage to ropes and canvas. It has been stated that in order to preserve the ropes and canvas, balls of newspaper have at times been thrown into the lifeboats so that the rats may have their nesting material all to hand. In passenger-carrying vessels, the passenger accommodation is examined in a similar manner to the officers' quarters already described. It is perhaps necessary to point out, that whilst the foregoing method is adhered to as far as possible as a routine practice, there are many occasions when the bunkers are examined first in order to allow the vessel to proceed with



coaling, or again it may happen that owing to the cargo not being discharged as expected the top hamper is examined first and the holds examined as the discharge of cargo is completed. Many causes may result in varying the routine procedure, but these are dealt with according to the particular circumstances.

The time taken over the search is checked carefully in each case by the sanitary inspector. The time varies according to the size and type of vessel, the amount of cargo present at the time of the search, and whether the cargo is being worked or not. For a thorough search of a cargo vessel from 4,000 to 5,000 tons by one man, the time required is approximately four hours, and a larger vessel, or one carrying both passengers and cargo, will require from four to six hours.

After all fumigations, an independent rat searcher is sent to search for dead rats, in order to check the estimate made before the fumigation is carried out. The time taken over this search is similarly checked by a sanitary inspector, and in cargo vessels, not carrying passengers, this usually takes from two to three hours. In vessels with passenger accommodation a further hour is necessary to make a complete search. It is not an easy matter to make an accurate estimation of the number of rats in a vessel when all sorts and conditions of cargo are carried. It has been observed that the rats will eat certain food in preference to any other. In such a case the excreta will have the characteristics of the particular diet which is being eaten, and the estimate can be based accordingly. If the excreta do not show any marked characteristics and it is not possible to determine what type of food the rats have been taking, a fairly accurate estimate may be obtained by the assumption that the average number of droppings from one rat in 24 hours is from 45 to 50. Examinations and inspections are only carried out in daylight, and any dark places must be adequately lighted.

#### **Charges for Deratisation Certificates and Deratisation Exemption Certificates.**

Until January 1st, 1934, the fee payable to the Port Sanitary Authority, as laid down by the Minister of Health, was at a flat rate of £2 2s. 0d. for each certificate. Representations have been made that this flat rate, irrespective of the size of the vessel, is inequitable in its incidence on the smaller ships. After consultation with the Association of Port Sanitary Authorities of the British Isles, and the Chamber of Shipping of the United Kingdom, the Minister has accordingly determined that as from 1st January, 1934, the fee payable to the Authority for each certificate issued shall be in accordance with the following scale :—



					£	s.	d.
Ships up to	300 tons	...	...	...	0	10	6
,, from	301 tons to 1,000 tons	...	...	...	1	1	0
,, ,,	1,001 tons to 3,000 tons	...	...	...	2	2	0
,, ,,	3,001 tons to 10,000 tons	...	...	...	3	3	0
,, over	10,000 tons	...	...	...	4	4	0

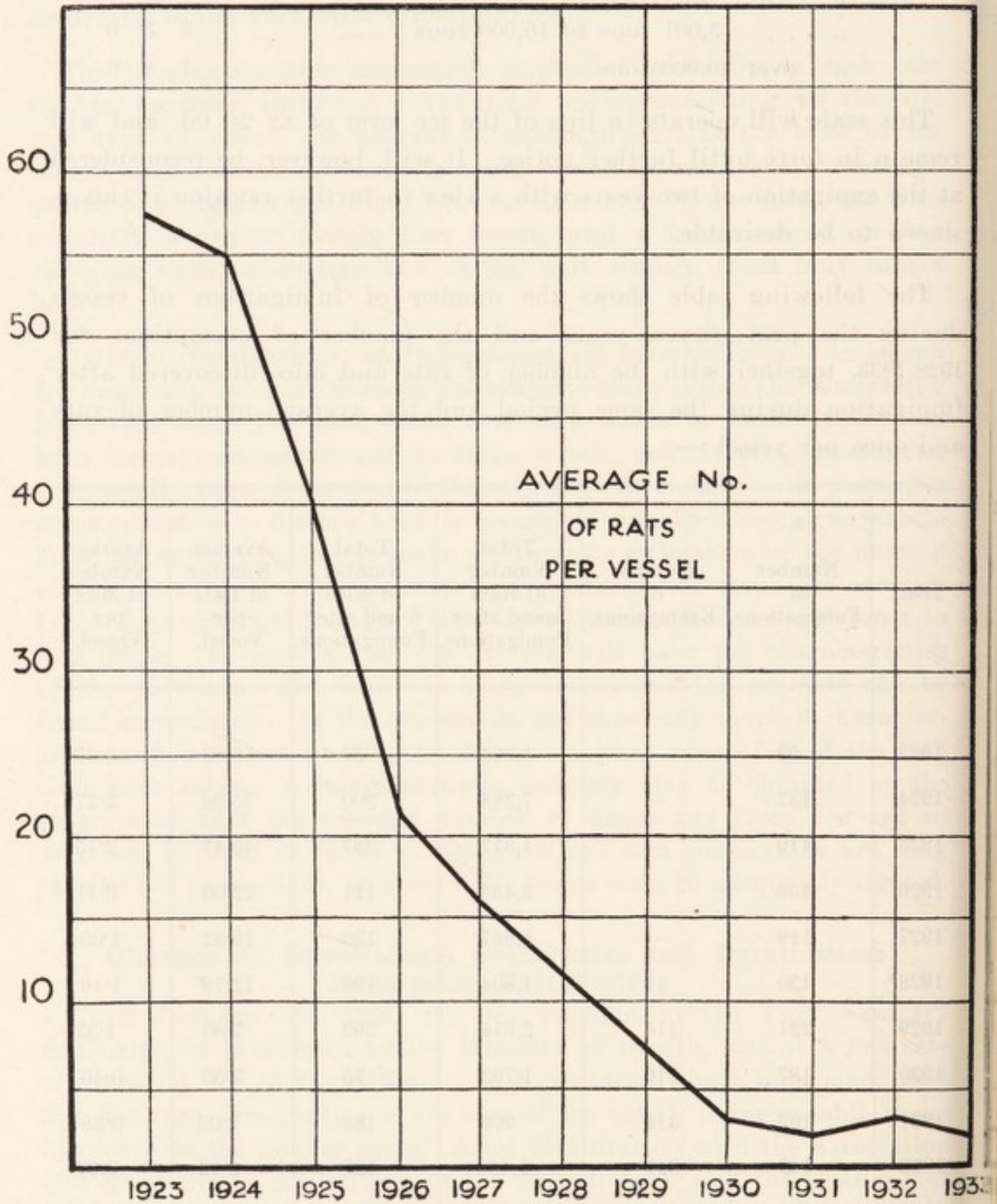
This scale will operate in lieu of the fee level of £2 2s. 0d. and will remain in force until further notice. It will, however, be reconsidered at the expiration of two years with a view to further revision if this is shown to be desirable.

The following table shows the number of fumigations of vessels during the past eleven years and the number of exemptions for 1928-1933, together with the number of rats and mice discovered after fumigation during the same period and the average number of rats and mice per vessel:—

Year.	Number of Fumigations.	Number of Exemptions.	Total Number of Rats found after Fumigations.	Total Number of Mice found after Fumigations.	Average Number of Rats per Vessel.	Average Number of Mice per Vessel.
1923	90	—	5,295	57	58·83	0·63
1924	132	—	7,388	300	55·96	2·27
1925	119	—	4,817	257	40·47	2·15
1926	156	—	3,433	111	22·00	0·71
1927	119	—	1,967	130	16·52	1·09
1928*	130	11	1,804	190	12·79	1·46
1929	221	114	2,614	292	7·80	1·32
1930	187	316	1,762	75	3·50	0·40
1931	162	314	966	182	2·02	0·38
1932	142	347	1,434	428	2·93	0·87
1933	137	416	1,137	324	2·05	0·58

\* In 1928 the first International Certificate was issued—on the 5th October. During that year 25 Deratisation and 11 Exemption Certificates were issued.

Graph illustrating the decline in the average number of rats per vessel examined at Liverpool during the past 11 years :—





**Measures of Rat Destruction on Plague-“Infected” or “Suspected” Vessels or Vessels from Plague-Infected Ports during the Year 1933.**

Total Vessels Arriving.	No. Fumigated with SO <sub>2</sub> .	No. of Rats Killed.	No. Fumigated with HCN.	No. of Rats Killed.	No. Fumigated with Salforkose.	No. of Rats Killed.	No. of such vessels on which Trapping, was employed.	No. of Rats Killed.	No. of such vessels on which measures of Rat Destruction were not carried out.
542	25	131 Rats 36 Mice	19	260 Rats 90 Mice	2	2 Rats	512	755 Rats 39 Mice	30

**Deratisation Certificates and Deratisation Exemption Certificates issued during the Year 1933.**

Net Tonnage.	No. of Ships.	Number of Deratisation Certificates issued After Fumigation with				After Trapping, Poisoning, etc.	TOTAL.	No. of Deratisation Exemption Certificates issued.	Total Certificates issued.
		H.C.N.	Sulphur.	H.C.N. and Sulphur.	Salforkose.				
Up to 300 Tons ...	12	1	—	—	—	Nil	1	11	12
From 301 to 1,000 Tons ...	63	3	3	—	—	Nil	6	57	63
From 1,001 to 3,000 Tons ...	156	15	18	—	—	Nil	33	124	157
From 3,001 to 10,000 Tons ...	296	43	41	1	3	Nil	88	207	295
Over 10,000 Tons ...	26	6	3	—	—	Nil	9	17	26
TOTALS ...	553	68	65	1	3	Nil	137	416	553

The accompanying table gives an analysis of the various situations in vessels from which dead rats were recovered after fumigations during the years 1929-1933, and shows also the average for each compartment. As would be expected, the largest totals were obtained from the holds, but it is interesting to note that during the last four years the average has remained fairly constant despite the fact that all vessels are now systematically examined every six months: this point indicates that a number of rats are always likely to be carried into a vessel with the cargo when it is being loaded.

Fore and after peaks are usually considered to be ideal places for rats to harbour, but it is satisfactory to record that the number of rats recovered from these compartments is relatively small.

Crew's quarters are always a likely habitat for rats on account of the comparative ease with which they can obtain food and water, but the table shows that for all practical purposes rats have been eradicated from the passenger accommodation.



Comparative Statement of the Number of Rats and Mice Recovered from the Various Compartments of Vessels Fumigated during the Five Years from 1929 to 1933.

To face 46.

No. of Fumigations during Year	1929				1930				1931				1932				1933			
	221				187				162				142				137			
	Total.		Average.		Total.		Average.		Total.		Average.		Total.		Average.		Total.		Average.	
	Rats.	Mice.	Rats.	Mice.	Rats.	Mice.	Rats.	Mice.	Rats.	Mice.	Rats.	Mice.	Rats.	Mice.	Rats.	Mice.	Rats.	Mice.	Rats.	Mice.
Holds ... ..	2,113	210	9.56	0.95	1,345	63	7.19	0.33	675	172	4.16	1.06	973	368	6.85	2.59	837	204	6.10	1.49
Shelter Deck Space ... ..	160	20	0.72	0.09	63	6	0.33	0.03	97	10	0.59	0.06	127	16	0.89	0.12	59	9	0.43	0.06
Bridge Deck Space ... ..	2	11	—	0.04	31	—	0.16	—	3	—	0.01	—	42	—	0.29	—	13	19	0.09	0.13
Bunker Space ... ..	57	1	0.25	—	113	—	0.60	—	30	—	0.18	—	30	—	0.21	—	38	10	0.27	0.07
Engine Room and Shaft Alley...	7	—	0.03	—	6	—	0.03	—	7	—	0.04	—	51	—	0.35	—	23	5	0.16	0.03
Forepeak and Storeroom ... ..	34	2	0.15	—	27	—	0.14	—	14	—	0.08	—	15	—	0.10	—	16	8	0.11	0.05
Afterpeak and Storeroom ... ..	60	2	0.27	—	29	—	0.15	—	47	—	0.29	—	25	23	0.17	0.16	13	—	0.09	—
Lifeboats... ..	—	—	—	—	4	—	0.02	—	2	—	0.01	—	4	—	0.02	—	5	—	0.03	—
Chart and Wireless Rooms ... ..	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Galley and Bakery ... ..	—	—	—	—	21	—	0.11	—	—	—	—	—	6	—	0.04	—	22	—	0.16	—
Pantry ... ..	7	—	0.03	—	—	—	—	—	—	—	—	—	3	—	0.02	—	14	—	0.10	—
Provision Storerooms ... ..	9	16	0.04	0.07	21	—	0.11	—	2	—	0.01	—	38	—	0.26	—	9	11	0.06	0.08
Crews' Quarters... ..	35	13	0.15	0.05	16	—	0.08	—	29	—	0.17	—	39	4	0.27	0.02	32	2	0.23	0.01
Officers' Quarters ... ..	—	—	—	—	2	—	0.01	—	6	—	0.03	—	—	—	—	—	—	6	—	0.04
Cabin Passengers' Quarters ... ..	—	—	—	—	6	—	0.03	—	—	—	—	—	3	—	0.02	—	4	3	0.02	0.02
Storage Passengers' Quarters...	58	6	0.26	0.02	23	—	0.12	—	13	—	0.08	—	5	5	0.03	0.03	2	—	0.01	—
Deep Tanks ... ..	1	9	—	0.04	—	—	—	—	8	—	0.04	—	1	10	—	0.07	1	—	—	—
Forecastle Head Space... ..	20	—	0.09	—	—	—	—	—	3	—	0.01	—	8	—	0.05	—	14	—	0.10	—
Poop Space ... ..	48	2	0.21	—	36	—	0.19	—	30	—	0.18	—	51	2	0.35	0.01	30	46	0.21	0.33
Wheelhouse Aft... ..	3	—	0.01	—	3	—	0.01	—	—	—	—	—	9	—	0.06	—	1	—	—	—
Tonnage Space ... ..	—	—	—	—	3	6	0.01	0.03	—	—	—	—	—	—	—	—	1	1	—	—
Mail, Baggage, and Specie Rms.	—	—	—	—	1	—	—	—	—	—	—	—	3	—	0.02	—	1	—	—	—
Chain Locker ... ..	—	—	—	—	1	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Gantry Houses ... ..	—	—	—	—	11	—	0.05	—	—	—	—	—	—	—	—	—	2	—	0.01	—
Hospitals ... ..	—	—	—	—	—	—	—	—	—	—	—	—	1	—	—	—	—	—	—	—





Table showing the number of rats and mice obtained on ships and quays by the authority's rat-catchers during the years 1924-1933.

Year.	NUMBER OBTAINED.			NUMBER					
	From Ships.	From Quays.	Total.	EXAMINED.		DESTROYED.			Total.
				From Ships.	From Quays.	Total.	From Ships.	From Quays.	
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
1927	8,134	2,496	10,630	4,836	1,945	6,781	3,298	551	3,849
1928	7,351	2,414	9,765	4,145	1,918	6,063	3,206	496	3,702
1929	7,036	1,456	8,492	3,408	1,271	4,679	3,628	185	3,813
1930	3,847	2,046	5,893	1,841	1,731	3,572	2,006	315	2,321
1931	3,190	1,969	5,159	1,669	1,688	3,357	1,521	281	1,802
1932	3,743	2,268	6,011	1,457	1,961	3,418	2,286	307	2,593
1933	2,820	2,454	*5,274	1,165	2,158	3,323	1,655	296	1,951
Total.....	69,545	22,374	91,919	32,877	18,707	51,584	36,668	3,667	40,335

\* 596 mice are included in these figures.

Number and species of rats caught, in the City and Port of Liverpool, during the year 1933.

1933	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 ...	8	83	—	829	3	422	11	1,334	271	—	115	14	49	1	435	15
February ...	14	161	—	681	13	344	27	1,186	259	—	121	3	27	15	407	18
March ...	67	233	—	691	49	432	116	1,356	220	—	105	35	13	20	338	55
April ...	132	266	—	644	7	333	139	1,243	225	—	145	15	22	16	392	31
May ...	115	249	—	902	—	362	115	1,513	216	—	126	10	34	16	376	26
June ...	70	221	—	744	23	316	93	1,281	130	—	76	16	27	13	233	29
July ...	57	160	—	811	14	291	71	1,262	194	—	83	14	19	12	296	26
August ...	30	120	—	791	18	322	48	1,233	131	—	120	6	11	37	262	43
September ...	19	147	—	894	17	359	36	1,400	195	—	175	24	21	14	391	38
October ...	67	200	—	794	13	307	80	1,301	256	—	195	9	43	44	494	53
November ...	64	159	—	795	4	323	68	1,277	187	—	133	30	26	5	346	35
December ...	45	170	—	599	2	187	47	956	164	—	148	9	15	3	327	12
TOTAL ...	688	2,169	—	9,175	163	3,998	851	15,342	2,448	—	1,542	185	307	196	4,297	381



Number and Species of Rats examined or destroyed in the City and Port of Liverpool during the year 1933.

1933.	Examined (City).		Destroyed (City).		Examined (Port).		Destroyed (Port).		Total Caught. City and Port.
	Black.	Brown.	Black.	Brown.	Black.	Brown.	Black.	Brown.	
January ...	2	310	9	1,024	228	15	207	—	1,795
February ...	4	236	23	950	224	18	183	—	1,638
March ...	15	304	101	1,052	257	55	81	—	1,865
April ...	29	238	110	1,005	201	30	191	1	1,805
May ...	14	334	101	1,179	269	26	107	—	2,030
June ...	5	268	88	1,013	137	29	96	—	1,636
July ...	12	253	59	1,009	143	23	153	3	1,655
August ...	10	252	38	981	203	33	59	10	1,586
September ...	10	293	26	1,107	304	38	87	—	1,865
October ...	11	291	69	1,010	287	52	207	1	1,928
November ...	5	281	63	996	239	35	107	—	1,726
December ...	7	175	40	781	223	12	104	—	1,342
TOTAL	124	3,235	727	12,107	2,715	366	1,582	15	20,871

## Rats destroyed during 1933.

## (1) In vessels:—

	Jan.	Feb.	Mar.	April	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Total
Black ... ..	271	259	220	225	216	130	194	131	195	256	187	164	23
Brown ... ..	—	—	—	—	—	—	—	—	—	—	—	—	
Species not recorded ...	—	—	—	—	—	—	—	—	—	—	—	—	
Rats examined ...	93	108	158	84	110	37	55	73	131	102	105	90	11
Rats found infected with Plague	—	—	—	—	—	—	—	—	—	—	—	—	

## (2) In Docks, Quays, Wharves and Warehouses:—

	Jan.	Feb.	Mar.	April	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Total
Black ... ..	164	148	118	167	160	103	102	131	196	238	159	163	
Brown ... ..	15	18	55	31	26	29	26	43	38	53	35	12	
Species not recorded ...	—	—	—	—	—	—	—	—	—	—	—	—	
Rats examined ...	150	134	154	147	185	129	111	163	211	237	169	145	
Rats found infected with Plague	—	—	—	—	—	—	—	—	—	—	—	—	

Number of Mice destroyed on vessels ... .. 372  
 Do. do. do. on quays ... .. 224  
 Do. do. examined on vessels and quays ... .. 242



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 Authority, during the year 1933, are as follows:—

	Rats.	Mice.	Rats.	Mice.
<b>PORT—</b>				
In vessels ... ..	10,562	372		
On quays ... ..	2,230	224		
			12,792	596
<b>CITY—</b>				
In warehouses ... ..	2,857	—		
In sewers and from other sources ...	13,336	—		
			16,193	—
		TOTAL ...	28,985	596

Number of Visits to <b>Vessels</b> by Rat Catchers	...	...	5,332
Do. do. do. Rat Searchers	...	...	3,931
Do. do. <b>Quays, Sheds, etc.,</b> by Inspectors	...	...	2,096
Do. do. do. do. Rat Searchers	...	...	1,344
Do. do. do. do. Rat Catchers	...	...	11,863

## Measures against Rodents.

### Steps taken for detection of rodent plague.

Liverpool trades extensively with many ports where plague is always present. All vessels arriving from such ports are boarded, and careful enquiry made as to any evidence of the existence of plague among the rats on board. Medical inspection alone is not sufficient, as 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, as soon as the vessel berths, it is necessary—

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

All rats so obtained are sent to the City Bacteriologist for examination for plague infection.

Samples of the rat population from the dock quays, sheds and warehouses are obtained daily, and all rats so caught are submitted to the City Bacteriologist for examination. The success of plague preventive measures depends entirely 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 when once established is most difficult to eradicate, and in addition to the possibility of causing human cases, it leads to the imposition of restrictions on our ships in foreign ports. In order that this work may be carried out efficiently the Port Sanitary Authority employs a staff of ten full-time rat-catchers and rat-searchers, and one part-time rat-catcher.

### Measures taken to prevent the passage of rats between ship and shore.

All vessels with the exception of coastwise vessels must have rat-guards affixed to their moorings during their stay in the port. The rat-guard used and approved of by the Port Sanitary Authority consists of a disc of galvanised sheet iron, 1/16th in. thick and three feet in diameter. The edge is left raw, i.e., not wired or turned over. In the lower half is cut a door, hinged and so fastened when shut that no foothold is afforded to rats. The door slit leads to the central hole



through which the rope passes. Round the central hole is placed a strong collar projecting about 4 in. on each side and riveted to the disc. In the collar is a strong steel spring clip, which can be adjusted by means of a winged nut and bolt. To apply the guard, the door is opened and the guard put over the rope so that the latter passes up into the central hole, where a little force is necessary to overcome the spring of the clip. The guard will now hold quite firmly and the bolt and screw closing the opening of the clip gives additional security. The door is then closed and fastened, the upper edge being fitted with a piece of thick sheet rubber attached so as to close completely the central hole whatever the size of rope in use.

A rat-guard to be effective should be placed at the ship end of the mooring and as far as possible away from the ship's side.

When vessels loaded with cargo are infected with either human or rodent plague the following procedure is adopted in order to prevent the passage of rats from the ship to the shore:—

If the vessel is loaded a preliminary fumigation may be undertaken to destroy the rats, the nature of the cargo would, however, determine whether this procedure should be followed. The measures enumerated below are enforced pending discharge of cargo, when a complete and thorough deratisation takes place.

- (a) The vessel is breasted off six feet from the quayside.
- (b) Rat-guards are adjusted on all moorings.
- (c) One gangway only is allowed, and a watchman is stationed there day and night.
- (d) The gangway must be lifted at sunset and not lowered until sunrise.
- (e) The cargo must be discharged under supervision of the Port Sanitary staff.
- (f) Trapping and examination of rats caught in the neighbouring sheds are carried on.

#### **Methods of Deratisation of Ships.**

Deratisation of ships is carried out by fumigation with either sulphur dioxide, or hydrocyanic acid gas. Fumigations in the Port of Liverpool are carried out, as a rule, by private firms under the super-

vision of the Port Sanitary Authority. At least twenty-hour hours' notice in writing must be given to the Port Sanitary Authority before the commencement of any fumigation. This notice must be on the official form, which sets out the cubic capacities of the spaces and the fumigant to be used.

