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London (England). Port Health Authority.

Publication/Creation

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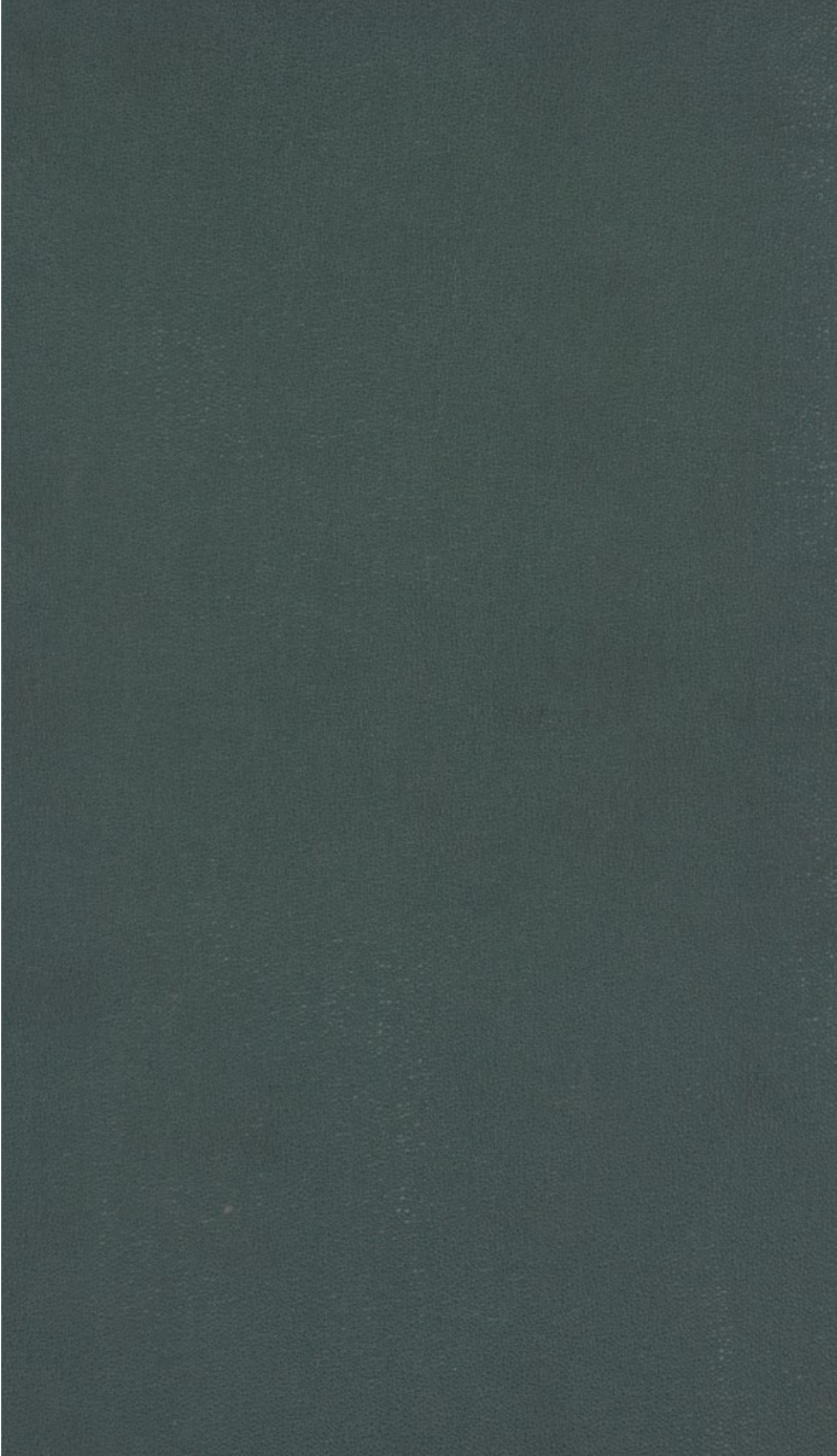
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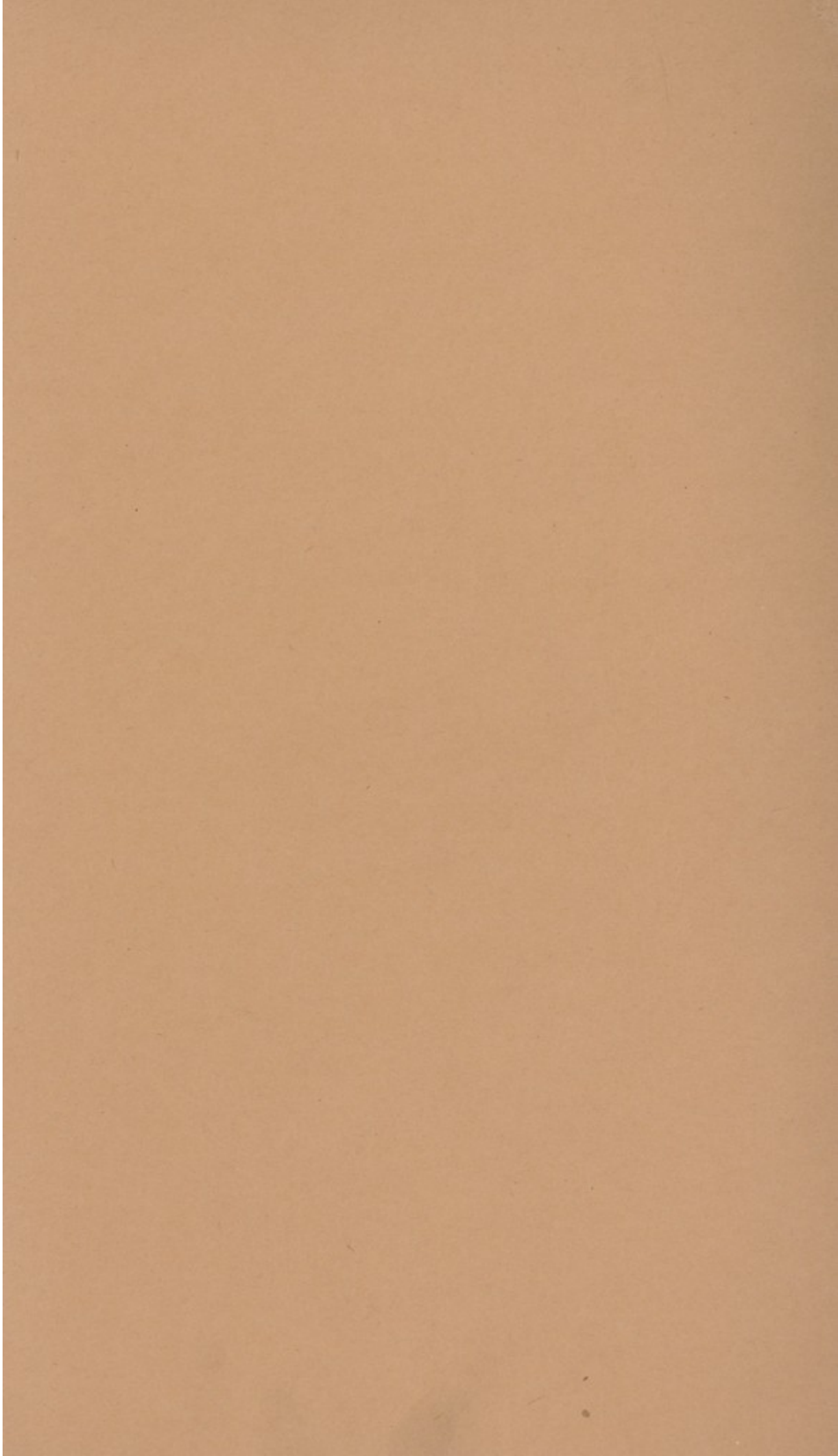
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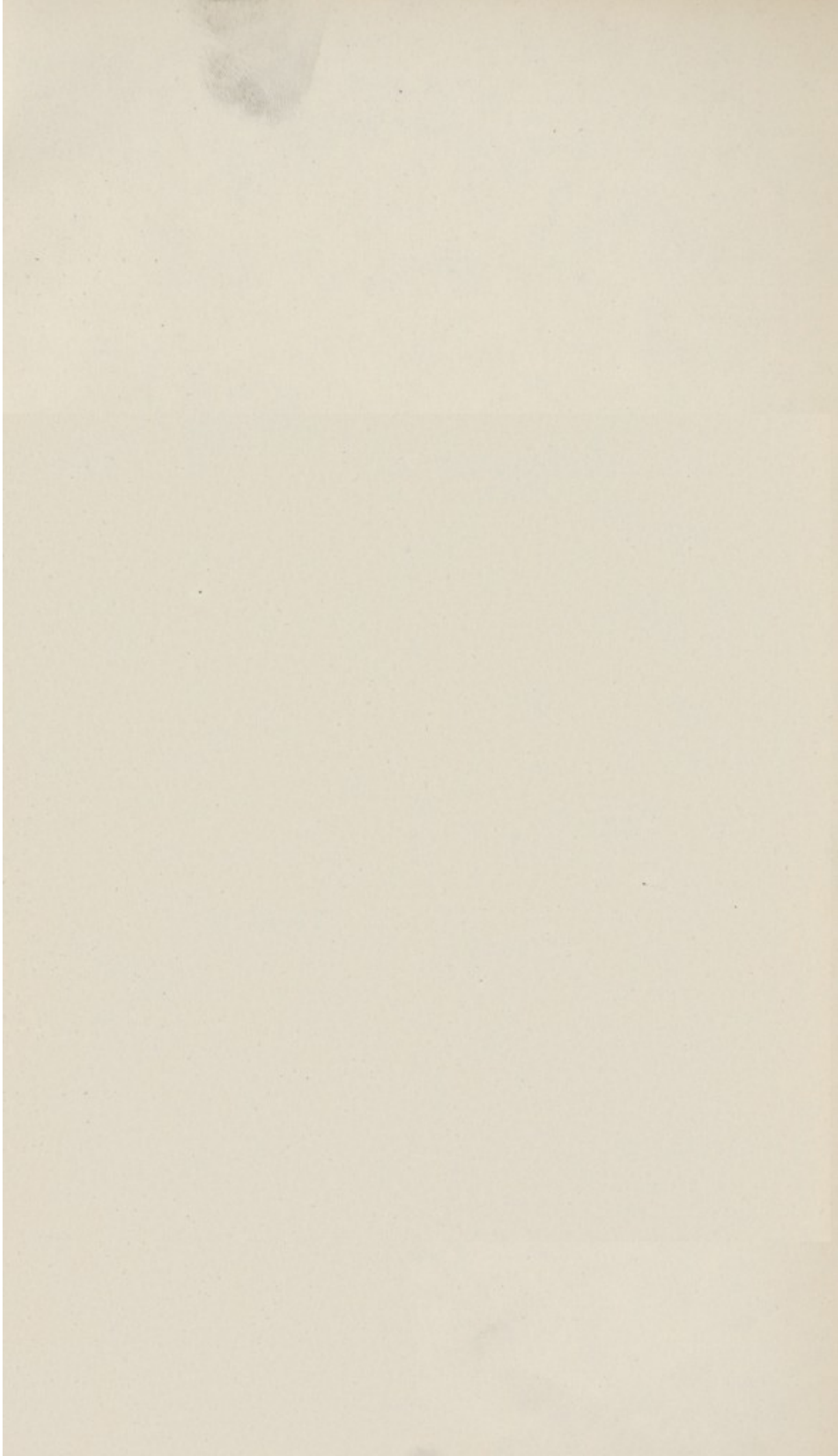