#### DERATISATION BY MEANS OF SULPHUR DIOXIDE GAS.

(1) *Sulphur dioxide*. This gas is generated by burning sulphur in buckets. Only sulphur of good quality must be used, and not more than 9 lbs. of sulphur to each bucket: 3 lbs. of sulphur to every 1,000 cubic feet of air space is required, with a minimum time of exposure of six hours. In order to ensure that the whole of the sulphur is burned, it is advisable that a small quantity of wood, wool or shavings dipped in methylated spirit should be added to each receptacle.

(2) *Liquid sulphur dioxide (sulphume)*. 6 lbs. of liquefied gas are required for every 1,000 cubic feet of air space, with a minimum time of exposure of six hours.

(3) *Salforkose*. This process consists of burning an inflammable liquid in double jacketed iron containers which are fitted with a baffle plate and hood in order to control the flame. The containers are of three sizes, small, medium and large. The small containers hold a maximum of five pints of salforkose, which is sufficient to fumigate spaces up to 4,200 cubic feet. The medium containers hold a maximum of 1 gallon 2 pints of salforkose, which is sufficient to fumigate spaces up to 8,500 cubic feet. The large containers hold a maximum of 1 gallon 7 pints of salforkose, which is sufficient to fumigate spaces up to 12,800 cubic feet. The time of exposure is three hours after which ventilation for a further four hours is required before the spaces can be entered with safety.

#### DERATISATION BY MEANS OF HYDROGEN CYANIDE.

Fumigation of vessels by means of this gas is exceedingly dangerous to human life, and may only be carried out by firms which have a specially trained staff and the necessary respirators and life saving appliances.

(1) *Liquid hydrogen cyanide*. The hydrogen cyanide gas is generated by the vaporisation of liquid hydrogen cyanide, the latter being contained in steel cylinders.



For holds, provision store rooms and peaks, 2 oz. per 1,000 cubic feet of air space is required, and for living quarters, superstructures and other spaces not used for stores, 1 oz. per 1,000 cubic feet. The minimum time of exposure in both cases is two hours.

(2) *Zyklon B.* consists of kieselguhr, a very absorbent infusorial earth, to which is added a mixture of hydrogen cyanide ( $97\frac{1}{2}$  per cent.) and tear gas ( $2\frac{1}{2}$  per cent.). The mixture is packed in strong hermetically sealed tins or canisters containing 500, 1,000, 1,200 and 1,500 grammes of cyanide. These canisters are placed near the holds in numbers necessary for fumigation of the particular cubic capacity. Each tin is opened by a special apparatus which prevents the escape of gas during the process. On removal of the lid, a thin rubber cap is placed over each tin unless the contents are to be used immediately.

When fumigation is started the tarpaulins covering the hatches are raised and the contents of the required number of tins are scattered over the bottom of the hold from the deck. The tarpaulin is then replaced and the hold closed for two hours. At the end of that time the hold is opened up and ventilated.

For holds, provision store rooms and peaks, 50 grammes of HCN content per 1,000 cubic feet is required, and for living quarters and superstructures not used as storerooms 25 grammes per 1,000 cubic feet.

(3) *Liquid hydrogen cyanide (Gallarde process.)* The liquid HCN is contained in strong glass bottles fitted with a metal cap. Each bottle contains 400 grammes of available hydrogen cyanide. The requisite number of bottles are placed in position, the ship having previously been prepared for fumigation; the operators then proceed to remove the metal caps and pour the liquid into special containers. By this process hydrocyanic acid gas is liberated from a stabilised liquid hydrogen cyanide on exposure to the atmosphere.

The contents of one bottle is sufficient to fumigate 8,000 cubic feet, and the minimum time of exposure is two hours.

(4) *Liquid Cyanide (Barton Process).* This process is very similar in procedure to the Gallarde process previously described, except that the liquid hydrogen cyanide is contained in steel cylinders each containing 7 lbs. The requisite number of containers are placed at the

various distributing centres and the liquid is either sprinkled on the deck, or emptied into large tins if the decks are covered with linoleums or carpets in order to prevent any damage to the fabric.

### Fumigation of a partly-loaded Vessel.

(S.S. "MENDIAN.")

Application was made to the Liverpool Port Sanitary Authority on January 3rd, 1933, by the owners of this vessel for either a Deratisation or a Deratisation Exemption Certificate, the previous Certificate—Deratisation with  $\text{SO}_2$ —4 hours exposure—issued at Hamburg on May 2nd, 1932, being no longer valid.

EXAMINATION. A sanitary inspector and a rat searcher examined the vessel and ascertained that there were approximately 1,600 tons of cargo on board, and that, moreover, the vessel showed abundant fresh evidence of rats throughout. The Assistant Port Medical Officer visited the vessel, examined the nature and distribution of the cargo and decided that the vessel, with the exception of No. 5 'tween deck, which contained bags of salt, should be fumigated with hydrocyanic acid gas. Arrangements were made for the vessel to be prepared by 6 p.m. on January 4th, 1933, when the fumigation was carried out by the Zyklon method: three hours exposure to the gas being given.

AMOUNT AND DISTRIBUTION OF CARGO. The amount of cargo on board at the time of fumigation and its distribution was as follows:—

No. 1 hold.	310 tons.	matches, sugar, hardware, and tinned goods all in cases, and bags of rice.
No. 2 hold.	660 tons.	bags of rice, and cases of tinned goods, bottled beer and railway material.
No. 3 hold.		completely filled with coal.
No. 4 hold.	410 tons.	bags of rice, and cases of bottled beer and tinned goods.
No. 5 'tween deck.		bags of salt and barrels of port produce.
No. 5 lower hold.		empty.

TOTAL CAPACITY AND AMOUNT OF FUMIGANT. The total cubic capacity fumigated was 353,878 cubic feet and 16,000 grammes of Zyklon B were used.



EXPOSURE.—The vessel was closed down at 7-30 p.m. and opened up at 10-30 p.m. on January 4th, 1933.

CLEARING OF VESSEL. The clearing of the vessel took longer than is usual with an empty ship but this can be accounted for in some part owing to the fact that during the night the hatch covers had to be replaced in order to protect the cargo from rain which commenced to fall: this did not, however, cause any delay in the work of loading the vessel as it was possible to recommence at 8 a.m. the following morning in the usual manner.

TESTING. The testing for the presence of HCN resulted as follows :

No. 1 hold.	Loading was commenced at 8 a.m., but there were slight traces of HCN present. Quite free at 9-30 a.m.
No. 2 hold.	Loading commenced at 8 a.m. Slight traces of HCN. Quite free at 8-45 a.m.
No. 3 hold.	Not fumigated.
No. 4 hold.	Quite clear at 8 a.m.
No. 5 hold.	Quite clear at 5 a.m.

Only the lower hold of No. 5 was fumigated: the 'tween decks, which contained bags of salt, being cut off during the time of exposure in order to prevent any possible damage to the salt.

The certificate stating that the vessel was completely free of gas was issued at 10 a.m. on January 5th, 1933.

RESULT OF FUMIGATION.—After the fumigation, dead rats were found as follows:—

No. 1 hold	...	...	...	...	5
„ 2 „	...	...	...	...	13
„ 4 „	...	...	...	...	4
„ 5 „	...	...	...	...	1
Bridge space	...	...	...	...	4
Forepeak ...	...	...	...	...	2
Crew's quarters	...	...	...	...	1
					—
Total ...	...	...	...	...	30
					—

The fumigation from start to finish proved quite successful and is of particular interest as it is the first occasion at Liverpool that a vessel partly loaded with cargo has been subjected to fumigation for the purpose of a Deratisation Certificate. As far as can be ascertained the cargo suffered no damage and the bags of salt in No. 5 'tween deck, which were to some slight extent exposed to the gas during the clearance of the vessel, were not affected.

#### **Deratisation of premises—the vicinity of docks or quays.**

This is carried out by the setting of traps, the laying down of poisoned baits and occasionally by fumigation with hydrogen cyanide.

#### **Rat Proofing.**

**WHARVES AND WAREHOUSES.**—With the exception of a few of the old docks on the central district, the wharves on the dock estate are of rat-proof construction, made with ferro-concrete and stone.

The roadways and pavings of the sheds are sets on a concrete foundation.

The sheds are built of brick and reinforced concrete. All sheds in the new Gladstone Dock are constructed solely of reinforced concrete, and there are no ledges, beams or angle iron on which rats may run.

All offices and wooden huts in the sheds are made rat-proof either by being lifted 18 inches clear of the ground or sheathed with iron or cemented round the base.

New offices or other buildings are either built on brick or concrete piers clear of the ground or the base is built hard and close to the paving of the shed.

**ACTION TAKEN TO EXTEND RAT-PROOFING ON SHORE.**—The Mersey Docks and Harbour Board and the various shipping companies are fully alive to the necessity and benefit of rat-proofing, and practically all sheds, huts, offices and warehouses on the dock estate have now been made rat-proof. Constant supervision is required, however, in the case of stores, otherwise they tend to become harbourages for rats.



It is the duty of the sanitary inspectors to see that all stores are kept clean and tidy, and that no rubbish is allowed to accumulate. Old rope, dunnage, wood, etc., must be stacked neatly on platforms raised 18 inches from the ground, and the space beneath the platform must be kept clean and free from rubbish.

During the year 1933 some old stables at the Duke's Dock, which were in a very dilapidated condition, were found to be harbouring a considerable number of rats. Representations were made to the Mersey Docks and Harbour Board and the stables were demolished.

**RAT-PROOFING IN SHIPS.**—In the course of their routine examinations of vessels the port sanitary inspectors bring to the notice of the responsible officials any particular part which in their opinion is in need of rat-proofing. In order to make a vessel rat-proof there must be no place where rats may remain undisturbed and make their nests, and also no available food nor water supply. It should also be impossible for rats to travel freely from one part of a vessel to another. In order to accomplish this, skeleton casings are adopted for pipes in place of the older type of box casing; expanded metal is fitted round pipes, telephone wires, electric wires, etc., at the point where they pass through bulkheads or from one compartment to another, or at openings necessary for light and ventilation. There is a steady increase in the number of vessels which have been rendered rat-proof.





## HYGIENE OF CREWS' SPACES.

## The Hygiene of Crews' Spaces.

During the year careful attention has been paid to the inspection of crews' spaces by the port sanitary inspectors. All vessels entering the port are visited as soon as possible after docking, and enquiries are made concerning the health of the crew, the occurrence of any sickness during the voyage, the source of the water supply, the condition of all tanks and bilges, the condition of storerooms, and whether any sick or dead rats have been found.

After making these enquiries the sanitary inspector, accompanied by a ship's officer, visits the crew's quarters, and their condition is noted, particular attention being paid to cleanliness, structural defects, rat-harbourages, accumulations of rubbish, etc. The attention of the officer is called to any defects that are found, and a request made that they should be remedied. These instructions are generally carried out by the shipping company concerned without any difficulty. The inspector re-visits the vessel from time to time, and notes when the defects have been made good.

An important part of Public Health work in connection with the welfare of seamen and the hygiene of vessels consists in efforts to improve the conditions of the environment of the sailor. It is not only of value to the men themselves but is our first line of defence against imported disease.

**VERMIN IN CREWS' QUARTERS.**—The usual procedure adopted by the Inspector when the quarters are found in a verminous condition is to draw the attention of the captain or chief officer to it, and a memo. is served pointing out where the infestation exists. When the crew has been paid off the vessel is revisited in order to ascertain what action is being taken to deal with the complaint. With slightly infested quarters disinfestation is carried out by spraying with a recognised insecticide. This is carried out by the owners by spraying into all crevices of woodwork and the crew's bunks. With pronouncedly infested quarters fumigation is carried out. This is done either by burning sulphur—5lbs. of sulphur to the 1,000 cubic feet for a period



of 12 hours; or the application of hydro-cyanic acid gas—4ozs. of HCN to the 1,000 cubic feet for a period of from 4 to 6 hours. In addition, the bunk boards or iron framework of the bunks are dismantled and the blow-lamp is used. These methods have proved effective.

It may be pointed out that the disinfestation of crews' quarters whilst the men are still on board is a more difficult matter to deal with and several such cases have occurred. The difficulty arises in providing accommodation for the crew. The usual practice is to allow the vessel to proceed to her home port and the complaint is forwarded to the medical officer of the port concerned.

The use of tongue-and-groove boards in the forecastles is the cause of a large amount of infestation with bugs, and the Port Sanitary Authority always urges that this form of boarding should be removed with subsequent free use of the blow-lamp. If boards are to be used in the forecastles, 3-ply wood should be substituted. One Liverpool shipping company has in recent months had all the woodwork in the forecastles of their cargo vessels stripped down and the blow-lamp freely employed in order to eradicate bugs.

It is the practice of many shipping companies to fumigate the crews' quarters every voyage, and, in addition, to spray with an insecticide; a supply of the latter is also available for use during the voyage; in such vessels there is a marked improvement in the condition of the crews' quarters.

# Inspection of Shipping.

Year 1933.

Nationality.	Visits.	Re-visits.	Total.
British ...	3,871	1,003	4,874
Norwegian ...	212	54	266
Swedish...	162	38	200
Spanish...	73	14	87
Danish ...	162	31	193
Japanese ...	28	16	44
Italian ...	57	34	91
Russian ...	16	3	19
French ...	8	—	8
Dutch ...	75	5	80
Greek ...	35	16	51
American ...	99	13	112
German ...	97	17	114
Finnish ...	50	9	59
Danzig ...	5	—	5
Esthonian ...	3	1	4
Jugo Slav ...	10	4	14
Latvian ...	23	10	33
Rumanian ...	5	1	6
Lettish ...	1	1	2
Egyptian ...	6	6	12
Panama ...	8	2	10
Chilian ...	3	1	4
Argentine ...	1	—	1
Total ...	5,010	1,279	6,289



The following Table shows the number and Nationalities of the Vessels on which Defects were detected during the year 1933.

NATIONALITY.	Number of Ships.	Dirty Forecasts.	Vermineous Quarters.	Dirty Wash-rooms, Store-rooms, etc.	Foal Water Casks.	Foal Bins.	Foal W.C.s.	Accumulations of offensive refuse.	Gear stored in Crew's Quarters.	Damp Quarters.	Water holding tanks, Forepeak Tank.	Animals kept, causing nuisance.	Leaky Decks overhead.	Defective Stoves.	Defective Bulkheads.	Defective Ports and Sky Lights.	Defective Ventilators.	Defective Flooding Boards.	Defective Hatchways and Lockers.	Defective Chain Pipes.	Defective Pipes.	Defective W.C. Fittings.	Defective Soli Pipes.	Inadequate Ventilation.	Inadequate Lighting.	Inadequate Drainage.	Bare Iron not sheathed.	W.C.s. deficient in Ventilation situation bad.	Total number of Defects.	Total Remedied.
British ...	479	1,170	314	6	...	...	153	2	4	7	4	...	42	27	5	60	8	...	...	2	4	37	6	...	...	1	...	2	1,854	1,693
Spanish ...	13	18	...	10	...	...	8	...	...	...	...	...	1	1	...	...	...	...	...	...	...	...	...	...	...	...	...	...	38	34
Italian ...	11	25	...	8	...	...	5	...	...	...	...	...	3	1	...	2	...	...	...	...	...	...	...	...	...	...	...	...	44	42
Greek ...	8	14	2	...	...	...	4	...	...	...	...	...	1	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	21	16
Norwegian ...	5	6	...	...	...	...	1	...	...	...	...	...	...	...	...	2	...	...	...	...	...	...	1	...	...	...	...	...	10	10
German ...	5	...	7	...	...	...	...	...	...	...	...	...	3	1	...	1	...	...	...	...	...	...	...	...	...	...	...	...	12	11
Swedish ...	4	...	8	...	...	...	...	...	...	...	...	...	1	...	...	3	1	...	...	...	1	1	...	...	...	...	...	...	15	11
Danish ...	2	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	2	...	...	...	...	...	...	...	2	2
Latvian ...	2	...	2	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	2	...	...	...	...	...	...	...	...	4	2
Danzig ...	1	...	...	...	...	...	...	...	...	...	...	...	1	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	1	...
Jugo-Slav ...	1	1	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	1	1
American ...	1	...	4	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	4	4
Total ...	532	1,234	337	24	...	...	171	2	4	7	4	...	52	30	5	68	9	...	...	4	5	40	7	...	...	1	...	2	2,006	1,826





### Summary of Insanitary Conditions during the year 1933.

Class of Vessels.	Number Inspected.	Number on which Nuisances were found.	Per cent.
<b>SAILING FOREIGN—</b>			
Steamers ... ..	3,851	472	12·25
Sailing ... ..	3	—	—
Total ... ..	3,854	472	12·24
<b>SAILING COASTWISE—</b>			
Steamers ... ..	1,143	59	5·16
Sailing ... ..	13	1	7·69
Total ... ..	1,156	60	5·19

Nationality.	Number Inspected.	Number on which Nuisances were found.
British ... ..	3,871	479
Foreign ... ..	1,139	53
Total ...	5,010	532

### 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	0·15	220	10·96	1,783	88·88

### Canal Boats.

The port sanitary inspectors have been appointed inspectors under the Canal Boats Acts, 1877 and 1884. An inspector devotes one day each week to the inspection of canal boats plying in the river or docks, and during the year 631 boats were inspected, of which 36 were found to have some condition contravening the regulations.

## Summary of Insanitary Conditions during the year 1933.

Insanitary Conditions			
Class of Vessel	Number Inspected	Number on which Insanitary was found	Per cent
Passenger Vessels			
Steamers	2,851	472	16.55
Sailing	2	—	—
Total	2,853	472	16.54
Freight Vessels			
Steamers	1,143	58	5.15
Sailing	12	1	8.33
Total	1,155	59	5.10
Totals			
Number Inspected	4,006	Number on which Insanitary was found	531
			13.25

## Nuisances arising through

Defects of Construction	Defects of Total	Defects of Total	Defects of Total	Defects of Total	Defects of Total
(a)	(b)	(c)	(d)	(e)	(f)
2	0.15	5.0	10.0	1.75	22.5

## Canal Boats.

The port sanitary inspectors have been appointed inspectors under the Canal Boats Act, 1877 and 1924. An inspector boards one day and week in the inspection of canal boats plying in the river or docks and during the year 631 boats were inspected, of which 36 were found to have some condition contravening the regulations.



## ALIENS' INSPECTION AND MIGRATION.

### Medical Inspection of Aliens.

The following table gives the total number of aliens arriving in the Port of Liverpool during 1933, 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
10,413		1,949	183	1,689
Visitors of 6 months or less		Diplomats & persons on Foreign Govt. Missions.	Seamen	
On holiday, tourists, &c.	On Business			
5,487	318	78	115	
Seamen under Contract to join ships in British Waters.		Ministry of Labour Permits	Other Aliens	
140		33	421	

The medical inspection and examination of aliens is carried out by the assistant port medical officers. The objects of the inspection are to ascertain whether 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.

No alien is allowed to take up employment in this country without a special permit from the Ministry of Labour, so that it is rare for the medical inspector to have to consider the earning capacity of an alien. The procedure with regard to the medical inspection and examination of aliens entering the Port of Liverpool is as follows :—

The medical officer boards the vessel immediately on arrival with the view of obtaining information as to the health of all persons on board



from the ship's surgeon, and also of making a rapid preliminary inspection of all classes of immigrants. This latter may be completed before the immigration officers start their examination, or may occur simultaneously with it, depending upon the circumstances. Note is made of any alien who in the opinion of the medical officer should require a more detailed examination, irrespective of the time that the alien may wish to remain in the country.

The medical officer attends during the examination made by the immigration officers, when a further opportunity is afforded to inspect the aliens more closely. All aliens who wish to stay in this country more than three months are referred to the medical inspector for examination.

During the year 1933 medical certificates were issued in respect of 7 aliens, 3 for mental deficiency, one for uraemia, one for cerebral hæmorrhage, one for cerebral thrombosis, one for venereal disease.

### Transmigrants.

Elaborate precautions are taken by the United States Public Health Service to prevent the occurrence of typhus fever among 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 United States, whether from the Continent or British Isles, are inspected by an Officer of the U.S. Public Health Service immediately before sailing, and if any are found to be in a verminous condition they are sent to the city disinfecting station, 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.

### Emigration.

The number of passengers (emigrants and others) leaving the Port of Liverpool during the year 1933 was 62,452, an increase compared with the previous year, when the number was 58,819. The following return shows the number during the last ten years :—

Year		Year	
1924 ... ..	122,201	1929 ... ..	113,116
1925 ... ..	111,918	1930 ... ..	91,493
1926 ... ..	116,672	1931 ... ..	53,858
1927 ... ..	123,801	1932 ... ..	58,819
1928 ... ..	116,083	1933 ... ..	62,452

*The following Tables relating to Emigration and Immigration have been kindly supplied by the Board of Trade.*

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 1933:—

DESTINATION.	British Subjects.	Aliens.	Total.
British North America ...	11,183	2,339	13,522
Australia and New Zealand ... ..	726	8	734
British South Africa ...	958	18	976
India (including Ceylon)...	4,533	110	4,643
Other parts of the British Empire ...	5,959	335	6,294
<b>Total British Empire ...</b>	<b>23,859</b>	<b>2,810</b>	<b>26,169</b>
United States ... ..	5,149	6,853	12,002
Foreign South America ...	1,239	304	1,543
Other Foreign Countries	2,944	161	3,105
<b>Total Foreign Countries...</b>	<b>9,332</b>	<b>7,318</b>	<b>16,650</b>
Pleasure Cruises (to places out of Europe) ... ..	19,571	62	19,633
<b>Grand Total ...</b>	<b>52,262</b>	<b>10,190</b>	<b>62,452</b>



Number of passengers (*emigrants* and others), distinguishing British subjects and aliens, who left the port of Liverpool in each month of the year 1933 :—

MONTH.	British Subjects.	Aliens.	Total.
January ... ..	2,765	341	3,106
February ... ..	1,798	302	2,100
March ... ..	2,416	639	3,055
April ... ..	4,976	652	5,628
May ... ..	3,798	451	4,249
June ... ..	4,467	654	5,121
July ... ..	6,988	1,282	8,270
August ... ..	7,676	2,084	9,760
September ... ..	7,039	1,851	8,890
October ... ..	6,035	796	6,831
November ... ..	2,501	571	3,072
December ... ..	1,803	567	2,370
Total ... ..	52,262	10,190	62,452

Statement showing the number of passengers (*immigrants and others*), distinguishing British subjects and aliens, who arrived at the port of Liverpool from places out of Europe in the year 1933 :—

Countries in which the Passengers embarked.	British Subjects.	Aliens.	Total.
British North America ... ..	16,181	3,099	19,280
Australia and New Zealand ... ..	39	1	40
British South Africa ... ..	121	5	126
India (including Ceylon) ... ..	1,869	63	1,932
Other parts of the British Empire	1,819	122	1,941
<b>Total British Empire ... ..</b>	<b>20,029</b>	<b>3,290</b>	<b>23,319</b>
United States ... ..	7,050	6,282	13,332
Foreign South America ... ..	1,232	486	1,718
Other Foreign Countries ... ..	2,622	142	2,764
<b>Total Foreign Countries ... ..</b>	<b>10,904</b>	<b>6,910</b>	<b>17,814</b>
Pleasure Cruises (from places out of Europe) ... ..	18,630	50	18,680
<b>GRAND TOTAL ... ..</b>	<b>49,563</b>	<b>10,250</b>	<b>59,813</b>



Number of passengers (*immigrants* and others), distinguishing British subjects and aliens, who arrived at the port of Liverpool from places out of Europe in each month of the year 1933 :—

MONTH.	British Subjects.	Aliens.	Total.
January ... ..	1,768	534	2,302
February ... ..	1,355	350	1,705
March ... ..	2,541	454	2,995
April ... ..	5,163	756	5,919
May ... ..	4,817	794	5,611
June ... ..	5,676	1,507	7,183
July ... ..	7,938	2,348	10,286
August ... ..	5,430	1,298	6,728
September ... ..	6,008	623	6,631
October ... ..	4,560	693	5,253
November ... ..	1,851	398	2,249
December ... ..	2,456	495	2,951
<b>TOTAL</b> ... ..	<b>49,563</b>	<b>10,250</b>	<b>59,813</b>

### Emigrant Inspections.

All emigrants travelling second or third-class 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.