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PORT OF LONDON SANITARY COMMITTEE.

ANNUAL REPORT

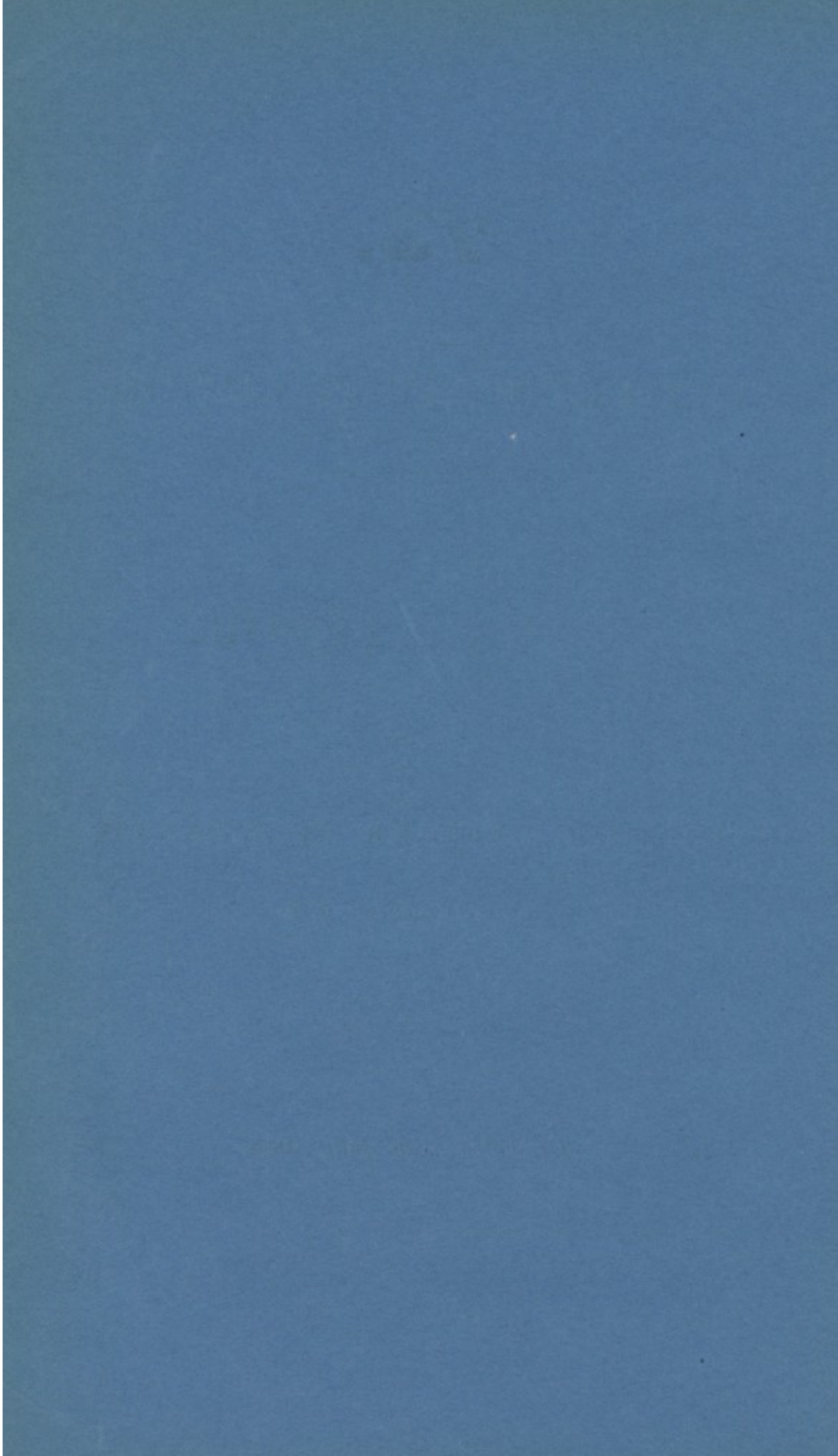
OF THE

MEDICAL OFFICER OF HEALTH,

To 31st DECEMBER, 1917.



Presented 25th July, 1918.



REPORT,

FOR THE YEAR ENDED 31ST DECEMBER, 1917,

OF THE

MEDICAL OFFICER OF HEALTH

FOR THE

PORT OF LONDON.

BY

WILLOUGHBY MASON WILLOUGHBY, B.A., M.D.,
B.C., Cantab., D.P.H. Camb.,

Medical Officer of Health, Port of London.

LONDON :

PRINTED BY CHARLES SKIPPER & EAST, 49, GREAT TOWER STREET, E.C. 3.



HANSON, *Mayor.*

A Common Council holden in the Chamber of
the Guildhall of the City of *London*, on
Thursday, the *25th* day of *July*, 1918.

THE Port of London Sanitary Committee did this day deliver into this Court a Report in writing under their hands, of their proceedings, and submitting the Annual Report of the Medical Officer of Health of the Port to the 31st December, 1917 ; which was read.

ORDERED, That the Report be printed, and a copy sent to every Member of this Court.

BELL.

*To the Right Honourable the Lord Mayor, Aldermen and Commons
of the City of London, in Common Council assembled.*

WE, whose names are hereunto subscribed, of your Port of London Sanitary Committee, to whom it has been referred to carry into execution the powers assigned to the Corporation, as the Port of London Sanitary Authority, by the Local Government Board, under the Public Health (London) Act, 1891, beg to submit for the information of your Honourable Court the Annual Report of Dr. Willoughby Mason Willoughby, the Medical Officer of Health of the Port of London, for the year ended the 31st December, 1917, which Report contains a full and detailed account of the work done in the Port during that period by the Medical Officers and Inspectors.