During the year 1933 there were 125 inspections, and 6 persons were rejected.

Date 1933	Name of Vessel	Nature of Sickness	Where taken to	Description of Patient
Mar. 3	"Duchess of Bedford"...	Mumps ... ..	C. P. R. Boarding House ... ..	Adult (1)
,, 10	"Montclare"	Smallpox ? ...	New Ferry Hospital ...	Child (1)
Aug. 11	"Montrose"	Chicken Pox ... (Convalescent)	Returned home ... ..	Child (1)
Sept. 9	"Britannic"	Chicken Pox ...	Olive Mount Hospital ...	Infants (3)



## FOOD INSPECTION.

## Supervision of Food Importations, 1933.

The work of supervising the food imported into the Port of Liverpool has been carried out in a satisfactory manner.

The food inspection staff is now at its normal strength and consists of a Chief Inspector and seven Inspectors.

The Public Health (Imported Food) Regulations, 1925, have been amended by the Public Health (Imported Food) Amendment Regulations, 1933, which came into operation on September 1st, 1933, and which are shown in Appendix 5.

The following items in regard to imported food are of interest:—Importations of sheep from all countries have been subjected to at least a 5 per cent. examination; a 5 per cent examination has also been made of lambs weighing over 42 lbs. All cut mutton or lamb has been fully examined.

ARGENTINE.—The control of importations by quota has resulted in a considerable reduction in the number of sheep, lambs, and quarters of beef imported. Cuts of beef, mutton, and lamb arrived in larger quantities. Evidence of careful inspection at the port of origin was noticeable, and the percentage of mutton and lamb rejected for caseous lymphadenitis was small. Consignments of quarters and cuts of chilled beef landed in a mouldy and partially decomposed condition, and a number of quarters and cuts were rejected and the balance reconditioned by trimming away the affected parts.

Scrap meat from Argentine and Canada was found in consignments of boneless meat and barrels of pickled pork. Export notices were served.

URUGUAY.—Consignments of sheep carcasses from one establishment continue to be unsatisfactory, 100 per cent. examinations were made, and a large number were found to be badly affected with caseous lymphadenitis, and in addition a number of carcasses have been rejected owing to the glands having been previously removed. Export notices were served for these carcasses with glands removed, this being a contravention of the Public Health (Imported Food) Amendment Regulations, 1933.



AUSTRALIA.—Importations of sheep and lamb carcasses showed a considerable increase during the year. The percentage rejected for caseous lymphadenitis was small. Increased quantities of cuts of mutton were landed; from one consignment of mutton shoulders, 3.45 per cent. were rejected for caseous lymphadenitis. Boneless beef briskets are now a satisfactory importation; these have been well examined and all parts have been removed which were likely to have been affected with *O. gibsoni*.

Shipments of lambs and mutton arrived from New Zealand, Brazil, and Patagonia: smaller quantities were rejected than in the previous year both in carcasses and cuts of mutton and lamb.

CANADA.—During the latter months of the year quarters of chilled beef and chilled and frozen lamb carcasses arrived in good condition. Chilled turkeys of good quality and sound condition were also landed.

UNITED STATES OF AMERICA.—Importations of frozen meats consisted mainly of cuts of pork and various kinds of offal. Exception was taken to pork loins from which the peritoneum had been removed.

IRISH FREE STATE.—Increased quantities of pig carcasses and plucks were landed in fresh condition; these had been well examined and were mostly consigned to London.

Large numbers of lamb carcasses arrived and were transferred to the city abattoir for inspection. Sides of beef in quantity were consigned to Manchester and Liverpool.

s.s. "Kenmare" at Cork. Twenty-three bales of Wiltshire bacon were found to be stained a green colour from contact with a sheet on which they were stowed in the ship's hold. On analysis this colouring matter proved to be sulphate of copper. The bacon was trimmed and the damaged portion destroyed.

NORTHERN IRELAND.—Fresh pigs' plucks, pickled pigs' heads, tongues, maws, and feet arrived regularly throughout the year. Considerable quantities were rejected for decomposition, tuberculosis, and other unsound conditions.

**FATS AND OILS.**—Casks of inedible fats and lard oil were imported from various countries. U.S.A. shipments of inedible fats arrived in bulk. Enquiries were made as to the destination of all consignments and a guarantee obtained that they would only be used for industrial purposes.

In May, the s.s. "Afoundria" from Mobile met with rough weather and some of the cargo shifted; 9,790 boxes lard, and 156 cases canned lunch tongue were landed more or less in bulk. About 54 tons of lard was melted and re-refined, half a ton of residual grease being disposed of for industrial purposes. The canned tongue was fully examined and 314 burst tins were rejected.

**SUGAR.**—Large quantities of loose collected and dirty sugar were allowed to go for refining purposes. One consignment damaged with drainage from wet hides was sorted and 52 cwts. 2 qrs. 8 lbs. were destroyed.

From Canada, U.S.A., Argentine and Holland boracised hams and bacon were imported under bond; this was all re-exported or used as ship's stores.

s.s. "Architect," outward to the West Indies, was wrecked in the Mersey. About 2,000 bags of flour were damaged by water, the greater part of which was utilised for pig food under guarantee.

### **Canned Foods.**

Large consignments of lard in tins were imported from China in sound condition. Recognised official certificates were attached to each package.

Large quantities of canned tomatoes were imported from Spain and Italy. Several large consignments were found to be unsound. These were fully examined and an unusually high percentage of blown and burst tins were rejected. Consignments also arrived containing a large number of repaired cans; samples of these were examined by the City Analyst and found to contain an excessive metal content. Some of these were destroyed, others were kept under detention pending examination. Twenty-one samples of canned sardines imported from Spain and Portugal were submitted for analysis. In some samples the metallic content was excessive.



Larger consignments of canned mandarines were landed from Japan, some of which were partially unsound. Two hundred and fifty cases arrived coastwise from London: these were found to be blown and burst and were destroyed.

A sample consignment of canned dog food arrived from New York; this was labelled "Fit for human food." Exception was taken to this label by the Medical Officer of Health and no further consignments bearing such labels were imported.

### Fruit Inspection.

Australian apples and pears arrived in large quantities. The quantity rejected for brown heart, frosted and decomposition was comparatively small.

New Zealand apples were landed in consistently good condition.

Canadian (Nova Scotian) apples. Increased direct shipments arrived in good condition.

U.S.A. apples and pears landed in good condition. During the latter months of 1932 thousands of barrels of U.S.A. apples were placed in cold storage. In the early part of this year, many of these barrels were sorted and large quantities were rejected for decomposition.

Argentine pears. Small consignments arrived in sound condition during the early part of the year. The first direct shipment of apples from the Argentine arrived and consisted of 1,135 boxes.

Brazilian oranges continue to arrive in large quantities and it was found necessary to sort them owing to stem rot and water logging (*alternia* and *diplodia fungi*). It is of interest to note that similar condition has been found in oranges landing from Jaffa.

South African oranges and grapefruit were landed in sound condition.

Jaffa oranges and grapefruit arrived in large quantities and their improved condition was maintained.

Valencia oranges. The normal season for arrival was extended, and late shipments arrived in unsound condition. Quantities were sorted and repacked and some consignments were totally rejected.

Valencia plums. Small consignments were landed in wasty condition and were sorted and repacked.

Valencia melons. Many consignments were sorted and repacked, and except in isolated cases, the percentage of waste was not excessive.

Valencia garlic. Sixty-seven crates of garlic were landed in unsound condition; 54 crates = 9,744 lbs., were destroyed.

Italian lemons. Several consignments arrived in unsound condition and were sorted and repacked.

Florida and Porto Rico grapefruit. Many consignments were sorted, large quantities being rejected.

Jamaican grapefruit and stem bananas arrived in large quantities in good condition.

West Indies (San Juan). One consignment of 1,778 crates of pineapples landed partially unsound. These were sorted, and 146 crates were destroyed.

Egyptian and Valencia onions arrived in good condition.

Spanish new potatoes arrived in fairly good condition. In May the s.s. "Cervantes," from Valencia and Burriana, which had been ashore in Cardigan Bay, arrived with damaged cargo in Nos. 1 and 2 holds; 2,491 baskets potatoes and 136 half cases oranges were rejected for decomposition.

Chinese shelled peanuts. Three large shipments arrived in more or less mouldy condition. Sorting and reconditioning of a portion of these was attempted, but the result was not satisfactory. The bulk of these consignments has been utilised for oil-expressing.

Dried fruits from Australia, South Africa, Greece, Spain and Turkey arrived in consistently good and clean condition.



Table showing the numbers of cattle, sheep and pigs exported from Ireland to Liverpool during the year 1933, and showing the ports in Ireland at which the animals were shipped :—

	Cattle.	Sheep.	Pigs.
Ballina ... ..	411	1,610	136
Belfast ... ..	11,099	42,900	747
Cork ... ..	29,199	1,082	1,443
Drogheda ... ..	19,154	23,981	30
Dublin ... ..	116,440	115,275	2,071
Dundalk ... ..	5,256	3,355	257
Galway ... ..	181	7,018	346
Londonderry ... ..	3,738	2,494	390
Limerick ... ..	4,018	12	2
Newry ... ..	1,830	3,034	2
Sligo ... ..	498	5,820	3,751
Waterford ... ..	23,874	4,917	648
Westport ... ..	714	5,841	82
Wexford ... ..	4,079	7,280	247
Total ... ..	220,491	224,619	10,132

Table showing the total numbers of the several kinds of cattle, sheep and pigs exported from Ireland to Liverpool during the year 1933 :—

Cattle.	No.	Sheep.	No.
Fat ... ..	144,442	Fat ... ..	92,133
Stores (for fattening) ... ..	62,830	Stores ... ..	11
Milch Cows ... ..	4,369	Lambs ... ..	132,475
Springers ... ..	302		
Calves ... ..	8,548	Total Sheep ... ..	224,619
Total Cattle ... ..	220,491		
		Pigs.	
		Fat ... ..	10,130
		Stores ... ..	2
		Total Swine ... ..	10,132

Statement showing the number of live cattle, etc., landed and slaughtered at the Foreign Animals Wharf (Birkenhead, Alfred and Wallasey Lairages) during the years 1924 to 1933, inclusive :—

Year.	LANDED.			SLAUGHTERED.		
	Oxen and Calves.	Pigs.	Sheep, Lambs and Goats.	Oxen, and Calves.	Pigs.	Sheep, Lambs and Goats.
1924	217,176	58,690	358,310	54,572	4,985	134,207
	52,193	—	4,252	42,324	—	4,252
	417	888	4,568	37	3	627
1925	159,638	16,745	—	41,332	883	10,608
	43,673	—	3,919	35,567	—	—
	218	366	253,617	32	2	349
1926	165,187	35,785	312,745	45,876	1,681	150,378
	38,870	490	—	28,997	490	—
	208	171	4,052	16	—	635
1927	199,172	61,713	379,736	62,323	1,657	164,985
	4,074	—	—	3,712	—	—
	351	413	4,635	43	—	332
1928	249,008	47,224	365,820	73,245	2,256	144,441
	444	—	—	170	—	—
	280	362	2,630	33	3	561
1929	238,185	48,882	325,224	67,423	1,103	122,929
	693	—	—	693	—	—
	266	416	2,789	62	2	714
1930	262,564	65,417	310,862	53,967	1,437	99,902
	1,260	—	—	1,241	—	—
	517	234	4,703	160	—	1,050
1931	256,024	87,025	372,688	43,564	3,309	147,660
	20,521	—	—	13,510	—	—
	452	197	2,589	98	4	465
1932	242,672	44,490	328,522	40,814	2,747	110,591
	12,259	—	—	8,289	—	—
	832	310	33,891	158	1	548
1933	221,060	10,516	225,078	36,804	897	69,838
	34,220	—	—	18,241	—	—
	413	164	2,085	47	1	57

Heavy type represents Irish.

‡ Foreign.

† Isle of Man.



Table showing the values of the Imports of Meats (except Poultry and Game) into the Port of Liverpool during the years 1923 to 1932.

Description	Years.									
	1923.	1924.	1925.	1926.	1927.	1928.	1929.	1930.	1931.	1932.
Bacon ...	£ 8,506,723	£ 7,080,117	£ 8,612,930	£ 7,415,016	£ 4,103,753	£ 3,592,574	£ 4,059,154	£ 2,861,449	£ 1,268,243	£ 825,312
Beef, fresh and refrigerated ...	8,561,258	7,771,561	9,992,622	10,333,855	7,223,519	8,345,604	,182,677	7,645,368	6,666,782	6,516,563
Hams ...	5,043,264	4,547,822	5,183,481	4,389,201	2,549,153	2,541,186	2,928,657	2,506,887	1,483,467	1,272,076
Mutton, fresh and refrigerated ...	4,879,930	3,337,957	4,314,957	3,498,206	3,503,587	4,140,843	4,028,739	3,524,695	3,103,269	2,847,385
Pork, fresh and refrigerated } Pork, salted }	948,484	555,610	623,824	538,273	345,024	406,868	448,527	485,738	389,082	332,424
Rabbits ...	77,096	33,092	44,393	67,275	34,322	35,945	34,546	48,260	56,316	116,418
Unenumerated, fresh, refrigerated and salted ...	419,381	408,506	550,386	492,290	474,294	418,762	455,913	600,845	472,236	429,709
Preserved, otherwise than by salting ...	1,541,595				1,181,915	1,240,491	1,140,417	1,381,407	922,414	—
Totals ...	£29,977,731	£23,729,665	£29,322,593	£26,734,116	£19,415,567	£20,722,273	£21,278,630	£19,054,649	£14,361,809	£12,339,887

Table showing the quantity of unsound meats utilised under supervision during the years 1925 to 1933 :—

Year.	Beef.				Mutton.				Pork.			
	Tons.	cwts.	qrs.	lbs.	Tons.	cwts.	qrs.	lbs.	Tons.	cwts.	qrs.	lbs.
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
1927 .....	68	8	1	4	161	10	1	19	9	2	0	14
1928 .....	28	2	0	8	46	3	3	5	2	11	3	0
1929 .....	22	18	1	18	178	13	0	21	2	19	0	4
1930 .....	20	8	3	25	58	1	0	2	—	12	1	9
1931 .....	32	6	3	6	45	19	0	26	—	2	0	27
1932 .....	8	4	3	1	28	12	3	15	—	11	2	5
1933 .....	15	2	0	5	9	9	1	25	—	2	2	19

Table showing the quantity of unsound offal utilised under supervision during the years 1925 to 1933 :—

Year.	Beef.	Mutton.	Pork.	Veal.
1925.....	40,160 pieces.	10,129 pieces.	1,883 pieces.	541 pieces.
1926.....	13,889 „	31,217 „	1,566 „	209 „
1927.....	9,243 „	6,725 „	2,790 „	248 „
1928.....	4,034 „	52,312 „	778 „	39 „
1929.....	6,447 „	14,422 „	814 „	9 „
1930.....	5,268 „	24,206 „	332 „	2 „
1931.....	4,068 „	4,491 „	2,081 „	8 „
1932.....	5,737 „	28,669 „	531 „	1,845 „
1933.....	9,256 „	1,541 „	2,221 „	408 „



Table showing the quantity and description of unsound meats utilised under supervision\* during the year 1933 :—

DESCRIPTION.	TOTAL WEIGHT.	CAUSE OF DESTRUCTION.					
		Tuberculous.		Brine stained, mouldy and decomposed.		Other causes.	
		Tons	cwts. qrs. lbs.	Tons	cwts. qrs. lbs.	Tons	cwts. qrs. lbs.
Beef .....	15 2 0 5	—	2 3 12	14 17 3	4	—	1 1 17
Mutton.....	9 9 1 25	—	— — —	4 18 1	23	4	11 0 2
Pork .....	— 2 2 19	—	— 3 24	— 1 2	23	—	— — —
Veal .....	— — — —	—	— — —	— — —	—	—	— — —
Total.....	24 14 0 21	—	3 8	19 17 3	22	4	12 1 19

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

Table showing the quantity and description of offal condemned during the year 1933:—

Name of Organ.	Beef.		Mutton.		Pork.		Veal.	
	Number.	Weight, Pounds.	Number.	Weight, Pounds.	Number.	Weight, Pounds.	Number.	Weight, Pounds.
Livers...	103	1,226	35	35	114	204	6	25
Tongues ...	12	49	—	—	8	11	21	19
Hearts ...	58	262	424	102	46	51	4	6
Skirts ...	6,686	8,880	—	—	—	—	1	2
Cheeks ...	—	—	—	—	—	—	—	—
Kidneys ...	2,065	2,036	1,082	72	129	26	376	114
Tripe ...	5	57	—	—	—	—	—	—
Tails ...	184	166	—	—	—	—	—	—
Feet ...	133	577	—	—	310	232	—	—
Plucks ...	—	—	—	—	168	951	—	—
Heads ...	—	—	—	—	190	2,224	—	—
Udders ...	—	—	—	—	—	—	—	—
Shins ...	10	23	—	—	—	—	—	—
Sweetbreads ...	—	—	—	—	—	—	—	—
Lungs ...	—	—	—	—	176	431	—	—
Maws ...	—	—	—	—	1,080	620	—	—
Totals ...	9,256	13,276	1,541	209	2,221	4,750	408	166



Table showing quantities of unsound general foodstuffs utilised under supervision during the year 1933 :—

Description.	No. of Tins.	Weight in Pounds.	Description.	No. of Tins.	Weight in Pounds.
<b>Canned Goods—</b>					
Apricots ...	131	130	Cherries ...	6,584	6,715
Apricot Pulp ...	88	958	Beef ...	409	6,450
Apples ...	178	1,780	Mutton ...	2	12
Grape Fruit ...	430	436	Tongues ...	314	1,884
Peaches ...	542	524	Hams ...	34	459
Pears ...	183	374	Salmon ...	200	198
Pines ...	201	386	Crab ...	2	1
Mandarines ...	14,212	10,055	Pilchards ...	150	150
Green Figs ...	19	35	Herrings ...	1	1
Haricot Verts ...	50	100	Lobster ...	73	72
Loganberries ...	416	832	Sardines ...	27	27
Tomato Soup ...	954	596	Anchovies ...	24	168
Tomatoes ...	28,662	79,386	Cream ...	308	597
Tomato Puree ...	9	18	Condensed Milk	19	9
Egg Pulp ...	35	1,386	Evaporated Milk ...	22	22
Whole Egg ...	318	13,231			

Description.	Packages.	Weight.			
		Tons.	Cwts.	Qrs.	Lbs.
<b>Fruit (Fresh)—</b>					
Apples ...	6,070	128	1	3	26
„ (loose) ...	—	—	5	1	20
Bananas...	4,815	170	12	3	1
„ (loose) ...	—	302	10	2	16
Oranges ...	11,628	413	15	3	6
„ (loose) ...	—	36	1	3	13
Plums ...	563	4	19	—	20
Pears ...	839	15	12	2	9
„ (loose) ...	—	—	4	1	4
Mangoes ...	420	1	17	2	—

Description.	Packages.	Weight.			
		Tons.	Cwts.	Qrs.	Lbs.
<b>Fruit (Fresh) continued—</b>					
Pineapples ... ..	148	4	4	0	18
Grape Fruit ... ..	2,471	88	15	1	17
„ (loose) ... ..	—	—	1	1	20
Lemons ... ..	888	39	6	2	16
„ (loose)... ..	—	1	14	1	0
Grapes ... ..	4	—	1	1	20
Pomegranates ... ..	35	1	5	0	0
Melons ... ..	357	14	14	2	20
Tomatoes ... ..	2,569	28	5	2	2
Walnuts (shelled) ... ..	6	—	2	1	18
Pea Nuts (shelled) ... ..	1,414	100	12	0	11
Brazil Nuts ... ..	18	—	10	2	12
„ (loose) ... ..	—	146	12	1	20
Raisins ... ..	48	—	—	1	20
„ (loose) ... ..	—	—	—	1	16
Dried Fruit ... ..	96	—	—	1	20
Dates ... ..	2	—	—	1	15
Prunes ... ..	9	—	2	0	1
<b>Vegetables—</b>					
Potatoes... ..	4,152	198	5	1	11
„ (loose) ... ..	—	1	16	0	0
Garlic ... ..	58	4	7	0	0
Onions ... ..	11	—	11	0	0
<b>Cereals—</b>					
Wheat ... ..	—	313	7	0	26
Maize ... ..	—	195	0	2	6
Rice ... ..	—	3	8	0	18
Flour ... ..	—	4	5	0	12
Oats ... ..	—	11	11	3	21
Oatmeal... ..	—	—	2	0	0
Lentils ... ..	—	1	5	0	0



Description.	Packages.	Weight.			
		Tons.	Cwts.	Qrs.	Lbs.
<b>Cereals—continued.</b>					
Tapioca... ..	—	2	1	0	8
Barley ... ..	—	—	18	3	24
<b>General—</b>					
Bacon ... ..	1	—	5	1	24
„ (loose) ... ..	—	1	4	0	19
„ ribs ... ..	—	—	3	1	10
Hams (single) ... ..	20	—	2	0	5
„ smoked (single) ... ..	88	—	9	11	6
„ cooked „ ... ..	9	—	1	0	1
Roast pork ... ..	—	—	—	1	18
Brawn ... ..	3	—	—	0	18
Lard compound ... ..	11	1	9	0	12
„ (loose) ... ..	—	—	11	2	15
Margarine ... ..	127	1	1	0	4
Butter ... ..	2	—	—	2	0
Orange juice ... ..	1	—	7	1	8
„ pulp ... ..	3	1	3	0	0
Rabbits... ..	36	—	18	0	12
„ (single) ... ..	12	—	—	—	27
Tomato Ketchup (bottles) ... ..	14	—	—	—	11
Peaches, sliced (bottles) ... ..	4	—	—	—	18
Cheese ... ..	492	—	4	3	20
Jellied veal ... ..	—	—	—	—	12
Sausages (loose) ... ..	—	—	—	1	8
Eggs (single) ... ..	200	—	—	1	4
„ frozen (loose) ... ..	—	—	—	—	11
Sugar (loose) ... ..	—	2	12	2	8
Desiccated coker nut... ..	1	—	4	3	0
„ „ (loose)... ..	—	—	14	3	17
Lobster tails ... ..	18	—	4	2	0
Pickled ham trimmings ... ..	1	—	1	3	4

Table showing the total quantities of the different unsound foodstuffs utilised under supervision during the year 1933 :—

	Tons.	Cwts.	Qrs.	Lbs.
Beef, Mutton, Pork and Veal...	24	14	0	21
Offal (Beef, Mutton, etc.) ...	8	4	1	5
Canned Goods... ..	56	13	3	12
Fruit and Vegetables ... ..	1,705	11	1	0
Cereals ... ..	524	16	0	3
General (Fish, Poultry Rabbits, etc.) ... ..	12	1	1	12
TOTAL ...	2,332	0	3	25



Table showing comparative Value of the more important Food Stuffs imported at the principal Ports during the year 1932.