The contribution of the Corporation of the City of London to the expenses of a Venereal Diseases Treatment Centre in the County Borough of West Ham has secured the early operation of that Centre, which has proved of special utility and benefit to seamen ; the direction of cases of Venereal Disease to the various Treatment Centres readily accessible from dock or wharf has become a routine duty of Medical Officers and Inspectors.

Suitable measures have also been taken in dealing with Malignant Malaria, at present a non-notifiable disease.

The assumption of these measures of control has received the approval of your Committee, thus adding to the effective work of the Medical Officers as regards ship-borne diseases.

Two Plague-infected ships were dealt with on arrival in the Port : the organisation to this end proving effective throughout.

A small and localized Plague infection among rats in the Royal Albert Dock, which had been found in the course of rat examination late in 1916, terminated early in the year. The routine rat examination has been steadily carried out throughout the district in view of the liability to such occurrences.

The floating fumigating plant has proved of considerable service to shipping.

The number of cases of dangerous infectious diseases entering the Port has been low in proportion to the coastline of the globe in present trade use.

The admissions to the Hospital include, however, cases of Plague from the ships mentioned above.

Nuisances have received careful attention : many of these arose in connection with war conditions.

Inspection of foodstuffs has throughout the year been carried out with the two points of food saving and seizure of unsound material in view. These points, as far as the work of the Food Inspectors is concerned, are not incompatible, but as a natural consequence the work of food inspection has been of enhanced difficulty, requiring judgment and discretion on the part of your officers.

Unsound food has had an increasing value as animal food or for its products ; a useful outlet has thus been found with correspondingly greater ease for all varieties of this material, under sufficient guarantee against wrongful use.

An Account of Receipts and Expenditure in connection with the Port of London Sanitary Authority from the 1st January, 1917, to the 31st March, 1918, is appended, in accordance with the Order of your Honourable Court, for the information of the Court.

All which we submit to the judgment of this Honourable Court. Dated this twenty-third day of July, 1918.

CECIL F. J. JENNINGS.

W. LINDLEY-JONES.

E. S. JACOB.

ROBT. PEACHEY.

JOHN F. BENNET.

B. T. SWINSTEAD.

A. STANLEY STONE.

WALTER H. KEY.

H. P. MONCKTON.

C. J. SMITH.

W. W. GREEN.

ALBION T. SNELL.

J. K. BROWN.

OFFICES
OF THE
Port of London Sanitary Authority
AND
Medical Officer of Health
AT
51, KING WILLIAM STREET,
GREENWICH, S.E. 10.

TELEGRAPHIC ADDRESS - "MEDOFF, GREEN, LONDON."
TELEPHONE No. - - - GREENWICH 360.

BOARDING STATIONS.

RIVER THAMES - - - HULK "HYGEIA," GRAVESEND.
RIVER MEDWAY - - - GARRISON POINT, SHEERNESS.
TELEPHONE No. (HULK "HYGEIA") - - - GRAVESEND 325.

HOSPITAL FOR INFECTIOUS DISEASES

AT
DENTON, NEAR GRAVESEND.

TELEPHONE No. (HOSPITAL) - - - GRAVESEND 957.
Ditto (MEDICAL OFFICER OF HEALTH) ,, 86.

LIMITS OF THE PORT OF LONDON.

The limits of the Port of London as at present defined commence at High Water Mark in the River Thames at Teddington Lock, in the County of Surrey, and extend down both sides of the River Thames to an imaginary straight line drawn from the Pilot Mark at the entrance of Havengore Creek, in the County of Essex, to the Lands end at Warden Point, in the Isle of Sheppey, in the County of Kent, such point being the North-Western limit of the Port of Faversham, and shall extend up and include both sides of the River Medway to an imaginary straight line drawn from the South-East point of land westward of Coalmouth Creek, thence across the said River Medway to the Westernmost point of the piece of land which forms the Eastern side of the Stangate Creek, or, in other words, the North-West point of Fleet Marsh, and from thence in a Southerly direction to Iwade Church, in the said County of Kent, and thence in a North-Easterly direction to Elmley Chapel, in the said Isle of Sheppey, a supposed direct line from Elmley Chapel to Iwade Church, being the Western limit of the Port of Faversham, and the said Port of London shall include the Islands of Havengore Creek aforesaid, called Potton and Rushey Islands, and so much of the said Creek and watercourse as extends from it to the town of Rochford, and shall also include all other islands, rivers, streams, creeks, waters, watercourses, channels, harbours, docks and places within the before-mentioned limits contained.