	London. 1	Liverpool. 2	Hull. 3	Harwich. 4	Newcastle 5	Glasgow. 6	Bristol. 7	Man- chester. 8	Leith. 9	South- ampton. 10
	£	£	£	£	£	£	£	£	£	£
Animals .....	—	4,495,150	—	—	931,690	246,135	—	—	—	—
Butter .....	21,017,174	1,544,540	2,350,931	1,817,348	763,716	554,024	3,341,017	503,680	2,809,101	159,189
Cheese .....	6,261,308	656,438	107,948	74,459	361,813	522,851	117,684	74,179	111,476	216,952
Cocoa .....	933,167	714,695	137,880	19,020	5,874	559,066	—	—	—	—
Coffee .....	3,067,430	383,791	—	—	—	1,563	—	74,216	—	—
Grain.....	15,076,292	11,976,274	7,136,102	41,001	3,156,579	4,932,190	1,123,229	346,931	1,723,756	3,643,314
Eggs .....	5,429,481	1,222,048	525,233	704,911	1,011,307	—	731,264	365,432	667,375	31,700
Fish .....	2,962,792	2,601,186	414,178	811,296	12,669	26,544	716,648	133,030	43,993	83,899
Fruit .....	19,180,819	11,655,163	1,660,689	634,129	2,154,145	2,060,088	524,098	3,725,366	132,450	700,570
Lard .....	1,071,675	890,998	301,427	15,953	116,194	218,825	348,853	89,396	29,730	1,471,356
Margarine .....	411,361	368,459	35,578	16,894	130,936	—	17,249	—	19,193	10,866
<b>MEAT :—</b>										
Bacon .....	10,510,276	825,312	3,301,748	6,648,752	54,428	10,301	1,751,825	8,066	1,208,092	105,499
Beef .....	16,957,809	6,516,563	53,085	—	320,855	21,913	41,611	1,129,523	—	108,327
Hams .....	662,813	1,272,076	323,906	—	281,990	816	—	—	—	72,736
Mutton .....	11,730,429	2,847,385	6,609	—	130,473	353,366	—	490,740	—	28,511
Pork .....	516,422	332,424	—	—	—	—	—	—	—	—
Rabbits .....	576,435	116,418	—	—	—	—	—	—	—	—
Unenumerated.....	1,553,313	429,709	83,365	40,204	295,599	82,855	94,523	16,635	65,303	4,125
Preserved .....	—	—	—	—	—	—	138,626	—	—	84,390
Milk, Condensed .....	2,133,949	422,318	212,577	—	—	136,692	275,544	17,358	121,950	213,664
Poultry and Game .....	1,261,433	72,999	5,714	286,209	—	—	—	36,021	—	—
Sugar.....	8,884,244	7,378,025	866,849	—	198,925	88,272	7,025	—	12,260	170,177
Vegetables .....	4,093,192	2,127,888	1,434,806	392,638	219,519	146,947	463,466	1,825,822	298,506	110,269

The following table gives the particulars of samples sent to the City Analyst and Bacteriologist for examination during the year 1933:—

City Analyst.				City Bacteriologist.			
Canned Crab ...	...	...	1	Goat Hair ...	...	...	54
„ Oranges ...	...	...	2	Wool ...	...	...	18
„ Brisling in Tomato...	...	...	1	Lambs' Liver...	...	...	1
„ Brisling in Oil ...	...	...	2				
„ Sardines in Tomato	...	...	5				
„ Sardines in Oil ...	...	...	16				
„ Tomatoes ...	...	...	2				
Milk Powder ...	...	...	2				
Desiccated Milk ...	...	...	1				
Strawberry Pulp ...	...	...	1				
Apricot Pulp ...	...	...	1				
Apricots (dried) ...	...	...	3				
Calf Tongues ...	...	...	1				
Dog Food ...	...	...	1				
Bacon ...	...	...	1				
Potato Jam ...	...	...	1				
Piece of discoloured Apple	...	...	1				
Barrel Stave ...	...	...	1				
			<hr/>				<hr/>
Total ...			42	Total ...			73
			<hr/>				<hr/>

There were 3,081 rats and 241 mice examined from ships, quays, etc., and no evidence of the bacillus of plague was found in any of them.

The Port Sanitary Authority is also engaged in the issue of certificates of disinfection for foreign governments and other purposes in connection with the exportation of hides, wool, jute sacks and cloth, tailors' cuttings, rags, second-hand bags and clothing, bales of cotton, etc. The number of such certificates issued during the year was 816.

The department also endorses under the United States, Canadian and other regulations, certificates regarding wholesomeness of food articles, and the sanitary condition of the premises in which the articles were produced or stored, comprising poultry, game, cheese, bacon, hams, potatoes, preserved fish, pickled beef, tongues, sausage skins, lime juice, etc.



The work attached to preparing and recording these certificates is considerable, and takes up a large amount of time of the department.

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 given courteous assistance.

W. M. FRAZER,

*Medical Officer of Health,  
Port Sanitary Authority.*

MUNICIPAL ANNEXE,  
LIVERPOOL,  
31st March, 1934.

The work attached to preparing and recording these certificates is considerable, and takes up a large amount of time of the department.

The Medical Officer to the Port Sanitary Authority desires to express his appreciation of the valuable assistance rendered them by the Customs and staff, the Marine Board 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 Quarantine Officer has at all times given courteous assistance.

W. M. PHARER,

Medical Officer of Health,

Port Sanitary Authority.

MANCHESTER, ENGLAND.  
LIVERPOOL.  
21st March, 1922.



STATUTORY RULES AND ORDERS

1933 No. 38

PUBLIC HEALTH, ENGLAND

Prevention of Infections and Epidemic Diseases

APPENDICES.

Appendix 1.

STATUTORY RULES AND ORDERS,  
1933, No. 38.

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**PUBLIC HEALTH, ENGLAND,**  
**Prevention of Infectious and Epidemic Diseases.**

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THE PORT SANITARY REGULATIONS, 1933, DATED FEBRUARY 4, 1933,  
MADE BY THE MINISTER OF HEALTH.

---

73860.

Whereas it is desirable to give further effect to the International Sanitary Convention of Paris, 1926\* and to amend and consolidate certain of the regulations in force for the prevention of epidemic and infectious diseases:

Now, therefore, the Minister of Health, in the exercise of his powers under Section 130 of the Public Health Act, 1875, (a) the Public Health (London) Act, 1891, (b) the Public Health Act, 1896, (c) and the Public Health Act, 1904, (d) and of all other powers enabling him in that behalf, hereby makes the following regulations, with the consent of the Board of Trade, and so far as they apply to customs officers, with the consent of the Commissioners of Customs and Excise.

PART I—INTRODUCTORY.

*Short Title and Commencement.*

1.—These regulations may be cited as the Port Sanitary Regulations, 1933, and shall come into operation on the first day of May, 1933.

*Interpretation.*

2. (1) The Interpretation Act, 1889, (e) applies to the interpretation of these regulations as it applies to the interpretation of an Act of Parliament and where by these regulations any regulation is revoked Section 38 of the said Act shall apply as if these regulations were an Act of Parliament.

\* [Cd. 3207 (Treaty Series No. 22, 1928).] (a) 38-9 V; c. 55. (b) 54-5 V. c. 76.  
(c) 59-60 V.c. 19. (d) 4 E. 7. c. 16. (e) 52-3 V. c. 63.



(2) In these regulations, unless the context otherwise requires—

“the Minister” means the Minister of Health;

“sanitary authority” means a port sanitary authority and the council of every borough or urban or rural district whose area includes or abuts on waters which are part of a customs port but are not within the jurisdiction of a port sanitary authority;

“local authority” means the council of a municipal borough or other urban district or a rural district council or the common council of the City of London or the council of a metropolitan borough;

“district” means the district of a sanitary authority and in the case of a sanitary authority other than a port sanitary authority includes the waters of any customs port abutting on any part of their district so far as such waters are not within the district of a port sanitary authority;

“customs officer” includes any person acting under the authority of the Commissioners of His Majesty’s Customs and Excise;

“medical officer” means the medical officer of health of a sanitary authority or a registered medical practitioner acting under the direction of a sanitary authority, whether in place of or as an assistant to the medical officer of health or otherwise, for the purpose of executing these regulations or any of them;

“immigration officer” means an immigration officer appointed by the Secretary of State or other person employed as an immigration officer under the Aliens Order, 1920; (a)

“ship” includes a vessel or boat;

“foreign-going ship” means a ship employed in trading or going between some place or places in Great Britain and Northern Ireland and some place or places situate beyond the following limits, that is to say, the coasts of Great Britain and Ireland, the Channel Islands, the Isle of Man or the Continent of Europe between the River Elbe and Brest inclusive;

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(a) S. R. & O., 1920 (No. 448) Ip. 138.

“master” in relation to a ship includes any officer or other person for the time being in charge of or in command of the ship;

“foreign port” means a port or place situate elsewhere than in Great Britain, Ireland, the Channel Islands or the Isle of Man;

“approved port” means a district in which a medical officer is authorised by the Minister to grant deratisation certificates and deratisation exemption certificates;

“suitably equipped port” in relation to any disease means a port which has been notified to the Office International d’Hygiène publique as possessing the necessary organisation and equipment for dealing with that disease;

“prescribed measures” in relation to plague, cholera, typhus fever or smallpox in England and Wales means such of the measures set out in the Fourth Schedule to these regulations as are appropriate and in relation to yellow fever in England and Wales or plague, cholera, yellow fever, typhus fever or smallpox outside England and Wales means such measures at a suitably equipped port as are prescribed by the International Sanitary Convention of Paris, 1926 :

Provided that for the purpose of the foregoing definition the term “measures” does not include measures to which a person disembarked from a ship is subjected;

Subject as hereinafter provided, “infected” in relation to a ship arriving in a district means a ship—

- (a) which has on board a case of plague, cholera or yellow fever;  
or
- (b) on which a person developed plague more than six days after embarkation and which has not since been subjected to the prescribed measures; or
- (c) on which plague-infected rats are found; or
- (d) which has had on board a case of cholera within five days prior to arrival and which has not since been subjected to the prescribed measures; or



- (e) which had on board a case of yellow fever at the time of departure from a port, or which has had such a case on board during the voyage and which has not since the last case occurred been subjected to the prescribed measures;

Subject as hereinafter provided, "suspected" in relation to a ship arriving in a district means a ship—

- (a) on which a person developed plague within six days after embarkation and which has not since been subjected to the prescribed measures; or
- (b) on which there has been an unusual mortality among rats the cause whereof is undetermined; or
- (c) which had on board a case of cholera at the time of departure from a port or during the voyage but on which no fresh case has occurred within five days prior to arrival and which has not since the last case occurred been subjected to the prescribed measures; or
- (d) arriving from a port or seaboard included by reason of yellow fever in the list of infected ports and seabords kept by the medical officer pursuant to Article 11 of these regulations or from a port or seaboard in close relation with an endemic centre of yellow fever after a voyage of less than six days or after a longer voyage if there is reason to believe that the ship may be carrying adult mosquitoes emanating from the said port or seaboard:

Provided that for the purpose of the definitions of "infected" and "suspected" a case presenting the clinical features of cholera shall be deemed to be a case of cholera until two bacteriological examinations made with an interval of not less than 24 hours between them have not revealed the presence of cholera or other suspicious vibrios;

"infectious disease" means any epidemic or acute infectious disease but does not include venereal disease;

"deratisation certificate" and "deratisation exemption certificate" mean respectively a deratisation certificate and a deratisation exemption certificate either issued under Articles 19 and 20 of these regulations or otherwise issued in conformity with Article 28

of the International Sanitary Convention of Paris, 1926, at a port which has been notified to the Office International d'Hygiène publique as possessing the equipment and personnel necessary for the deratisation of ships;

"valid" in relation to a certificate means issued within the last preceding six months or, where the ship in respect of which the certificate is issued is proceeding to its home port, the last preceding seven months.

*Revocation of existing regulations.*

3. The regulations specified in the First Schedule of these regulations are hereby revoked.

*Execution of regulations.*

4. (1) Subject to paragraph (2) of this Article, every sanitary authority and every officer of a sanitary authority in so far as he is directed so to do by the sanitary authority shall enforce and execute these regulations and for this purpose shall make such enquiries and take such other steps as may seem to them or him to be necessary for securing the due observance of these regulations or any of them in the district.

(2) Any two sanitary authorities may agree, on such terms and conditions as they think fit, and with the approval of the Minister, that one of them shall undertake the execution of and arrange for the employment of their officers in executing the whole or specified provisions of these regulations in the district of the other. For the purposes thereof the district in which any such provision is so executed shall be deemed to be the district of the authority which executes it; and, if their district is an approved port and they so agree to execute in another district the provisions of the regulations relating to deratisation and deratisation exemption certificates, their medical officer shall have authority to grant such certificates in that district.

PART II.—SHIPS ARRIVING.

*Health Conditions on Board.*

5. The master of a foreign-going ship approaching a district from a foreign port shall ascertain the state of health of all persons on board.



6. (1) Where the Minister by a notice published in the London Gazette declared that the provision of this Article shall apply to any district specified in the notice, the master of any foreign-going ship fitted with a suitable wireless transmitting apparatus, on approaching such a district from a foreign port, shall, if any person on board has symptoms which may be indicative of infectious disease other than tuberculosis or if there are any circumstances requiring the attention of the medical officer, send to the sanitary authority, either directly or through an agent approved by the sanitary authority, a wireless message embodying such of the items of information set out in the Second Schedule to these regulations as are applicable.

(2) Any wireless message so required to be sent shall be sent so as to reach the sanitary authority not more than twelve and not less than four hours before the time at which the ship is expected to arrive in the district.

(3) Any message in wireless code delivered to the sanitary authority shall unless otherwise provided in the notice published pursuant to paragraph (1) of this Article, conform with the section relating to routine quarantine messages of the 1931 International Code of Signals.

7. If, when a foreign-going ship which is fitted with a suitable wireless transmitting apparatus is approaching from a foreign port a district to which the last preceding Article does not apply or when a foreign-going ship not so fitted is approaching any district from a foreign port, any person on board has any symptoms which may be indicative of infectious disease other than tuberculosis or there are any circumstances requiring the attention of the medical officer, the master shall, whenever practicable before the arrival of the ship and otherwise forthwith on arrival, notify the sanitary authority in regard to the health conditions on board:

Provided that if a wireless message is sent, it shall contain such of the items of information set out in the Second Schedule to these regulations as are applicable, it shall be sent in accordance with the provisions contained in paragraph (2) of the last preceding Article and, if in code, it shall conform with the section of the International Code of Signals aforesaid.



8. The sanitary authority, upon receipt of information that a person on board a ship approaching their district has symptoms which may be indicative of infectious disease other than tuberculosis or that there are circumstances in relation to any such ship requiring the attention of the medical officer, shall forthwith notify the customs officer to that effect.

*Use of Flags and Signals.*

9. The master of a ship coming from a foreign port shall comply with the provisions as to flags and signal lights contained in the Third Schedule to these regulations: Provided that this provision shall not extend to a ship engaged in the regular daily packet boat traffic between Great Britain and ports or places in the Channel Islands, the Isle of Man, Ireland, Belgium, France or the Netherlands.

*Mooring Stations.*

10. (1) In every district one or more mooring stations within the docks shall be established by the sanitary authority with the concurrence of the customs officer and the harbour master in such a situation as to enable a ship to be moored without coming into contact with other ships or with the shore:

Provided that the medical officer with such concurrence as aforesaid may designate as a special mooring station for any particular ship some place so situate as aforesaid other than an established mooring station, and any special station so designated shall in relation to that ship be deemed to be a mooring station.

(2) An additional mooring station outside the docks shall be established by the sanitary authority with the concurrence of the customs officer in every district in which a satisfactory mooring station can be so established.

(3) Such additional mooring station shall be established within the district of the sanitary authority unless the Minister otherwise consents, in which case the place so established shall for the purposes of these regulations be deemed to be within that district.



*List of infected ports and seaboard.*

**11.** The medical officer shall from time to time prepare and keep up to date a list of foreign ports and seaboard which are infected or believed to be infected or which serve an area infected or believed to be infected with plague (human or rodent), cholera, yellow fever, typhus fever or smallpox, and shall supply copies of every such list and any amendment thereof to the pilots and customs officers employed in the district. In the preparation and amendment of such lists, the medical officer shall take into account all information sent to him from time to time by the Minister.

*Infected or suspected Ships and other Ships which may be unhealthy.*

**12.** (1) In any of the cases hereinafter specified the master of a ship arriving in a district shall cause the ship to be taken to a mooring station unless the medical officer or other authorised officer of the sanitary authority allows the ship to be isolated at its place of mooring, discharge or loading, or otherwise directs, that is to say where—

(a) the ship is an infected or suspected ship or has a case of typhus fever or smallpox on board; or

(b) during the voyage (or where the voyage has lasted more than six weeks during the last six weeks):—

(i) there has been on the ship a case or suspected case of plague, cholera, yellow fever, typhus fever or smallpox; or

(ii) plague has occurred or been suspected amongst rats or mice on the ship; or

(iii) sickness or death not attributable to poison or the employment of other measures for destruction has occurred amongst the rats or mice on the ship;

and the ship has not since any such condition supervened been subjected to the prescribed measures.

(2) The master shall also cause the ship to be taken to a mooring station if the medical officer, having reason to believe that the ship falls within any of the categories specified in the preceding paragraph, so directs.

(3) If it is yellow fever which causes the ship to be an infected or suspected ship or which brings it within sub-paragraph (b) (i) of paragraph (1) of this Article such of the measures prescribed in relation to that disease by the International Sanitary Convention of Paris, 1926, as the medical officer considers necessary shall be carried out; in any other of the cases there specified such of the measures set out in the Fourth Schedule to these regulations as are appropriate shall be carried out.

(4) Any ship which has become subject to the provisions of paragraph (1) or (2) of this Article shall remain subject to control under these regulations until it has been examined by the medical officer and until any measures which may be required to be carried out in pursuance of paragraph (3) (other than measures in relation to any person who has disembarked from the ship) have been completed.

#### *Declarations of Health.*

**13.** (1) The master of a foreign-going ship arriving in a district from a foreign port shall fill in and sign a declaration of health in the form set out in the Fifth Schedule to these regulations. If the ship carries a ship's surgeon he shall countersign the declaration.

(2) The master shall deliver the declaration of health to the customs officer or the officer of the sanitary authority, whichever shall first board the ship, and that officer shall peruse the answers to the questions in the declaration and make such further enquiries of the master as appear to him to be necessary.

(3) The officer receiving the declaration of health shall forward it to the sanitary authority, and in any case in which the customs officer has detained the ship pursuant to these regulations the sanitary authority shall furnish him with a copy of the declaration, if he so requires.

#### *Detention of Ships.*

**14.** (1) Where a ship (whether a foreign-going ship or not) arrives in a district from a foreign port and it appears to the customs officer from answers to questions in a declaration of health or from answers to enquiries made by him or otherwise—



- (a) that during the voyage (or, where the voyage has lasted more than six weeks, during the last six weeks) there has been on the ship a death from illness suspected to be of an infectious nature or a case of such illness; or
- (b) that the ship has called at a port or seaboard included in the list referred to in Article 11; or
- (c) that during the voyage (or, where the voyage has lasted more than six weeks, during the last six weeks) plague has occurred or been suspected amongst rats or mice on the ship or sickness or death not attributable to poison or other measures for destruction has occurred amongst the rats or mice on the ship;

he shall direct that the ship shall be taken to and detained at a mooring station unless the medical officer or other authorised officer of the sanitary authority otherwise allows.

(2) The medical officer may also direct that a ship arriving from a foreign port shall be detained for medical examination, and may hand a notice in writing to that effect to the customs officer who, if he is the first officer to visit the ship, shall deliver the notice to the master.

**15.** (1) If the ship is detained under paragraph (2) of Article 14 it shall be allowed to proceed to or remain at its place of mooring, discharge or loading unless the medical officer otherwise directs, but the medical officer shall visit the ship as soon as possible.

(2) The detention of any ship by a customs officer under these regulations shall cease as soon as the ship has been duly visited and examined by the medical officer or, if the examination has not commenced within twelve hours after the ship has been moored, on the expiration of that period:

Provided that nothing in this paragraph contained shall affect the exercise of any powers of the medical officer in regard to the detention of ships.

*Restriction on boarding or leaving Ship.*

**16.** (1) When a ship arrives in a district from a foreign port no person other than a pilot, a customs officer, an immigration officer or a person acting in the execution of these regulations shall, without the permission of the medical officer or other authorised officer of the

sanitary authority, board or leave the ship until it is free from control under these regulations, and the master shall take all steps necessary to secure compliance with this provision.

(2) Before granting permission to any person to leave a ship, the medical officer may require him to state his name and his intended destination and address, and to give any other information which the medical officer may reasonably think necessary for transmission to the local authority of the area within which the intended place of destination of the person is situate.

(3) If a person who, having been required to state his intended destination and address before being permitted to leave a ship, either is unable to do so or arrives, within a period, not exceeding fourteen days after landing, to be specified to him by the medical officer, at a place other than that which he has so stated, he shall immediately after his arrival forward particulars of his actual place of arrival and his address to the medical officer of the district in which he left the ship.

*Ships arriving from infected ports and seaboards and Ships at mooring stations.*

**17.** The medical officer shall—

(a) inspect, on arrival in the district, any ship which has come from or called at any foreign port or seaboard which is included in the list prepared pursuant to the provisions of Article 11, and any other ship which has come from or called at a foreign port and on which there has occurred during the voyage any case of illness which was or may have been plague, cholera, yellow fever, typhus fever or smallpox or on which rodent plague has occurred or been suspected during the voyage :

Provided that a ship shall not be deemed to have called at a foreign port or seaboard if, without having been in communication with the shore, it has landed only mails and passengers and their luggage, or it has taken on board only mails or passengers with or without their luggage from another ship which has also not been in communication with the shore ;



- (b) within twelve hours after the arrival of a ship at a mooring station or after the detention of a ship by a customs officer or as soon as possible thereafter, board and examine the ship; and if the ship is liable to be subjected to further control under these regulations continue the detention or detain the ship, as the case may require;
- (c) where a ship has been detained at or sent to a mooring station, or isolated at its place of mooring, discharge or loading, on account of the discovery or suspicion of plague-infected rats, cause all practicable steps to be taken to prevent the escape of rats from the ship.

*Removal of Ship to mooring station after arrival in district.*

**18.** If plague-infected rats are discovered, or plague, cholera, yellow fever, typhus fever or smallpox occurs, on any ship after it has come into a district the medical officer may if he thinks fit require the master to remove the ship to a mooring station.

*Deratisation and Deratisation Exemption Certificates.*

**19.** (1) On the arrival of a ship from a foreign port at an approved port, whether or not the first port of call in England or Wales, the medical officer shall, unless a valid deratisation certificate or valid deratisation exemption certificate is produced in respect of the ship, take such steps as he may consider necessary to ascertain whether the ship is maintained in such a condition that the number of rats on board is kept down to the minimum.

(2) If, after the ship has been inspected, the medical officer is satisfied that the ship is free from rats or is maintained in such a condition that the number of rats on board is kept down to the minimum, he shall sign and issue a deratisation exemption certificate.

(3) If, after the ship has been inspected, the medical officer is of opinion that the ship is not maintained in such a condition that the number of rats on board is kept down to the minimum, he shall require the ship to be deratised in such manner as may be specified or approved by him, and the master shall forthwith make arrangements for the deratisation of the ship to be carried out to the satisfaction of the medical officer.



(4) After the deratisation has been completed to his satisfaction, the medical officer shall sign and issue a deratisation certificate.

**20.** Upon receipt of an application in writing from the owner of any ship in an approved port, or from the master of the ship acting for and on behalf of the owner, for a deratisation exemption certificate or a deratisation certificate in respect of the ship, the medical officer shall take such steps as he may consider necessary to satisfy himself that the ship is maintained in such a condition that the number of rats on board is kept down to the minimum, or give directions for the deratisation of the ship, as the case may require, and, on being satisfied as to the condition of the ship or that the deratisation of the ship has been properly carried out, he shall issue the appropriate certificate.

**21.** (1) All deratisation and deratisation exemption certificates shall be in such form as the Minister may from time to time direct.

(2) A copy of every such certificate shall be retained in the office of the sanitary authority, and a copy shall be forwarded to the Minister unless he otherwise directs.

(3) The owner or the master of the ship shall pay to the sanitary authority such fee for the inspection of the ship and for the issue of a certificate as the Minister may from time to time determine.

### PART III.—SHIPS IN PORT.

#### *Embarkation of Persons.*

**22.** (1) The medical officer may examine any person proposing to embark on a ship whom he suspects to be suffering from plague, cholera, yellow fever, typhus fever or smallpox and if, after examination, he is of opinion that the person shows symptoms of any of these diseases he may prohibit his embarkation.

(2) If severe smallpox (*variola major*) exists in any part of Great Britain, the medical officer may prohibit any person coming from such part who has been in such contact with any person suffering from the disease as to render him liable to transmit infection and who is not, in the opinion of the medical officer, adequately protected against smallpox, from embarking on any ship going beyond Great Britain, Ireland, the Channel Islands and the Isle of Man.



*Application.*

**23.** Where the Minister has, by notice published in the London Gazette, declared a district to be infected with plague, cholera, or yellow fever, or to be a district in which typhus fever or smallpox exists in an epidemic form, the following provisions of this Part of these regulations shall operate in that district until the notice is revoked by a subsequent notice published in the London Gazette.

*Examination of Ships and persons on board.*

**24.** (1) The medical officer may at any time, and shall within twelve hours after receiving a request from the master so to do, visit any ship and may medically examine any person on board or proposing to embark on the ship.

(2) The medical officer or other authorised officer of the sanitary authority may and on the request of the master shall examine any clothing bedding or other article of personal use which belongs to or is in use or is intended for use by the master or a member of the crew or any person who proposes to embark on or is on board any ship and which, in the opinion of the medical officer or other authorised officer as aforesaid, may have been exposed to infection, and may require the disinfection or destruction of any such clothing bedding or article of personal use.

(3) The medical officer or other officer as aforesaid may require any parts of a ship which, in his opinion, may be infected to be disinfected to his satisfaction.

(4) No person shall take or cause to be taken on board a ship any body linen, clothing or bedding or any article whatsoever which, in the opinion of the medical officer or other officer as aforesaid is capable of carrying infection, unless that officer is satisfied that it has been efficiently disinfected.

*Plague.*

**25.** If any part of the district is declared to be infected with plague, the medical officer may, and shall if so required by the Minister—

- (a) take steps to secure the deratisation of any ship on which he has reason to believe that there are rats, and for that

purpose the provisions of Articles 19, 20, and 21 so far as they are applicable to the circumstances of the case shall apply; and

- (b) require the master of a ship, under the direction of the medical officer and to his satisfaction, to take all such precautions and employ all such means for effectually stopping the access of rats from the shore to the ship, as in the opinion of the medical officer, are necessary for the prevention of the conveyance of infection by means of the ship.

#### *Cholera.*

**26.** If any part of the district is declared to be infected with cholera the medical officer may, and shall if so required by the Minister—

- (a) take steps to secure that all tanks and filters used in connection with the supply of drinking water on a ship shall be emptied, cleansed and disinfected and that the tanks shall then be refilled with wholesome water;
- (b) prohibit any person from taking foodstuffs on board a ship: Provided that the prohibition may be applied, as the medical officer may see fit, either generally to all foodstuffs or to any specified foodstuffs or any class or classes of foodstuffs or to foodstuffs obtained from any specified source or sources of supply; and
- (c) require that the bilges and any water used as ballast shall be disinfected.

#### *Typhus Fever.*

**27.** If typhus fever is declared to exist in an epidemic form in any part of the district the medical officer may require any person who proposes to embark on or is on board any ship to be deloused.

#### PART IV.—GENERAL.

##### *Appointment and duties of officers and provision of services by Sanitary Authority.*

**28.** The sanitary authority may for the purposes of these regulations, and if so required by the Minister shall—



- (a) appoint one or more duly qualified medical practitioners for the purpose of performing and of assisting the medical officer of health of the sanitary authority in the performance of the duties assigned to the medical officer by these regulations and pay any such practitioner such reasonable remuneration for his services as the Minister may approve;
- (b) give directions as to which of the duties assigned to the medical officer by these regulations are to be performed by any medical practitioner appointed by them (including the medical officer of health); Provided that the sanitary authority shall direct only their medical officer of health or, in his absence, the medical officer authorised to act in his place to perform the duties imposed by these regulations in relation to the signing and issuing of certificates and statements;
- (c) provide or arrange for the provision of—
  - (i) premises and waiting rooms for the purposes of medical examinations;
  - (ii) apparatus or means for the cleansing and disinfection of ships, persons and clothing and other articles;
  - (iii) premises for the temporary accommodation of persons for whom such accommodation is required for the purposes of these regulations;
  - (iv) hospital accommodation for persons to whom these regulations are applicable;
  - (v) means of transport;
- (d) do all such other things as in the opinion of the sanitary authority or of the Minister, as the case may be, are necessary for the purpose of enabling the provisions of these regulations to be complied with.

*Powers and duties of Medical Officer and other officers.*

**29.** For the purposes of these regulations the medical officer and any duly authorised officer of the sanitary authority shall have power to enter or board any ship in the district, and may cause the ship to be brought to and, if necessary, moored or anchored in some safe and convenient place while it is visited and examined.

**30.** (1) The medical officer may, and if so required by the sanitary authority or by the Minister shall :—

- (a) examine any person who is suffering from infectious disease on board a ship in the district;
- (b) examine any person who is on board such a ship, where there are reasonable grounds for believing or suspecting that infectious disease is or may be present on the ship, or that persons on board the ship have been exposed to infection from infectious disease during the voyage of the ship or during a period of three weeks immediately preceding the arrival of the ship in the district;
- (c) examine any person who is on board a ship in the district and is reasonably believed to be verminous;
- (d) detain for the purpose of examination either upon the ship or at some appointed place on shore any person whom he is empowered or required under this Article to examine;
- (e) cause any such person and the clothing of or any other articles belonging to such person to be cleansed and disinfected;
- (f) prohibit any such person from leaving the ship, or from leaving the ship save upon such specified conditions as appear to the medical officer to be reasonably necessary to prevent the spread of infection in the district or elsewhere;
- (g) require the master to take or assist in taking such steps as, in the opinion of the medical officer, are reasonably necessary for preventing the spread of infection by any such person, for the destruction of vermin and for the removal of conditions on the ship likely to convey infection, including conditions the existence of which might facilitate the harbouring of vermin.

(2) The medical officer shall forthwith communicate to the sanitary authority any directions given to him by the Minister under this Article.

**31.** (1) The medical officer may cause any person who is on board a ship in the district and who appears to be suffering from infectious disease to be removed, if his condition so permits, to some hospital or other suitable place appointed for that purpose by the sanitary authority.



(2) If the condition of any such person does not permit of his removal as aforesaid, the medical officer may, by notice in writing to the master, prohibit the removal of the person or his departure from the ship, save with the consent in writing of the medical officer.

*Duties of Master.*

**32.** The master of a ship in a district shall—

- (a) answer all questions as to the health conditions on board which may be put to him by a customs officer or officer of the sanitary authority visiting his ship and furnish the sanitary authority and their officers with all such information and assistance as may be reasonably required by them for the purposes of these regulations;
- (b) notify forthwith the medical officer of any case of infectious disease on the ship and of any circumstances on board which are likely to lead to infection or the spread of infectious disease, including in his notification particulars as to the sanitary condition of the ship and the presence of dead rats or mortality or sickness among rats in the ship;
- (c) comply with these regulations and any directions or requirements of the sanitary authority or the medical officer or other authorised officer of the sanitary authority given or made in pursuance of these regulations.

*Compliance with directions, etc., of Sanitary Authority.*

**33.** (1) Every person to whom these regulations apply shall comply with all directions, requirements or conditions given, made or imposed by the sanitary authority or the medical officer or other authorised officer of the authority in pursuance of these regulations, and shall furnish all such information as may be reasonably required by them (including information as to his name, destination, and address) and every person who has for the time being the custody or charge of a child or other person who is under disability shall comply with any directions, requirements or conditions so given, made or imposed, and shall furnish all such information as aforesaid in respect of such child or other person.

(2) Every person who is placed under surveillance in pursuance of these regulations shall give facilities for any medical examination



required by the medical officer or by the medical officer of health of any local authority in whose area he may be during the period of surveillance.

*Cleansing of Ships.*

**34.** Article 3 of the Port Sanitary Authorities (Assignment of Powers) Order, 1912 (a) (which relates to the cleansing of berths and cabins) shall be extended so as to apply to the whole of any ship or to any part thereof.

*Charges for services of Sanitary Authority.*

**35.** (1) Where the master of any ship is required by or in pursuance of these regulations to carry out any measures with a view to reducing the danger or preventing the spread of infection, the sanitary authority may themselves, at the request of the master and, if they think fit, at his cost, cause any such requirement to be complied with instead of enforcing the requirement against the master. When the sanitary authority cause any such requirement to be complied with at the cost of the master they may, if they think fit, require the amount of the charge for the work or a part thereof to be paid to or deposited with them before the work is undertaken.

(2) The amount of the charge for any work so to be undertaken by the sanitary authority shall be such reasonable sum as to the exclusion of any charge or claim in respect of profit represents the actual or estimated cost to be incurred by the sanitary authority in undertaking the work, so, however, that it shall not exceed the sum of twenty pounds unless notice of the proposed charge has been given to the master before the work is undertaken.

(3) The sanitary authority or the medical officer shall, on the request of the master of any ship in regard to which action required of the master in pursuance of these regulations has been taken, furnish the master free of charge with a statement in writing recording the particulars of any such action (including the measures of disinfection which have been taken) in regard to which the master may reasonably require such a statement: Provided that no such statement in regard



to deratisation measures shall take the form of a deratisation certificate unless such a certificate could be issued under Article 19 or 20 of these regulations.

*Recovery of fees and charges.*

**36.** Any fee payable to the sanitary authority in pursuance of paragraph (3) of Article 21 and every charge authorised by Article 35 shall be recoverable by the sanitary authority as expenses or demands within the meaning of section 251 or of section 261 of the Public Health Act, 1875, and those sections and the enactments referred to in or applied by those sections shall apply and have effect for the recovery of the said expenses as if the said sections and enactments were herein re-enacted and in terms made applicable to the case.

**37.** Subject to the provisions of Articles 21 (3) and 35 any expenses incurred by a sanitary authority in the execution of these regulations shall be defrayed in the same manner as the expenses incurred by them in the execution and discharge of their existing powers and duties.

*Saving for mails.*

**38.** Nothing in these regulations shall render liable to detention disinfection, or destruction any article forming part of any mail (other than a parcel mail) conveyed under the authority of the Postmaster-General, or of the postal administration of any other government, or shall prejudicially affect the receipt on board and delivery in due course at the port or place of destination of any such mail (other than a parcel mail) in accordance with the provisions of the Post Office Acts.

*Saving for Ships putting to sea.*

**39.** The master of a ship in or approaching a district who does not desire to submit to any requirements of these regulations which may be applicable shall be at liberty to put to sea without being subjected to control under these regulations if he notifies the medical officer of his intention: Provided that if he desires to land goods, to disembark passengers or to take on fuel, foodstuffs or water, the medical officer may grant him permission so to do subject to such conditions, in conformity with the provisions of Article 54 of the International Sanitary Convention of Paris, 1926, as the medical officer thinks fit; and the master shall proceed accordingly and put to sea with due despatch.



## FIRST SCHEDULE.

*Regulations revoked.*

(Article 3.)

## PART I.—GENERAL REGULATIONS.

Date.	Subject or Short Title.
9th September, 1907 ... ..	Regulations as to Cholera, Yellow Fever, and Plague: Ships arriving from foreign ports. (a)
9th September, 1907 ... ..	Regulations as to Cholera and Plague: Coasting Ships. (b)
9th September, 1907 ... ..	Regulations as to Cholera and Plague: Outward-bound ships. Specified Articles. (c)
14th July, 1920 ... ..	The Port Sanitary Authorities (Infectious Diseases) Regulations, 1920. (d)
12th October, 1929 ... ..	The Public Health (Deratisation of Ships) Regulations 1929. (e)

## PART II.—SPECIAL REGULATIONS OR ORDERS.

Date.	Name of Port and Port Sanitary Authority.	Subject.
18th February, 1909 ... ..	Bristol and Gloucester ... ..	Regulations as to Cholera, Yellow Fever and Plague Ships arriving from foreign ports. (f)
25th February, 1909 ... ..	Harwich and Ipswich ... ..	Ditto. (g)
25th February, 1909 ... ..	Liverpool and Manchester... ..	Ditto. (h)

## SECOND SCHEDULE.\*

*Wireless Messages—Items of Information.*

(Articles 6 (1) and 7.)

## Item I.

The following is an International Quarantine Message from vessel indicated of port indicated which expects to arrive at time indicated on date indicated.

\* For notes on the sending of a standard quarantine message see p. 229 of Vol. II. of the British Edition of the 1931 International Code of Signals.

- (a) S.R. & O. 1907 (No. 710) p. 924. (b) S.R. & O. 1907 (No. 694) p. 939.  
 (c) S.R. & O. 1907 (No. 695) p. 944. (d) S.R. & O. 1920 (No. 1294) II p. 663.  
 (e) S.R. & O. 1929 (No. 832) p. 1165.  
 (f) S.R. & O. 1909, No. 191 (not printed in S.R. & O. series).  
 (g) S.R. & O. 1909, No. 192 (not printed in S.R. & O. series).  
 (h) S.R. & O. 1909, No. 193 (not printed in S.R. & O. series).



## Item II.

My port of departure (first port of loading) and my last port of call were as indicated by the immediately following groups.

## Item III.

Number indicated cases of infectious disease(s) indicated have occurred during the last 15 days.

## Item IV.

I have no other case of sickness on board.

I have number indicated other cases of sickness on board.

## Item V.

Number indicated deaths from sickness infectious or otherwise have occurred on board during the voyage.

## Item VI.

I have a ship's surgeon on board.

I have no ship's surgeon on board.

## Item VII.

I do not wish to disembark any sick.

I wish to disembark number indicated sick, suffering from disease(s) indicated.

## Item VIII.

My crew consists of number indicated, and I have no passengers on board.

My crew consists of number indicated, and I have number indicated passengers.

## Item IX.

I do not propose to disembark any passengers.

I propose to disembark number indicated passengers of class indicated.

## THIRD SCHEDULE.

*Flags and Signal Lights.*

(Article 9.)

PART I.—*Flags and Signal Lights to be used until the 1st January, 1934.*

If the ship is an infected or suspected ship or has one or more cases of typhus fever or smallpox on board, the undermentioned signal shall be shown from the time when the ship is within three miles of the coast or within the limits of a district until the ship is free from control under these regulations:—

- (a) *by day*, during the whole of the time between sunrise and sunset, a large flag of yellow and black borne quarterly, where it can best be seen; and
- (b) *by night*, during the whole of the time between sunset and sunrise, three lights arranged at a distance of not less than six feet apart, in the form of an equilateral triangle, at a height of not less than twenty feet above the hull or where it can best be seen, the top light being white the other two lights red.

PART II.—*Flags and Signal Lights to be used on and after the 1st January, 1934.*

Whichever of the undermentioned signals is appropriate shall be shown until the ship is free from control under these regulations:—

- (a) *by day*, during the whole of the time between sunrise and sunset, when the ship is within three miles of the coast or is within the limits of a district—
  - (i) the Flag Signal Q; meaning—"my ship is healthy and I request free pratique";
  - (ii) the Two Flag Signal QQ; meaning—"my ship is *suspect*, that is to say, I have had a case or cases of infectious disease more than five days ago, or there is an unusual mortality among rats on board"; or
  - (iii) the Two Flag Signal QL; meaning—"my ship is *infected*, that is to say, I have had a case or cases of infectious disease less than five days ago."



The day signal shall be shown at the masthead or where it can best be seen.

(b) *by night*, during the whole of the time between sunset and sunrise, but only when the ship is within the limits of a district a signal comprising a red light over a white light, the lights being not more than six feet apart, and meaning—"I have not free pratique."

The night signal shall be shown at the peak or other conspicuous place where it can best be seen.

---

#### FOURTH SCHEDULE.

*Measures to be carried out in respect of an infected or suspected ship or of a ship with a case of typhus fever or smallpox on board.*

(Articles 2 (2) and 12.)

#### PART A.—PLAGUE.

##### I. *Infected Ships.*

1. The ship shall be inspected and all persons on board shall be medically examined.

2. The sick shall immediately be disembarked and isolated.

3. All persons who have been in contact with the sick and those whom the medical officer has reason to consider suspect shall be disembarked, if possible.

4. The medical officer, after taking into consideration the date of the last case, the condition of the ship, and all the circumstances may either—

(a) isolate any such person; or

(b) place him under surveillance; or

(c) first isolate him and then place him under surveillance;

Provided that no person shall be isolated or kept under surveillance for a period extending in the aggregate beyond six days after the date of arrival of the ship in the district.

5. During any period of isolation or surveillance the members of the crew may be prohibited from leaving the ship, except for the purposes of their duty, and after notification to the sanitary authority.

6. Bedding which has been used, soiled linen, wearing apparel and other articles which, in the opinion of the medical officer, are infected shall be cleansed of vermin and, if necessary, disinfected.

7. The parts of the ship which have been occupied by persons suffering from plague or which the medical officer considers to be infected shall be cleansed of vermin and, if necessary, disinfected.

8. The medical officer may require the ship to be deratised before any cargo is discharged if he considers it possible, having regard to the nature of the cargo and the way in which it is loaded, to effect the deratisation of the ship before the discharge of cargo. If the ship has not been deratised before the discharge of cargo, or if it has been so deratised and the medical officer considers a further deratisation necessary and the master agrees, the ship shall be deratised as soon as the holds are empty. If the ship is in ballast, it shall be deratised before any cargo is taken on board.

If the ship is to discharge part only of its cargo and the medical officer considers it impossible to carry out a complete deratisation, the ship may remain in the district for the time required to discharge such part of its cargo, provided that all precautions, including isolation, are taken, to the satisfaction of the medical officer, to prevent rats from passing from the ship to the shore, either during unloading or at any other time.

The discharge of cargo shall be carried out under the control of the medical officer, who shall take all measures necessary to prevent the spread of infection.

## II. *Suspected Ships.*

9. The provisions contained in paragraphs 1, 6, 7 and 8 of Part "A" of this Schedule (relating to plague infected ships) shall also apply to ships suspected of plague.

10. The members of the crew and the passengers may be kept under surveillance for a period not exceeding six days after the date of arrival of the ship.



11. The members of the crew may, for the like period, be prohibited from leaving the ship except for the purposes of their duty, and after notification to the sanitary authority.

## PART B.—CHOLERA.

### I. *Infected Ships.*

1. The ship shall be inspected and all persons on board shall be medically examined.

2. The sick shall immediately be disembarked and isolated.

3. The members of the crew and the passengers may be disembarked and either be isolated or be placed under surveillance for a period not exceeding five clear days after the date of arrival of the ship.

Persons satisfying the medical officer that they have been vaccinated for cholera within the preceding six months, excluding the last six days thereof, may be placed under surveillance, but they shall not be isolated.

4. Bedding which has been used, soiled linen, wearing apparel and other articles, including foodstuffs, which in the opinion of the medical officer, have been recently contaminated, shall be disinfected.

5. The parts of the ship which have been occupied by persons infected with cholera or which the medical officer considers to be infected shall be disinfected.

6. Unloading shall be carried out under the supervision of the medical officer who shall take all measures necessary to prevent the spread of infection.

7. If the drinking water stored on board is suspected by the medical officer, he shall cause it to be emptied after it has been disinfected, and to be replaced, after disinfection of the tanks and filters, by a supply of wholesome drinking water.

8. The medical officer may prohibit the emptying of water ballast unless it is first disinfected, if it was taken on board at an infected port.

9. The medical officer may require human dejecta and the waste water of the ship to be disinfected before they are discharged from the ship.

## II. *Suspected Ships.*

10. The provisions contained in paragraphs 1, 4, 5, 7, 8 and 9 of Part B of this Schedule (relating to cholera infected ships) shall also apply to ships suspected of cholera.

11. The members of the crew and the passengers may be kept under surveillance for a period not exceeding five clear days after the date of arrival of the ship.

### PART C.—TYPHUS FEVER.

1. This Part of this Schedule applies to ships which, during the voyage or, if the voyage has lasted more than six weeks, within the last six weeks, have had, or at the time of their arrival have, a case of typhus fever on board.

2. The ship shall be inspected and all persons on board shall be medically examined.

3. The sick shall immediately be disembarked, isolated and deloused.

4. Any other person reasonably suspected to be harbouring lice, or to have been exposed to infection, shall also be deloused, and may be placed under surveillance for a period not exceeding twelve days from the date on which he was deloused.

5. Bedding which has been used, linen, wearing apparel and any other article which the medical officer considers to be infected shall be disinfected.

6. The parts of the ship which have been occupied by persons suffering from typhus fever or which the medical officer considers to be infected shall be disinfected.

### PART D.—SMALLPOX.

1. This Part of this Schedule applies to ships which, during the voyage or, if the voyage has lasted more than six weeks, within the last six weeks, have had, or at the time of their arrival have, a case of smallpox on board.

2. The ship shall be inspected and all persons on board shall be medically examined.



3. The sick shall immediately be disembarked and isolated.

4. Any other person reasonably suspected by the medical officer to have been exposed to infection on board shall be offered vaccination, unless, in the opinion of the medical officer, the person is sufficiently protected by recent vaccination, or by a previous attack of smallpox. Every such person shall be placed under surveillance for a period not exceeding fourteen days after the date of the arrival of the ship.

5. Bedding which has been used, soiled linen, wearing apparel and any other article which the medical officer considers to have been recently infected shall be disinfected.

6. The parts of the ship which have been occupied by persons suffering from smallpox or which the medical officer considers to be infected shall be disinfected.

#### FIFTH SCHEDULE.

*Port Sanitary Regulations, 1933. (Article 13.)*

#### DECLARATION OF HEALTH.

*(To be rendered by the Master of a foreign-going ship arriving in England or Wales from a foreign port.)*

Name of Vessel	From	via
Nationality	Net Registered Tonnage	

#### HEALTH QUESTIONS.

Answer  
YES or NO.

1. Has there been on board during the voyage\* any case or suspected case of Plague, Cholera, Yellow Fever, Typhus Fever or Smallpox? (Give particulars in the Schedule) .....

2. Has Plague occurred or been suspected amongst the rats or mice on board during the voyage\*? .....

3. Are you aware of sickness or deaths amongst the rats or mice on board other than is attributable to poison or any other method employed for killing them?.....

4. Has any person died on board during the voyage\* otherwise than as the result of accident? (Give particulars in the Schedule) .....

5. Is there on board or has there been during the voyage\* any case of illness which you suspect to be of an infectious nature? (Give particulars in the Schedule.) .....

NOTE.—*In the absence of a Surgeon the Master should regard the following symptoms as grounds for suspecting the existence of infectious disease:—*

Fever accompanied by prostration or persisting for several days, or attended with glandular swellings; or any acute skin rash or eruption with or without fever; severe diarrhœa or diarrhœa with symptoms of collapse; jaundice accompanied with fever.

6. Are you aware of any *other* condition on board which may lead to infection or to the spread of infectious disease? .....

I hereby declare that the particulars and answers to the questions given in this Declaration of Health (including the Schedule) are true and correct to the best of my knowledge and belief.

Date ..... Signed .....

(Master.)

Countersigned .....

(Ship's Surgeon.)

---

\* If more than six weeks have elapsed since the date on which the voyage began, it will suffice to give particulars for the last six weeks.



## Schedule to the Declaration.

## PART I.

PARTICULARS OF EVERY CASE OF ILLNESS OR DEATH REFERRED TO IN QUESTIONS 1, 4 AND 5.

Name.	Class or Rating.	Age.	Sex.	Race.	Port and Date of Embarkation.	Nature of Illness.	Date Illness began.	1. Result of Illness. 2. Disposal of Case. Remarks.

\* 1. State whether :—recovered ; still ill ; died.

2. State whether :—still on board ; landed abroad (give name of Port) ; or buried at sea.

## PART II.

## PARTICULARS OF VOYAGE, PASSENGERS, CREW AND CARGO.

First Port of Loading.....Date of Departure.....

Ports of Call :—

Outwards .....

.....

.....

Homewards .....

.....

.....

Next Port (if voyage not completed) .....

Name of Owners or Agents .....

Nature of Cargo .....

.....

Number of persons on board :—

(A) *Crew* :

	British.	Alien
(a) White .....	.....	.....
(b) Coloured .....	.....	.....
Totals : .....	.....	.....

(B) *Passengers* :

	British.	Alien.
(a) 1st Saloon .....	.....	.....
(b) 2nd Saloon .....	.....	.....
(c) 3rd Saloon .....	.....	.....
(d) Steerage .....	.....	.....
Totals : .....	.....	.....

(C) *Other persons on Board* .....

Signed.....

Master.



Given under the Official Seal of the Minister of Health this fourth day of February, in the year nineteen hundred and thirty-three

(L.S.)

*W. A. Ross,*

Assistant Secretary,

Ministry of Health.

NOTE.—By Section 1 (3) of the Public Health Act, 1896, any person who wilfully neglects or refuses to obey or carry out, or obstructs the execution of any regulation made under Section 130 of the Public Health Act, 1875, or under that Section as extended to London by the Public Health (London) Act, 1891, or as amended by the Public Health Act, 1896, is liable to a penalty not exceeding one hundred pounds, and in the case of a continuing offence to a further penalty not exceeding fifty pounds for every day during which the offence continues.

Given under the Official Seal of the Minister of Health this fourth day of February, in the year nineteen hundred and thirty-three

(L.S.) Witness my hand and the seal of the Ministry of Health

Assistant Secretary

Ministry of Health

Note.—By Section 1 (3) of the Public Health Act, 1936, any person who wilfully neglects or refuses to obey or carry out or obstructs the execution of any regulation made under Section 130 of the Public Health Act, 1936, or under that Section as extended to London by the Public Health (London) Act, 1931, or as amended by the Public Health Act, 1936, is liable to a penalty not exceeding one hundred pounds, and in the case of a continuing offence to a further penalty not exceeding fifty pounds for every day during which the offence continues.

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**Appendix 2.**

[COPY].

**AGREEMENT AS TO THE EXECUTION OF THE  
PORT SANITARY REGULATIONS, 1933.**

AN AGREEMENT made the Sixth day of December One thousand nine hundred and thirty-three BETWEEN THE LORD MAYOR ALDERMEN AND CITIZENS OF THE CITY OF LIVERPOOL acting by the Council as the LIVERPOOL PORT SANITARY AUTHORITY of the one part and the MANCHESTER PORT SANITARY AUTHORITY of the other part.

WHEREBY it is agreed as follows:—

1. This Agreement shall be deemed to have come into operation on the First day of May One thousand nine hundred and thirty three.

2. Unless the context otherwise requires the following expressions have the meanings hereby respectively assigned to them—

“the principal regulations” means the Port Sanitary Regulations 1933 :

“the Liverpool Authority” means the Liverpool Port Sanitary Authority ” :

“the Liverpool District” means the district of the Liverpool Port Sanitary Authority :

“the Manchester Authority” means the Manchester Port Sanitary Authority :

“the Manchester district” means the district of the Manchester Port Sanitary Authority :

Other expressions have the meanings respectively assigned to them by the principal regulations.

3. If a ship becomes subject to control under the principal regulations while passing through the Manchester district bound either for the port of Liverpool or for the port of Manchester and the Medical Officer of Health of the Liverpool Authority or the Medical Officer of Health of

the Manchester Authority (whichever is first informed of the case) is of opinion that any necessary measures which may require to be taken in relation to the ship can be more readily and effectively undertaken by the Liverpool Authority than the Manchester Authority he shall give a direction accordingly and the Liverpool Authority hereby undertake with the Manchester Authority that in every such case they will on behalf of the Manchester Authority enforce and execute and arrange for the employment of their officers in executing such of the provisions of the principal regulations in the Manchester district as the case may require.

4. The Liverpool Authority shall inform the Manchester Authority from time to time of any action taken by them in pursuance of the last preceding clause.

5. Where in pursuance of this agreement a person who appears to be suffering from infectious disease is removed from a ship to a hospital or other suitable place appointed by the Liverpool Authority the Liverpool Authority shall be reimbursed by the Manchester Authority the net expenses if any incurred by them in the removal of such person and in his maintenance in the hospital or other place PROVIDED that the expenses which the Manchester Authority shall be liable to reimburse to the Liverpool Authority under this clause shall not exceed a sum calculated at the rate of 2s. 6d. (two shillings and sixpence) per mile in respect of removal, together with a sum calculated at the rate of four guineas per week in respect of the maintenance of a person suffering from Smallpox Plague Cholera or Yellow Fever or at the rate of three guineas per week in respect of the maintenance of a person suffering from any other infectious disease.

6. The Liverpool Authority shall have an absolute discretion in determining the hospital or other suitable place to which a person shall be admitted subject to the necessary accommodation being available and subject to cases from the Manchester District being admitted in their turn with other cases to be received therein.

7. This agreement shall be subject to determination by either party giving to the other twelve months' notice in writing, expiring at any time.



IN WITNESS whereof the Liverpool Authority and the Manchester Authority have caused their respective Common Seals to be hereunto affixed the day and year first before written.

(Signed) GEO. A. STRONG,

LORD MAYOR.

L.S.

IN WITNESS WHEREOF the Board of Directors and the Management  
 Authority have caused their respective Common Seal to be hereunto  
 affixed this day and year first before written.

Attest: \_\_\_\_\_  
 (Signed) CHAS. A. BROWN, Secretary

and attested that the foregoing is a true and correct copy of the  
 original as the same appears in the records of the Board of Directors.

Witness my hand and the seal of the Board of Directors this \_\_\_\_\_ day of \_\_\_\_\_ 19\_\_\_\_.

\_\_\_\_\_  
 President

\_\_\_\_\_  
 Secretary

\_\_\_\_\_  
 Treasurer

\_\_\_\_\_  
 Clerk

\_\_\_\_\_  
 Auditor

\_\_\_\_\_  
 Controller

\_\_\_\_\_  
 Assessor

\_\_\_\_\_  
 Surveyor

\_\_\_\_\_  
 Engineer

\_\_\_\_\_  
 Architect

\_\_\_\_\_  
 Physician

\_\_\_\_\_  
 Lawyer

\_\_\_\_\_  
 Minister

\_\_\_\_\_  
 Teacher

\_\_\_\_\_  
 Farmer

\_\_\_\_\_  
 Merchant

\_\_\_\_\_  
 Laborer

\_\_\_\_\_  
 Soldier

\_\_\_\_\_  
 Sailor



**Appendix 3.****ANNUAL MEETING OF THE ASSOCIATION OF PORT  
SANITARY AUTHORITIES OF THE BRITISH ISLES.**

The Annual Meeting of the above Association was held at Liverpool on June 1st and 2nd, 1933, under the presidency of Councillor R. J. Hall, Chairman of the Liverpool Port Sanitary and Hospitals Committee.

At the meeting two papers were read, the first by Dr. E. R. Peirce, Senior Assistant Port Medical Officer, Liverpool, entitled "The Development of the Port of Liverpool," and the second by Dr. T. Gwynne Maitland, Medical Superintendent of the Cunard Steamship Company, on "Ships' Surgeons and Port Sanitary Authorities," both of which appear in full below.

**THE DEVELOPMENT OF THE PORT OF LIVERPOOL**

By DR. EDWARD R. PEIRCE,  
Senior Assistant Port Medical Officer.

A Paper read at the Annual Meeting at Liverpool of the  
Association of Port Sanitary Authorities of the British Isles.

MR. PRESIDENT, ALDERMAN MRS. FOSTER WELCH, AND GENTLEMEN,

Liverpool owes her great commercial prosperity mainly to the geographical position of the estuary of the Mersey and to its great convenience and capacity as a harbour. This estuary forms the only natural harbour on the west coast of Great Britain between the Clyde and Milford Haven, a distance of nearly 300 miles.

There are several minor ports but they are artificial harbours and are small, difficult of access and do not afford the facilities presented by the Mersey and its wonderful system of docks. The dawn of the commercial rise of Liverpool coincided with the conquest of Ireland and its growth has been in unison with the development of the cotton industries of Lancashire, the woollen manufactures of Yorkshire the



iron furnaces and rolling mills of the Midlands and the potteries of Staffordshire. The first English settlement in Ireland was made about 1169, and the country was conquered in 1172 by Henry II. At this time Liverpool was a little village within the parish of Walton. The importance of its harbour as offering the best point of approach to Ireland was soon discovered by the Government, and it was taken advantage of for the embarkation of troops and military stores. The first Charter was granted to Liverpool in 1173 by Henry II. A second was granted by King John in 1207, which gave to the burgesses at "Lyrpul" all the liberties of free customs of the port of "Lyrpul" which any other free borough on the sea has within our territories. Birkenhead has an antiquity almost equal to that of Liverpool. In 1317 Edward II licensed the Prior of "Birkhead" to build hospitium for the entertainment of travellers and gave him the right of ferryage across the river—the "Monks" ferry still exists as a coal wharf, and it indicates the position of the landing place on the Cheshire shore.

The earliest record of Liverpool holding any position as a port is in 1366. In that year Edward III, being alarmed by rumours of war on the continent and hostile attacks on British vessels, sent orders to requisition the ships belonging to the various ports which were commanded to be armed and manned by the owners and to rendezvous at Portsmouth. Liverpool was one of the ports requisitioned, but it could have been of small importance, as we are told that when the census was taken in 1377 Lancashire contained no towns worthy of particular mention. The trade with Ireland, however, continued to grow, the cultivation of flax in Ireland even in those early times seems to have had an important bearing on the fortunes of the port. The spinning of the flax yarn into cloth gave the first impetus to the Lancashire manufacturing trade; Leland, who was chaplain to Henry VIII wrote—"Irish merchants come much thither as to a good haven." Camden describes Liverpool at this period as the most convenient and frequented place for setting sail into Ireland, but not eminent for its being ancient as for being neat and populous. At this time the shipping of the port consisted of ten barges, the largest being 40 tons burthen, and the tonnage of the whole 223 tons. In 1360 Liverpool was visited by the plague or black death, and the number of deaths was so great that a new cemetery had to be formed round



the Chapel of Our Lady of St. Nicholas. In 1570 the income of the Corporation was £20 14s. 8d. In 1590 it had reached £86 13s. 2d. The Liverpool customs duties produced in 1586 the sum of £272 3s. 0d., while the associated ports of Chester, Conway and Beaumaris yielded only £211 4s. 8d. In 1626 Charles I granted a Charter to the town. The Charter recites that Liverpool is an ancient and populous town and the only port in the County Palatine of Lancashire. Two years later the necessities of the King induced him to sell the royal estates of Liverpool to the Corporation of London. These included the market tolls, the customs, anchorage and key toll of the water of the Mersey and the ferryage of the Mersey. The Corporation of London resold its interests in Liverpool to Lord Molyneux a few years later. Liverpool at this time was a contributory port, the chief port being Chester, and it was not until 1636 that Liverpool had assumed sufficient importance to assert its claim to be considered an independent port. The real rise in the fortunes of Liverpool dated from the Restoration of Charles II. From this time forward the tide of prosperity set in with a regular steady current. The proximate causes of this favourable change were the rise of the manufactures of Lancashire and Yorkshire, the increase of the foreign trade of the kingdom, and the facilities offered by the estuary of the Mersey. Before the close of the century Liverpool possessed the third part of the trade of the country and paid the king upwards of £50,000 a year in customs. In 1669, George Fox, the founder of Quakerism, has an entry in his journal, "We landed at Liverpool and went to the Mayor's house, it being an inn." This stood at the corner of Dale Street and Hale Street, and rejoiced in the name of "The Hammer and Anvil." In 1709 the system of floating docks, for which Liverpool stands unrivalled as a port, were commenced. At this time the population was about 10,000 and the number of streets 37. The first foreign trade to be attracted to Liverpool was the West India trade, which was founded about 1673, but Bristol and London continued for many years to be the principal centres of the trade. Bristol was at that time the principal port on the West Coast, and its merchants viewed with some jealousy the growing importance of Liverpool. At the time of the Rebellion in 1745 Liverpool was intensely loyal. Vigorous preparations were made for the defence of the town, the inhabitants subscribing £6,000 for forming and equipping a regiment of foot 648 strong, called the Liverpool Blues. The seven years' war with France and Spain, which



broke out in 1756, had a very important bearing on the commerce of Liverpool. The merchants armed and sent out their ships as privateers and were successful in capturing many prizes. This naturally caused great excitement in the port, and the whole community rushed into privateering; shares in these expeditions were eagerly sought after.

The rise of Liverpool as a port during the first four centuries of her existence was very slow, but during the last two hundred years the growth of her commerce has been very remarkable. The town dues, which are dues levied on all merchandise passing through the port, amounted to £648 16s. 3d. in 1731; in 1751 they were £1,338 1s. 5d.; and in 1791 were £10,440. In 1932, these dues amounted to £429,493 19s. 1d., and the dock dues, which in 1781 only reached £5,000, were in 1932 £555,003 7s. 10d. Small as the trade of Liverpool was in the early part of the 18th century, she still ranked as the third port in the United Kingdom, London and Bristol alone having a larger volume of trade. The trade of Liverpool was due solely to her geographical position, and the facilities it gave for water transport. Liverpool still occupied an unfrequented corner of the country. No stage coach came nearer than Warrington; neither cart nor carriage was employed between the town and Manchester, all merchandise being conveyed by pack horses, the roads being impassable for wheeled conveyances.

In 1715 the old dock, which occupied the site upon which the Custom House now stands, was opened. In 1709 there were 84 vessels belonging to the port, and in that year the first vessel sailed to Africa. The contraband trade with South America was also at this time a source of considerable profit to the merchants, and the slave trade with Africa also afforded employment to many ships owned in Liverpool. In 1765 no fewer than 86 vessels traded with Africa, carrying 25,720 negroes. In 1807 the slave trade in England was abolished, and in 1833 Parliament voted twenty millions sterling for its abolition in the Colonies. In 1720 the opening of the Irwell and Mersey navigation gave the chief water transit to Manchester, and this was followed in 1766 by the opening of the Duke of Bridgewater's Canal from Runcorn to Manchester; these waterways contributed very much to the early prosperity of the port. The inauguration of the cotton trade did more than anything else to build up the fortunes of Liverpool. This trade



began in a very modest way, but with the introduction of cotton cultivation in America and the improvements in cotton manufacturing machinery, the result of the inventions of Arkwright and Hargreaves, the cotton industry of Lancashire progressed by leaps and bounds.

The Shipping Industry of Liverpool has always been characterised by great energy and enterprise. To Liverpool belongs the credit of inaugurating, in 1840, the finest ocean service of steamers in the world. The progress of steam and motor navigation is seen by comparing the "Britannia," the first Cunard mail steamer, built in 1840, with the "Georgic," "Britannic," "Franconia," "Lancastria," "Accra," and "Duchess of York," etc., the modern motor mail vessel with every conceivable luxury, including swimming baths, gymnasia, nurseries, hospitals, shops, squash racket courts, etc., provided for the comfort and amusement of passengers. The "Britannia" was a little wooden paddle steamer, so small that her hull could be fitted inside one of the funnels of the new Cunard ship, whilst her tonnage was sixty times less than that of the new 73,000-tons giant liner. She had no passenger accommodation worth mentioning, merely two dark saloons lit by oil lamps and heated by stoves. No smoking was allowed below decks, and her upper decks were reserved for officers' quarters, a bakehouse and galley and a specially-padded deckhouse for the cow which provided milk for the women and children passengers. And yet her appearance was hailed with enthusiasm on both sides of the Atlantic, whilst she formed the subject of a long sermon on the part of an American preacher, who prophesied that the voyage of the "Britannia" would inaugurate a new epoch in the service which steamships would render to the New World and the Old. Canning described steam navigation to the people of Liverpool as that "new and mighty power which walks the water like a giant, rejoicing in its course, stemming alike the tempest and the tide, accelerating intercourse, shortening distances, creating, as it were, unexpected neighbourhoods and new combinations of social and commercial relations, and giving to the fickleness of the winds and the faithlessness of the water the certainty and steadiness of a highway upon land." This prediction has been fulfilled in a very remarkable manner, and the rapid increase of steam and subsequent motor shipping has done much not only to develop trade in the most remote corners of the earth but to promote travel and a more friendly intercourse between distant peoples. This advance



has also greatly cheapened the cost of ocean carriage, and in this way has also helped to cheapen the necessities of life.

Liverpool possesses an unrivalled system of docks which fringe the Lancashire shore for a distance of eight miles, and penetrate the Cheshire coast for nearly three miles. The docks themselves are remarkable not only by reason of their extent but for the solidity of their construction and the facilities which they offer for the speedy landing of cargo. The system of floating docks, enabling the largest ships to lie in safety undisturbed by the rise and fall of the tide, was first introduced in this port. The docks on the Liverpool side have a water area of 476 acres, with 30 miles of quays; on the Birkenhead side the water area is 171 acres, the length of quay space 9 miles; making the total dock accommodation of the port 647 acres with 39 miles of lineal quay space. Before the year 1715 there was no dock accommodation in Liverpool. During the reign of Elizabeth a jetty had been constructed which formed a small haven. Liverpool suffered much from the exposed nature of the roadstead. The coasting pilot of 1699 states "the ships lie aground before the town of Liverpool it is bad riding afloat before the town because of the strong tides," and in 1708 a decisive step was taken to obtain an Act of Parliament for the construction of a dock, and in 1715 the first dock, which occupied the site of the present Custom House, was opened. This was followed nearly forty years later by the construction of the Salthouse Dock, and after another eighteen years by the George's Dock, followed by the Kings and Queens Docks, and in 1821 by the Princes Dock. From this date new docks were completed with great rapidity until 1881 when the new north system of deep-water docks was thrown open and has become the headquarters of the large Transatlantic and other liners. The one great disadvantage of the docks at this point was the fact that vessels would only enter and leave at certain stages of the tide, and it had long been felt that there should be an entrance where vessels could enter or leave at any time. This culminated in the construction of the new Gladstone Dock at the extreme north end of the system. The Gladstone system of docks was originally commenced in 1906 and was held in abeyance during the War. After the Armistice the work was specially accelerated, and the docks were formally opened by H.M. King George V on 19th July, 1927. The docks are approached by a river lock entrance 1,070 feet in length and 130 feet in width,



divided into two compartments having sills at a depth of 50 feet below the level of high water of spring tides. These large dimensions enable the largest ships now in use to go in and out on every single tide of the year, while ordinary-sized ships having a draft of about 28 feet are able to pass through the lock at any state of the tide. The lock is provided with three pairs of steel gates, each leaf of which weighs approximately 500 tons. A vestibule, or turning dock, is entered from the river by means of the lock entrance; this basin has a water area of 25 acres. Running from the vestibule dock are two branch docks each 400 feet wide and over a thousand feet long. Each branch has treble-storey reinforced concrete sheds on both sides of the dock. Electric movable cargo cranes have been placed on the dock side at the quay level, the electric cranes provided on the flat roof on the roadside of the shed deal with cargo to be loaded into or unloaded from railway trucks or other vehicles standing in the roadway outside the shed. Railway access is provided on both sides of the sheds. The electric cranes placed on the roof of the shed are provided for working cargo from ship to shed or shed to ship.

The Gladstone Graving Dock—the largest dry dock in Europe—was constructed at a cost of £500,000 and formally opened by H.M. King George V on July 11th, 1913. It is 1,050 feet long and 141 feet wide at the bottom and 155½ feet wide at the top, the latter width allowing ample margin for coal barges or other like craft to be berthed on either side of the large vessels using the dock. At high water of spring tides the depth of water on the sill of the dock is 45 feet, so that the "Majestic," with a length overall of 956 feet, breadth 100 feet, and draft 38 feet, would be able to enter the dock without difficulty. In order that the dock may be rapidly cleared of water when required for use as a graving dock, powerful pumping machinery has been installed consisting of five sets of centrifugal pumps with discharge pipes 54in. in diameter, each pump being driven direct by a semi-Diesel engine running at 180 revolutions per minute and developing 1,000 h.p. These pumps can empty the dock of its whole contents (44 million gallons) in 2½ hours, or at the rate of 1,300 tons per minute.

The first record of any Port Sanitary Administration in the Port of Liverpool is contained in a report of the Medical Officer of Health, Dr. Trench, to the Health Committee in 1873, on the requirements of



the Port Sanitary Authority. This report described the proposals which should be adopted for fulfilling the duties and obligations of a Port Sanitary Authority under the Nuisance Removal and Sanitary Acts: the establishment of a quarantine ground within which vessels infected with cholera are to be detained, moored or anchored: the erection of a hospital for the use of the Port Sanitary Authority, and whether such hospital should be used solely for the reception of cholera patients or for persons suffering from every form of infectious disease. In his report, Dr. Trench points out that the supervision of the health of vessels is carried out by the Officers of the Customs, and the latter, when necessary, called in a Medical Officer appointed by the Board of Trade; he further states that if a case of contagious sickness be found in any vessel not under Quarantine regulations, a notice of the fact is at once forwarded by the Collector of Customs to the Mayor in order that precautions for landing and, if necessary, for the removal of the patients to hospital and for the disinfection of the vessel may be adopted by the Sanitary Officers. The report goes on to say that the system of trusting to the Customs Officer for notices of the existence of sickness in vessels entering the port was found to act well and efficiently during the fever of 1865, the cholera of 1866 and the smallpox epidemic of 1871 and in the opinion of the Medical Officer it will continue to work well under the efficient arrangements made by the Collector of Customs. Indeed, as vessels arrive in the port at all hours of the day and night, and at all seasons, and in all kinds of weather, it would be impossible for a Sanitary Authority to extemporise a staff of inspectors with the necessary boats, cutters, and sailors, sufficient and effective for the purposes of supervision even if cost and expenditure were no objects in the calculation. The possibility of utilising an old "man-of-war" as a hospital is mentioned in the report, but is commented on unfavourably on account of expense in maintenance and the difficulty of keeping up communication between such hospital and the shore and the consequent difficulties of managing such an institution. A strong recommendation is made for the establishment of a hospital for Port Sanitary purposes on the land bordering on the Quarantine area, to be used only for cases of cholera and choleraic diarrhoea, and that all other cases of infectious diseases, such as typhus, smallpox, etc., where the disease is endemic and common to the country and not included in the Quarantine code, should be treated as they have hitherto been dealt with, viz., landed under the



inspection of Sanitary Officers and carried in special carriages for the purpose to the workhouse and parochial hospitals. Two years later this report bore fruit and the Port Sanitary Hospital was built at New Ferry in 1875.

In 1877 the Annual Report of the Medical Officer of Health with respect to Port Sanitary Administration consisted of four pages. It merely set out in tabular form the name of the vessel, where it arrived from, the nature of the sickness, the hospital to which the patient was removed, and remarks. Twelve vessels brought cases of smallpox to Liverpool during that year, and one vessel was detained off Egremont by the Customs Officers on account of three deaths from cholera. In 1877 the Public Analyst for the Borough of Liverpool analysed 261 samples, of which 83 were offences. Sixty-three prosecutions were instituted, and it is pointed out that the average amount of penalty was only about 15/11, whereas the amount of penalty inflicted in the County of Lancaster for similar offences was £2 17s. 4d. In the following year, 1878, the Annual Report of the Medical Officer consisted of two pages only, set out similarly to the previous year. Liverpool was the first port to recognise the importance of the rat as a carrier of disease and in 1903 a rat-catcher was appointed to the staff of the Port Sanitary Authority. Later other additional ratcatchers were appointed, and at the present time there are no fewer than 11 men who devote the whole of their time either searching for traces of rats or catching samples of the rat population for bacteriological examination. The sanitary condition of vessels and the health of the crews engage the attention at the present time of six sanitary inspectors, while seven food inspectors are necessary for the supervision of imported foodstuffs. The boarding of infected vessels and vessels from infected ports by medical officers was originally carried out by hiring tugs, but in 1922 the Port Sanitary Authority acquired a steam launch, which was replaced in 1927 by the motor launch "Moyles" specially constructed for this work.

No account of Liverpool would be complete without some reference being made to the part played by the port during the years of the Great War. Over three-quarters of a million men arrived in Liverpool from overseas in one year and troops were constantly passing outwards to every seat of war.



Liverpool, like other ports, has suffered during the last two or three years, but as long as Britain maintains her position as a great industrial country so long will this port be essential to the nation's needs. Liverpool commenced originally to satisfy the needs of a small local population, and to-day it serves a very large part of the kingdom, especially the great northern and midland industrial towns where the population depends so largely on importations of foodstuffs and raw materials from overseas and the exports of their manufactures.

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### SHIPS' SURGEONS AND PORT SANITARY AUTHORITIES.

A Paper read at the Annual Meeting at Liverpool of the Association of  
Port Sanitary Authorities of the British Isles.

By Dr. T. GWYNNE MAITLAND,

Medical Superintendent, Cunard Steamship Company.

In Professor Lutrario's questionnaire seven years ago to maritime nations, one of the questions related to the office of ship's surgeon, as to whether he was signed on primarily in the capacity of a sanitary officer, or, appointed solely to treat illness and injury. The answer of this country was that our law did not specify the attributes of the ship's surgeon, but that as the doctor was under the captain's orders he might at any time be called upon for sanitary advice. This equivocal status is probably incomprehensible and illogical to smaller maritime nations which have not to contend with the vast amount of shipping we possess, to most of the smaller ships of which a doctor could not be attached, but where the captain has to rely solely on himself as to what sanitary measures to pursue. The tradition of the captain's capacity for all emergencies remained almost up to the time of the great movement of emigrants, when it became statutory under certain conditions to carry surgeons. The surgeon was appointed for the care of 100 persons on board, or more than 50 passengers, but little by little his work has expanded, and his relations with the Immigration Authorities, and with the Port Health Authorities have vastly extended his obligations. When, therefore, a surgeon is carried, the Port Sanitary Authority establishes relations with him rather than the captain, and the information the ship's surgeon conveys relates not to his work as a doctor but in his capacity as a sanitary officer.



Whether the surgeon likes it or not, he becomes *ipso facto* a medical officer of health of a moving township, not only treating its human freight, but virtually, though not nominally, responsible for the habitation itself, as well as the passengers as a possible source of infection.

It is his clear and unmistakable duty not to expose his temporary hosts of the port of call to infection, not merely quarantinable, but all infection, but he has over and above a responsibility to his own ship also, and as the Port Health Officer guards the port from an infected ship, so he, the ship's surgeon, has to guard the ship from an infected port.

The trend of events is now shown in providing ship's surgeons with facilities to refresh his memory on sanitation, to acquire fresh knowledge on ship's hygiene which will enable him to realise his responsibility to his ship's personnel and passengers, but also to the ports of call. He will cope with the hygiene problems on board ship, that regarding food and water, where food should not be purchased, but if purchased what measures to render it harmless, and if water taken, what measures to render it sterile, and various other matters.

He is also afforded an opportunity to consider infectious fevers, with special reference to the time of incidence, the incubation, the length of voyage, the stage of maximum infection, what precise and what minimum measures of isolation are required, and when he may be relieved, if not of watchfulness, at any rate of anxiety.

These are matters of the utmost importance to the Sanitary Authorities and if efficiently performed will considerably lighten their task, but will never relieve them of supervision.

The work of the Port Sanitary Authorities is calculated, it cannot too often be repeated, to assist rather than hinder the movement and business of shipping. We who, representing the owners, have frequent occasion to meet the sanitary officials, are unanimous with regard to their courtesy, their understanding of our problems, and their readiness to meet our wishes in every possible way consistent with their hygienic objectives. Shipping Companies, in fact, no longer fight shy of inspection, they are now only too well aware of their great indebtedness to



the Port Sanitary Authorities, and when in any difficulty do not hesitate to get their advice.

The ship's surgeon, curiously enough, has been much slower than his companies to realise the excellent relations which now exist between the shipping interests and the Port Sanitary Authorities. There are still some ship's surgeons who are on the defensive in the belief that they are considering the interests of their companies.

Important information is now no longer given with reluctance, with the feeling that it will be used in the interests of bureaucracy rather than to expedite movement.

The former attitude was unreasonable, and we are informed is fast disappearing. At the same time it is not a little unfortunate that in matters of this vital nature, where there is an identity of aim, that the relations between the ship's surgeon and the Port Sanitary Authority should be official only, and that if the relations are in certain cases good, the interchange of views should be accidental and personal and bear no further fruit.

I know nothing more calculated to increase the sense of responsibility, at the same time to give a sense of proportion and of modesty with regard to achievements in preventive medicine, than to read up the history of epidemic diseases. The barriers that preventive medicine have raised against the invasion of infectious disease are too often taken for granted, and yet but for these the country would be plunged into horrors worse than war.

The condition that gave the title "dark" to the Middle Ages was due to pestilence raging over Europe for three hundred years, causing utter devastation not only with regard to the loss of life but in the degradation of human behaviour and retrogression of culture.

No one engaged, in whatever capacity, in the service of preventive medicine, can sit back comfortably in complacent security. There are still outstanding problems of the control of infections, such as influenza, tuberculosis, venereal disorders, which closely affect shipping activities. These are material for conjoint discussion.



The question of venereal disorders among seamen is at the moment being considered under the Brussels Agreement, a problem on which the Port Sanitary Authorities, the ship's surgeons and the officers in charge of the Seamen's Dispensary are competent to offer an opinion, but not independently of each other.

In 1929 the British Medical Association was addressed by certain members to consider the revival of the moribund Ship's Surgeons' Sub-Committee.

A reason for its re-formation was the admission into the Mercantile Marine of a new highly-qualified and responsible type of surgeon, who was impressed with the total lack of any kind of organisation, lack of representation, and the inability to exchange views, not only on matters medico-political, but medical and surgical. They realised also that a great deal of information useful for their colleagues in the service was going to waste, and regretted particularly their inability to exchange their views and experiences in foreign ports. They believed that many absurdities and impositions in port administration abroad might possibly be avoided if they could meet and examine the merits in those complaints and find out the extent of their power to resist abuses.

To most of them it was a strange experience to come into contact with the farcical arrangements for fumigation in certain well-known ports in the East, and in South America, the obvious flag discrimination on medical grounds apparent in other ports, such as the Mediterranean and elsewhere.

It was confidently felt that, as the first step, difficulties of this kind might come before the Port Sanitary Authority who would welcome the information, with a natural curiosity regarding the application of sanitary principles in other ports. They, moreover, would be in a far better position to sift the facts and either to suggest a solution or place their recommendations in the proper quarters.

The point then arose as to whether this Sub-Committee could not have been formed on a new footing so as to include Port Sanitary representatives.



Dr. Alfred Cox, the Secretary of the British Medical Association at that time, felt that however obviously desirable such a conjoint Sub-Committee might be, the articles of the Association precluded the formation of a Sub-Committee for other than medico-political ends. Nevertheless, he saw no reason why such a Sub-Committee should not have one or more Public Health Officers to represent the acknowledged contact between the ship's surgeon and the Port Sanitary Authorities. Though the Port Sanitary response to the first proposal was very sympathetic yet it was felt by the spokesman of the ship's surgeons that the Port Sanitary Authority would be hardly likely to welcome representation limited to one or two members and an agenda robbed of its interests common to both, so the proposal for a conjoint section was dropped.

The Ships' Surgeons' Sub-Committee was nevertheless re-formed and is now active. They are as far off as ever from achieving their object with regard to the interchange of views on hygiene and preventive medicine, and they are still deprived of the right sort of contact with the Port Sanitary doctors, which still remains on an official basis.

The Officers of the Port Sanitary Authority may feel that the passenger and other ships carrying doctors, comprise only a fraction of their supervisory duties, but that does not seem to me sufficient reason against co-operation. The conditions of cargo boats are not dissimilar from the conditions in the big passenger boats. The supervision of the Port Health Officer extends to internal matters on board ship, and it will certainly be a relief for him to find a surgeon really conversant with the ship and its hygienic requirements, ventilation, crew's quarters, water supply, refuse disposal, and so forth.

These are surely matters requiring organised co-operation for their better understanding and control, as anyone must know who is at all familiar with the very complex and difficult problems on board ship.

It cannot be doubted that the aid thus given the Port Health Official will help him in arriving at a quicker decision and course of action. It is only by concerted action with the goodwill of the individual members, the striving after a common object, that the more enlightened ship's surgeon will be used to his fullest capacity.



There are several other matters on which we could come to a better understanding if given the opportunity.

Gilbert Brook insists that the provision of a medical history sheet to every member of the crew would be of the utmost advantage to a Port Health Officer, enabling him at once to go into a person's medical antecedents; he also believes it would save both time and money for the Shipping Companies.

I am informed that such a card index would be impracticable with a crew personnel, who not only move from ship to ship but from company to company, and that if there was anything adverse on the card, however disguised by code, the seaman would quickly realise its significance and lose the card. The case is cited also of the attempt of the Registrar General to keep a record of service in the Mercantile Marine, which was, however, given up owing to the above difficulty and the enormous expense entailed.

In my own company each man is compelled to produce his vaccination card on signing on, which must show that he has been successfully vaccinated or has exhibited the immune reaction within the last three years. That is as far as we have gone. I am not convinced that the card index cannot be done, but good reason should be produced before undertaking a task which is by no means a light one.

These are all matters which would be all the better for our mutual examination, but with you as the existing Association, which by your courtesy I have been permitted to address, lies the answer.

There are several other matters on which we could come to a better understanding if given the opportunity.

Gilbert Brockington states that the provision of a medical history sheet to every member of the crew would be of the utmost advantage to a Port Health Officer enabling him at once to go into a person's medical antecedents; the ship's doctor would save both time and money for the Shipping Company. I am not sure that this is a good idea. I am informed that such a card index would be impracticable with a crew personnel who not only move from ship to ship but from company to company, and that if there was anything adverse on the card, however disguised by code, the seaman would quickly realize its significance and lose the card.

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Appendix 4.

STATUTORY RULES AND ORDERS,  
1925, No 273.

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PUBLIC HEALTH, ENGLAND.

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THE PUBLIC HEALTH (IMPORTED FOOD) REGULATIONS, 1925, DATED  
MARCH 23, 1925, MADE BY THE MINISTER OF HEALTH.

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69231.

The Minister of Health in the exercise of the powers conferred upon him by the Public Health Act, 1875 (a), the Public Health (London) Act, 1891 (b), the Public Health Act, 1896 (c), and the Public Health (Regulations as to Food) Act, 1907 (d), and of every other power enabling him in that behalf, hereby makes the following Regulations, with the consent of the Commissioners of the Customs and Excise so far as they apply to the Officers of Customs and Excise, that is to say :—

*Part I.—Preliminary.*

1. These Regulations may be cited as the Public Health (Imported Food) Regulations, 1925, and shall come into operation on the 1st day of June, 1925.

2. (1) In these Regulations unless the context otherwise requires :—

“The Minister” means the Minister of Health.

“Officer of Customs and Excise” includes any person acting under the authority of the Commissioners of His Majesty’s Customs and Excise.

“Sanitary Authority” means a Port Sanitary Authority and the Council of a Borough or Urban or Rural District which includes or abuts on any part of a Customs port which part is not within the jurisdiction of a Port Sanitary Authority.

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(a) 38-9 V. c. 55.  
(c) 59-60 V. c. 19.

(b) 54-5 V. c. 76.  
(d) 7 E. 7. c. 32.

"District" means the District of a Sanitary Authority, and in the case of a Sanitary Authority other than a Port Sanitary Authority includes the waters of any Customs port abutting on any part of their district so far as such waters are not within the district of a Port Sanitary Authority.

"Medical Officer of Health" includes any duly qualified Medical Practitioner and any Assistant Officer appointed or employed by a Sanitary Authority to act in the execution of these Regulations.

"Local Authority" means the Council of a Borough or Urban or Rural District, not being a Sanitary Authority within the meaning of these Regulations, and includes the Common Council of the City of London and the Council of a Metropolitan Borough.

"Ship" includes a vessel or boat.

"Master" used in relation to a ship includes the officer or other person for the time being in charge or command of the ship.

"British Islands" means Great Britain and Ireland, the Channel Islands and the Isle of Man.

"Oversea" means brought from a place situate elsewhere than in the British Islands.

"Article of food" means an article of food whether oversea or not which, as part of the cargo of a ship or aircraft is brought to, or delivered or landed at a place within England or Wales either as a place of actual or appointed destination, or as a place of deposit for the purpose of transmission to a place of actual or appointed destination elsewhere in the British Islands.

"Importer" includes any person who, whether as owner, consigner or consignee, agent or broker, is in possession of or in anywise entitled to the custody or control of any article of food; and "import" shall be construed accordingly.

"Export" means remove to a place not in the British Islands.

"Cattle" includes a bull, cow, ox, heifer, calf, ram, ewe, wether, lamb, goat and kid.

"Pig" includes a boar, sow and hog.



"Meat" means pork, the flesh of cattle, any other edible part of a pig or of cattle, or a substance, compound, material or article of which pork or the flesh of cattle, or any other edible part of a pig or of cattle is an ingredient.

"Prohibited Meat" means any of the kinds of oversea meat specified in the First Schedule to these Regulations.

"Conditionally admissible meat" means any of the kinds of oversea meat specified in the Second Schedule to these Regulations.

"Official Certificate" means a certificate, label, mark, stamp or other voucher which is affixed to oversea meat or to a package containing such meat by a competent authority in the country of origin and is for the time being recognised by the Minister as evidence that the meat to which it relates has been derived from an animal which was free from disease at the time of slaughter and has been dressed or prepared and packed with all necessary precautions for the prevention of danger to public health.

(2) The recognition of an official certificate for the purpose of these Regulations shall be effected by means of a notice published in the *London Gazette* which shall specify the conditions (if any) subject to which the certificate is recognised; and any such notice may be varied or revoked by a subsequent notice published in the *London Gazette*.

(3) The Interpretation Act, 1889 (a), applies to the interpretation of these Regulations as it applies to the interpretation of an Act of Parliament.

3. From the date of commencement of these Regulations, the Public Health (Foreign Meat) Regulations, 1908 (b), the Public Health (First Series; Unsound Food) Regulations, 1908 (c) and the Public Health (Foreign Meat) Amending Regulations, 1909 (d), shall be revoked, but without prejudice to the effect of any notice, certificate, proceedings or other thing given, issued, begun, or done in pursuance of such Regulations; and all Orders made under those Regulations shall continue in force until altered or revoked as if they were made under these Regulations and any reference in any such Order to any provisions of the revoked Regulations shall have effect as if the reference were to the corresponding provisions of these Regulations.

(a) 52-3 V. c. 63.

(b) S.R. & O. 1908, No. 717.

(c) S.R. & O. 1908, No. 718.

(d) S.R. & O. 1909, No. 1604.



4. (1) Subject to such provisions of these Regulations as prescribe functions to be exercised by the Officers of Customs and Excise and by the Medical Officer of Health and any other officer of a Sanitary Authority, the Sanitary Authority shall enforce and execute these Regulations:

Provided that a Sanitary Authority and a Local Authority, or two or more Sanitary Authorities or Local Authorities shall act together for any of the purposes of these Regulations in every case in which the Minister by Order requires any such joint action, and in every such case these Regulations shall have effect subject to such adaptations and modifications as are made by the Order.

(2) If the Minister after due inquiry is satisfied that a Sanitary Authority or Local Authority or their officers have failed to enforce and execute any of the provisions of these Regulations he may appoint some person to execute and enforce such provisions and the provisions of Section 299 of the Public Health Act, 1875, shall apply as regards any such appointment.

5. Where a vehicle containing articles of food is landed in Great Britain and with the consent of the Commissioners of Customs and Excise the Customs examination of such vehicle is deferred until the vehicle reaches a place of destination in England or Wales, or where articles of food are brought by aircraft, these Regulations shall apply to such articles of food with all necessary modifications, including the substitution throughout the Regulations of the terms and expressions set out in the second column of the following table for the terms and expressions set out in the first column:—

Terms and expressions used in Regulations.	Terms and expressions to be substituted.
Ship ... ..	Vehicle or aircraft.
Cargo ... ..	Contents of vehicle or aircraft.
Master ... ..	Person having charge of vehicle or aircraft.
Sanitary Authority ... ..	Local Authority (where place of destination or arrival is not within a Customs Port).
Land . . . . .	Unload.



*Part II.—All Food.*

6. A person shall not import into England or Wales for sale for human consumption any article of food which has been examined by a competent authority and not found at the time of examination to be fit for human consumption or any article of food in the manufacture or preparation of which any such article as aforesaid has been used.

7. (1) The Medical Officer of Health may examine any article of food which has been landed within the District and where the circumstances, in his opinion, so require, he may examine an article of food while it is on board a ship within the District, or after it has been delivered overside, and before it has been landed.

(2) The Master of a ship, and every person having the custody of any lands or premises within the District shall, at the request of the Medical Officer of Health, afford him access to the ship, or to the lands or premises, at any reasonable time, for the examination of an article of food which is on board the ship, or which has been deposited on the lands or premises.

(3) The importer, the Master of the ship, and every person having the custody of any lands or premises shall, at the request of the Medical Officer of Health, afford, by the convenient and suitable arrangement, unpacking or uncovering of so much of the cargo, or of any consignment delivered overside or landed, or deposited on the lands or premises, as comprises articles of food, all such facilities as the Medical Officer of Health may reasonably require for the examination of the article of food. He shall also afford such other facilities as the Medical Officer of Health may reasonably require for the purposes of these Regulations.

(4) Where the Medical Officer of Health has reason to believe that an article of food, which has been landed within the District, is deposited on any lands or premises within the District, and access to the lands or premises at a reasonable time, for the examination of the article of food by the Medical Officer of Health, has been refused by the person having the custody of the lands or premises, the Medical Officer of Health may make complaint to a Justice.

The Justice may thereupon by a warrant authorise the Medical



Officer of Health to enter the lands or premises, and to search for, and examine any article of food deposited thereon.

The person having the custody of the lands or premises named in the warrant shall, at any reasonable time, afford all such facilities as the Medical Officer of Health may reasonably require to enable him, by an assistant or otherwise, to search for and examine the article of food.

(5) Where the duties of an Officer of Customs and Excise with respect to the examination of a cargo or consignment comprising an article of food have not been wholly discharged, an examination of the article of food for the purpose of these Regulations shall not be made without the consent of such Officer, but every Officer of Customs and Excise shall afford such facilities as the circumstances require for the examination of the article of food in pursuance of these Regulations.

**8.** (1) The Medical Officer of Health may take a sample from a consignment of articles of food for any purpose of these Regulations, and, subject to paragraph (2) of this Article, shall dispose of the sample in such manner as the Sanitary Authority direct.

(2) Where the Medical Officer of Health who takes a sample from a consignment of articles of food is of opinion that special procedure is necessary for the examination of the articles of food, or where, at the request of the importer, the Medical Officer of Health who takes any such sample has recourse to special procedure for the examination of the articles of food, the importer and every person who has the custody or control of the consignment shall afford all such facilities as the Medical Officer of Health may reasonably require for the completion of his examination of the articles of food, and, during such time, not exceeding forty-eight hours, as the Medical Officer of Health by notice in writing appoints, or during any longer time which he by notice in writing appoints and to which the importer consents, he shall not, without the permission of the Medical Officer of Health, remove any such articles of food except to any such place as may be specified in the notice.

**9.** (1) If, on examination, the Medical Officer of Health is of opinion that an article of food is diseased or unsound or unwholesome, or unfit for human consumption, he may himself, or by an assistant,



seize and carry away the article of food and apply to a Justice to deal with the same under Article 15 or he may by a notice in writing to the importer, or to the Master of the ship, or to any other person having charge of the article of food, require that, until it has been dealt with by a Justice, it shall not, without the permission of the Medical Officer of Health, be removed from the place of examination or from any other place specified in the notice.

(2) Neither the importer nor the Master of the ship nor any other person shall, without the permission of the Medical Officer of Health, remove any article of food in relation to which a notice has been given in pursuance of this Article from the place at which the Medical Officer of Health has examined it, or such other place as is specified in the notice, until it has been dealt with by a Justice and such Justice has authorised its removal.

### *Part III.—Oversea Meat.*

**10.** A person shall not import into England or Wales for sale for human consumption any conditionally admissible meat without an official certificate or any prohibited meat.

**11.** (1) The Officer of Customs and Excise on the arrival of a ship within the District shall ascertain whether the cargo of the ship comprises any oversea meat.

(2) Where it appears to the Officer of Customs and Excise to be desirable that any oversea meat should be examined by the Medical Officer of Health either with a view to ascertaining whether it includes any conditionally admissible meat without an Official Certificate or any prohibited meat or for any other purpose of these Regulations he shall by a notice in writing given to the Master or to the importer require that until the meat has been examined by the Medical Officer of Health it shall not be removed from the place specified in the notice.

The Officer of Customs and Excise shall at the same time inform the Medical Officer of Health of the effect of the notice.

(3) The Medical Officer of Health shall forthwith examine any meat in respect of which a notice has been given by an Officer of Customs and Excise under this Article.



(4) If upon the examination of any oversea meat the Medical Officer of Health is of opinion that it comprises conditionally admissible meat without an Official Certificate or prohibited meat he shall by a notice in writing forbid the removal of the meat for any purpose other than exportation.

He shall send a copy of every such notice to the Sanitary Authority and where the Officer of Customs and Excise has given a notice under this Article in respect of such meat he shall also send a copy to that Officer.

(5) If upon the examination of any meat in respect of which the Officer of Customs and Excise has given a notice under this Article the Medical Officer of Health is of opinion that the meat does not comprise any conditionally admissible meat without an Official Certificate any prohibited meat, or any meat which is diseased or unsound or unwholesome or unfit for human consumption, he shall give a certificate authorising the removal of the meat and he shall give a copy of the certificate to the Officer of Customs and Excise.

**12.** (1) The Sanitary Authority, within twelve hours after the receipt of a copy of a notice by the Medical Officer of Health given in pursuance of paragraph (4) of Article 11 with respect to any oversea meat, shall give to the importer notice in writing that, unless, within the time specified in the notice not being less than twelve hours after the receipt thereof he gives a written undertaking to export the meat at his own expense, or to prove in proceedings before a Justice that the meat is not intended for sale for human consumption, the meat will be destroyed or disposed of under the supervision of the Medical Officer of Health by such means and in such a manner as to prevent its being used for human consumption.

(2) If within the time specified in the notice, the Sanitary Authority have not received such a written undertaking as is described in the notice or if within that time they have received an undertaking that the importer will at his own expense export the meat, and within three days after the receipt of the undertaking the importer fails to export the meat, the Sanitary Authority may cause the meat to be destroyed or disposed of under the supervision of the Medical Officer of Health by such means and in such a manner as to prevent its being used for human consumption.



(3) Where in pursuance of this Article the importer has given an undertaking to prove that any meat is not intended for sale for human consumption the Sanitary Authority shall within twenty-four hours after the receipt of the undertaking take steps to obtain the decision of a Justice with respect thereto.

**13.** (1) Where in pursuance of Article 11 the Officer of Customs and Excise or the Medical Officer of Health has given a notice forbidding the removal of any meat a person shall not remove such meat contrary to the terms of the notice except with the express permission of the Officer by whom the notice was given.

(2) A person shall not land any meat which has been exported in compliance with an undertaking given under these Regulations or under any similar Regulations in force in any part of the British Islands.

*Part IV—Judicial Proceedings, etc.*

**14.** For the purposes of these Regulations an application may be made to any Justice having jurisdiction in the District, and thereupon sub-section (2) of Section 28 of the Public Health Acts Amendment Act, 1890 (a), whether that sub-section is or is not in force in the District, and any provision in any Act of Parliament which applies to a proceeding under or consequent upon that sub-section, shall have effect in relation to the proceedings, as if the application were a complaint within the meaning of the said sub-section and otherwise subject to the provisions of these Regulations.

**15.** (1) Where in pursuance of these Regulations an application is made to a Justice in respect of an article of food and the Justice is satisfied :—

(a) that the article of food is diseased or unsound or unwholesome, or unfit for human consumption; or

(b) in the case of meat in respect of which an undertaking in that behalf has been given under Article 12 that the importer has failed to prove that the meat is not intended for sale for human consumption;

he shall condemn the article of food and order it to be destroyed or disposed of under the supervision of the Medical Officer of Health by



such means and in such a manner as to prevent its being used for human consumption.

(2) Where on such application the Justice is satisfied that the article of food is not intended for sale for human consumption, he shall order the return of such article to the person entitled thereto or the rescission of the notice prohibiting the removal thereof, as the case may require.

(3) The Justice shall in every Order under this Article set forth the description of, and such other details as will suffice to identify, the article of food, together with the name, description and address of the importer and of the person to whom it is to be delivered; and he shall forthwith furnish the Sanitary Authority with a copy of the order.

**16.** If a difference arises in relation to any subject matter of, or to anything done under, these Regulations, the difference may, on the application of all the parties affected, be referred to the Minister for determination and the Minister may by Order determine the difference, and such determination shall be final and conclusive.

#### *Part V.—General.*

**17.** Any notice or certificate given by a Sanitary Authority or a Medical Officer of Health or any undertaking given by an importer under these Regulations may be given by properly addressing, pre-paying and posting a letter containing the notice, certificate or undertaking.

**18.** Where, in pursuance of these Regulations, an article of food is destroyed or otherwise disposed of under the supervision of the Medical Officer of Health, the Sanitary Authority before the destruction or other disposal of the article of food shall cause the description of, and such other details as will suffice to identify, the article of food to be duly recorded, and shall keep the record in their custody for a period of not less than twelve months.

**19.** A person shall, if so required, give to the Officer of Customs and Excise or the Medical Officer of Health acting in the execution of these Regulations, all reasonable assistance in his power, and shall, in relation to anything within his knowledge, furnish any such officer with all information he may reasonably require for the purposes of



these Regulations and a person, in relation to anything within his knowledge and material to any purpose of proceedings in pursuance of these Regulations, shall make a true statement and truly answer any question, when required or put by a Justice or other competent authority in the course and for any purpose of those proceedings.

**20.** (1) The Sanitary Authority may, with the consent of the Minister, appoint and pay a legally qualified Medical Practitioner to act in the execution of these Regulations, either in the place of, or as an assistant to, the Medical Officer of Health.

(2) The Sanitary Authority may also, with the consent of the Minister appoint or employ and pay an Assistant Officer to act, under the direction of the Medical Officer of Health, in the exercise of any such powers or in the discharge of any such duties of the Medical Officer of Health under these Regulations as the Sanitary Authority assign to the person so appointed.

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*First Schedule.*

**PROHIBITED MEAT.**

Any of the following kinds of meat :—

(a) Scrap meat, that is to say, meat which consists of scraps, trimmings or other pieces (whether with or without bone) of such shape or in such condition as to afford insufficient means of identification with definite parts of a carcass, and which has not before importation been made ready for human consumption in the form of a sausage or other prepared or manufactured article of food ;

(b) Meat comprising the ribs or the abdominal wall from which the pleura or the peritoneum has been detached ;

(c) The carcass of a pig having the head in its natural state of attachment to the carcass but not having the submaxillary, pre-scapular, pre-crural, and popliteal glands in their natural position ;

(d) A severed part of the carcass of a pig (including the whole carcass without the head) from which a pre-scapular, pre-crural, or popliteal gland has been taken out ;

(e) The head of a pig without the submaxillary glands ; and

(f) Tripe (that is to say, any edible part of a stomach), tongue, kidney, or other edible offal to which has been applied either (i) formalin, or a solution, or other preparation of, or comprising formic aldehyde; or (ii) a compound containing fluorine or boron; or (iii) salicylic acid, formic acid, sulphurous acid, or benzoic acid, or any derivative of any such acid.

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*Second Schedule.*

CONDITIONALLY ADMISSIBLE MEAT.

Any of the following kinds of meat so far as they are not included in the First Schedule:—

(a) A severed part of the carcase of a pig (including the severed head and the whole carcase without the head) which has not been salted, cured, pickled, dried or smoked or otherwise prepared in the manner in which bacon or ham is ordinarily prepared, and from which no sub-maxillary, pre-scapular, pre-crural, or popliteal gland has been taken out;

(b) Lard, dripping, edible tallow and similar rendered fats; and

(c) All edible parts of a pig other than (i) the head or other severed parts of the carcase and (ii) the intestines prepared in the form of sausage casings.

Given under the Official Seal of the Minister of Health this Twenty-third day of March, in the year One thousand nine hundred and twenty-five.

(L.S.)

*A. B. Maclachlan,*

Assistant Secretary, Ministry of Health.

The Commissioners of Customs and Excise hereby consent to the foregoing Regulations so far as they apply to the Officers of Customs and Excise.

*A. J. Dyke,*

*W. Young,*

Two of the Commissioners of His Majesty's  
Customs and Excise.

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*Note.*—The Public Health Act, 1896, provides by sub-section (3) of Section 1 that if any person wilfully neglects or refuses to obey or carry out, or obstructs the execution of any regulations made under any of the enactments mentioned in that Act, he shall be liable to a penalty not exceeding £100, and, in the case of a continuing offence, to a further penalty not exceeding £50 for every day during which the offence continues.

The power of making regulations under the Public Health Act, 1896, and the enactments mentioned in that Act, is enlarged by the Public Health (Regulations as to Food) Act, 1907.

The Public Health (Regulations as to Food) Act, 1907, provides that the Minister of Health may make regulations for the purpose of giving effect to the provisions of the Public Health Act, 1896, relating to the regulation of food.

Whereas by the Public Health (Regulations as to Food) Act, 1907, the power of making regulations under the Public Health Act, 1896, relating to the regulation of food is conferred on the Minister of Health, and whereas it is expedient that the power should be exercised in relation to the regulation of food for the purpose of giving effect to the provisions of the Public Health Act, 1896, relating to the regulation of food.

And whereas it is expedient that the power should be exercised in relation to the regulation of food for the purpose of giving effect to the provisions of the Public Health Act, 1896, relating to the regulation of food.

Now therefore the Minister of Health in exercise of the power conferred upon him by the Public Health Act, 1896 (3), the Public Health (Regulations as to Food) Act, 1907 (4), and the Public Health (Regulations as to Food) Act, 1907 (5), and of all other powers which he is lawfully entitled to exercise, makes the following regulations, which shall be in full force and effect from the first day of January, 1908, and shall be read as if they were contained in the Public Health Act, 1896, and shall be read as if they were contained in the Public Health (Regulations as to Food) Act, 1907, and shall be read as if they were contained in the Public Health (Regulations as to Food) Act, 1907.

1. These regulations may be cited as the Public Health (Regulations as to Food) Regulations, 1907, and shall come into operation on the 1st day of January, 1908, and shall be read as if they were contained in the Public Health Act, 1896, and shall be read as if they were contained in the Public Health (Regulations as to Food) Act, 1907.

(3) S.S. 1896, No. 22, p. 100.

(4) S.S. 1907, No. 10.

(5) S.S. 1907, No. 10.

(6) S.S. 1907, No. 10.

(7) S.S. 1907, No. 10.

Note.—The Public Health Act, 1891, provides by subsection (2) of section 1 that if any person wilfully neglects or refuses to obey any order or obstructs the execution of any regulations made under any of the enactments mentioned in that Act, he shall be liable to a penalty not exceeding £100, and in the case of a continuing offence, to a further penalty not exceeding £10 for every day during which the offence continues.

The power of making regulations under the Public Health Act, 1891, and the enactments mentioned in that Act, is enlarged by the Public Health (Regulations as to Pools) Act, 1907.

THE following regulations were made by the Local Authorities in accordance with the provisions of the Public Health (Regulations as to Pools) Act, 1907.

1. The following regulations were made by the Local Authorities in accordance with the provisions of the Public Health (Regulations as to Pools) Act, 1907, relating to the construction and maintenance of pools.

2. The following regulations were made by the Local Authorities in accordance with the provisions of the Public Health (Regulations as to Pools) Act, 1907, relating to the appointment and duties of pool inspectors.

3. The following regulations were made by the Local Authorities in accordance with the provisions of the Public Health (Regulations as to Pools) Act, 1907, relating to the appointment and duties of pool cleaners.

4. The following regulations were made by the Local Authorities in accordance with the provisions of the Public Health (Regulations as to Pools) Act, 1907, relating to the appointment and duties of pool attendants.

5. The following regulations were made by the Local Authorities in accordance with the provisions of the Public Health (Regulations as to Pools) Act, 1907, relating to the appointment and duties of pool sweepers.

6. The following regulations were made by the Local Authorities in accordance with the provisions of the Public Health (Regulations as to Pools) Act, 1907, relating to the appointment and duties of pool scavengers.



**Appendix 5.**

## STATUTORY RULES AND ORDERS.

1933, No. 347.

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**PUBLIC HEALTH, ENGLAND.**

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THE PUBLIC HEALTH (IMPORTED FOOD) AMENDMENT REGULATIONS, 1933,  
DATED APRIL 25, 1933, MADE BY THE MINISTER OF HEALTH.

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75,856.

Whereas by the Public Health (Imported Food) Regulations, 1925(a) (in these regulations referred to as "the principal regulations"), the Minister of Health made provision with regard to the importation into England and Wales of food for sale for human consumption;

And whereas it is expedient that the principal regulations should be amended:

Now therefore the Minister of Health in the exercise of the powers conferred upon him by the Public Health Act, 1875 (b), the Public Health (London) Act, 1891 (c), the Public Health Act, 1896 (d), and the Public Health (Regulations as to Food) Act, 1907 (e), and of all other powers enabling him in that behalf hereby makes the following regulations, with the consent of the Commissioners of Customs and Excise so far as they apply to the Officers of Customs and Excise, that is to say:—

1. These regulations may be cited as the Public Health (Imported Food) Amendment Regulations, 1933, and shall come into operation on the 1st day of September, 1933, and be read as one with the principal regulations.

(a) S.R. &amp; O. 1925 (No. 273) p. 1365.

(c) 54-5 V. c. 76.

(d) 59-60 V. c. 19.

(b) 38-9 V. c. 55.

(e) 7 E. 7. c. 32.

2. For the definitions of the terms "cattle" and "meat" in paragraph (1) of article 2 of the principal regulations there shall be substituted the following definitions:—

"Animal" includes a bull cow ox heifer calf ram ewe wether lamb goat kid boar sow and hog;

"Meat" means the flesh or any other edible part of an animal or a substance compound material or article of which the flesh or any other edible part of an animal is an ingredient.

3. For the first and second schedules to the principal regulations there shall be substituted the first and second schedules to these regulations.

4. Copies of the principal regulations printed under the authority of His Majesty's Stationery Office may be printed with any additions omissions or substitutions directed to be made by these or any other amending regulations but with a footnote in each instance referring to such amending regulations and the principal regulations so printed may be cited as the Public Health (Imported Food) Regulations.

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#### FIRST SCHEDULE.

##### *Prohibited meat.*

Any of the following kinds of meat:—

(a) Scrap meat, that is to say meat which consists of scraps, trimmings or other pieces (whether with or without bone) of such shape or in such condition as to afford insufficient means of identification with a definite part of a carcase, and which has not before importation been made ready for human consumption in the form of a sausage or other prepared or manufactured article of food;

(b) Meat comprising the ribs or the abdominal wall from which the pleura or the peritoneum has been detached;



- (c) The carcase of an animal having the head in its natural state of attachment to the carcase but not having the submaxillary, pre-scapular, pre-crural, superficial inguinal, supramammary, and popliteal glands in their natural position;
- (d) A severed part of the carcase of an animal (including the whole carcase without the head) from which a pre-scapular, pre-crural, popliteal, superficial inguinal, or supramammary gland has been taken out; and
- (e) The head of an animal without the submaxillary gland or a tongue from which the submaxillary gland has been taken out.

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#### SECOND SCHEDULE.

##### *Conditionally admissible meat.*

Any of the following kinds of meat so far as they are not included in the first schedule:—

- (a) A severed part of the carcase of an animal (including the head or any part thereof and the whole carcase without the head but not including any part of the carcase of a pig which has been salted cured pickled dried or smoked or otherwise prepared in the manner in which bacon or ham is ordinarily prepared) from which no submaxillary, pre-scapular, pre-crural, superficial inguinal, supramammary, or popliteal gland has been taken out;
- (b) Lard, dripping, edible tallow, and all other rendered animal fats except oleo oil, oleo stearine and premier jus; and
- (c) All edible parts of an animal other than (i) the head or other severed parts of the carcase, (ii) the intestines prepared in the form of sausage casings, and (iii) meat which has before importation been made ready for human consumption in the form of a sausage or other prepared or manufactured article of food.

Given under the official seal of the Minister of Health this Twenty-fifth day of April, nineteen hundred and thirty-three.

(L.S.)

*E. H. Rhodes,*

Assistant Secretary, Ministry of Health.

Signed by order of the Commissioners of Customs and Excise,

*James Cook,*

Assistant Secretary for Customs and Excise.



Appendix 6.**PORT OF LIVERPOOL SANITARY AUTHORITY.**

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**Memorandum on the Freezing and Packing of Imported Meat in reference to Early Examination and Quick Despatch at Port of Entry.**

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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 the 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.

**BONELESS BEEF.**

CUT OF MEAT.	SHAPE IN FREEZING.	SEROUS MEMBRANES.	GLANDS.
<b>SHINS</b> ... ..	A full shin ; natural shape.	—	—
<b>BUTTOCKS</b> ... ..	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 Superficial inguinal supra-mammary
<b>THICK FLANKS</b> ... ..	Natural shape.	—	Pre-crural in situ.
<b>THIN FLANKS</b> ... ..	Frozen flat.	Peritoneum to be left exposed.	—
<b>RUMPS</b> ... ..	Left in natural shape and frozen.	—	Where glands are present to be left intact.
<b>LOINS</b> ... ..	Natural shape as cut from quarter.	Peritoneal membrane not removed.	Lumbar glands left
<b>MIDDLES</b> ... ..	As ribs.	As ribs.	As ribs.
<b>RIBS</b> ... ..	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.	—
<b>CHUCKS</b> ... ..	Natural shape as cut from quarter.	If the cut be large, pleural membrane to be left.	Pre-scapular gland left for examination
<b>SHOULDERS</b> ... ..	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.
<b>CLODS</b> ... ..	Natural shape as cut from quarter.	Pleural membrane not removed.	Pre-scapular gland exposed and left.
<b>NECKS</b> ... ..	Full necks, and natural shape as cut off the quarter.	—	—
<b>BRISKETS</b> ... ..	Frozen flat, no folding.	Peritoneum and pleural membranes left intact.	Glands left intact.

In sub-divisions of these cuts and in other types of cuts, the membranes and lymphatic glands where present, should be left in their natural position.



**OFFAL, &c.**

Cheeks ... ..	Full cheeks frozen separately, no scraps.
Livers ... ..	These are to be frozen separately, so that each organ, or part, when hard frozen, may be easily remov- able from the bag or box for examination.  Where glands are present, to be left intact.
Tripe ... ..	
Kidneys (beef) ... ..	
Tongues ... ..	
Skirts (with pleura and peritoneal membrane) ... ..	
Tails ... ..	
Hearts ... ..	
Plucks ... ..	
Other boxed meats ... ..	

Meat other than boneless, i.e., CUT WITH BONE, including Beef, Veal,  
Mutton, Lamb and Pork Cuts.

Neural and Peritoneal Membranes and all Lymphatic glands must be left in situ.

LIVERPOOL PORT SANITARY AUTHORITY,  
*December 5th, 1933.*

## FISH SECTION

OYAL

Full cheeks frozen separately, no wings

SKINS

Skins frozen in one lot

These are to be frozen separately

head, body, and tail, with

head frozen separately

tail from the body or not for

examination

When glands are present, to be frozen

intact

SKINS

Skins frozen in one lot

SKINS

Skins frozen in one lot

CUT WITH BONE, including Best Vial

Lamb and Pork Cuts

SKINS

Skins frozen in one lot

Lamb and Pork Cuts and all lymphatic glands must be left in situ

SKINS

Skins frozen in one lot

PORT SANITARY ATTORNEY

JAN 1917

SKINS

Skins frozen in one lot

SKINS

Skins frozen in one lot

SKINS

Skins frozen in one lot

SKINS

Skins frozen in one lot

SKINS

Skins frozen in one lot

When glands are present, to be frozen intact

These are to be frozen separately

head, body, and tail, with

head frozen separately

tail from the body or not for

examination