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STAFF.

LIST OF OFFICERS FORMING THE STAFF OF THE PORT OF LONDON
SANITARY AUTHORITY, 31ST DECEMBER, 1917.

Office.	Name of Officer.	Date of Appointment to Present Position.	Condition as to Military Service. (See footnote.)
MEDICAL OFFICER OF HEALTH -	W. M. Willoughby, B.A., M.D., B.C., D.P.H.Camb.	- - - -	O. (Enrolled.)
DEPUTY - - - - -	J. S. Warrack, M.A., M.D., C.M. Aberdeen, D.P.H.Camb.	- - - -	O.H.M.S.
ASSISTANT MEDICAL OFFICERS—			
GRAVESEND - - - - -	W. R. Betenson, M.R.C.S., L.R.C.P., Lond., D.P.H. Lond. (Acting Deputy M.O.H. and M.O., Denton Hospital).	July, 1907 -	O.
SHEERNESS - - - - -	A. Kidd, M.R.C.S., L.R.C.P., Lond., D.P.H.	1909 - - -	O.
	E. V. Legge, M.A., M.D., B.C., B.A.O., L.M. Dublin.	1909 - - -	O.
GREENWICH OFFICES—			
Clerk - - - - -	W. J. Albrow - - - - -	March, 1890 -	O.
1st Assistant - - - - -	E. A. Sorrell - - - - -	October, 1894 -	O. (V.T.C.).
2nd ditto - - - - -	W. C. Barham - - - - -	June, 1903 -	A.
Junior ditto - - - - -	T. J. S. Cotterell - - - - -	July, 1910 -	O.H.M.S.
Ditto - - - - -	J. A. Gillis - - - - -	April, 1914 -	O.H.M.S.
Caretaker - - - - -	F. Hudgell - - - - -	November, 1906 -	O.
FOOD INSPECTORS - - - - -	*W. Anderson, Cert.R.San.Inst. -	July, 1898 -	O.
	*T. W. Bailey, Cert.R.San.Inst. -	July, 1901 -	O.
	*A. Garland, Cert.R.San.Inst. -	December, 1917 -	O.
SANITARY INSPECTORS - - - - -	*W. G. Wetjen, Cert.R.San.Inst. -	August, 1898 -	O.
	*W. W. Burr, Cert.R.San.Inst. -	August, 1898 -	O.
	*H. R. Hopkins, Cert.R.San.Inst. -	February, 1899 -	O. (R.N.A.S.).
	*P. R. Lambe, Cert.R.San.Inst. -	January, 1900 -	O.
	*J. H. Rolfe, Cert.R.San.Inst. -	September, 1901 -	O.
	*W. Elward, Cert.R.San.Inst. -	March, 1909 -	O.
	*F. J. Massie, Cert.R.San.Inst. -	March, 1909 -	A.
	C. A. Shepherd, Cert.R.San.Inst. -	January, 1909 -	O.H.M.S.
	*W. J. Berry, Cert.R.San.Inst. -	February, 1914 -	A.
DENTON HOSPITAL—			
Medical Officer - - - - -	J. S. Warrack, M.A., M.D., C.M. Aberdeen, D.P.H.Camb.	1906 - - -	O.H.M.S.
Matron - - - - -	J. Jackson - - - - -	- - - - -	- - - - -
Assistant Nurse (Temporary) - - - - -	L. M. Harding - - - - -	February, 1910 -	F.
Ditto (Do.) - - - - -	E. Lucas - - - - -	- - - - -	F.
Ditto (Do.) - - - - -	M. Salley - - - - -	- - - - -	F.
Cook - - - - -	R. Stinton - - - - -	- - - - -	F.
Maid-servant (Do.) - - - - -	A. Hayward - - - - -	- - - - -	F.
Porter, &c. (Do.) - - - - -	J. H. Robinson - - - - -	- - - - -	F.
			O.
STEAM LAUNCHES—			
"LADY TRUSCOTT"—			
Master - - - - -	W. Jarvis - - - - -	April, 1911 -	O.
Engineer - - - - -	J. A. Hardman - - - - -	December, 1911 -	O.
Mate - - - - -	A. F. Rough - - - - -	November, 1914 -	A.
Stoker - - - - -	A. E. Howard - - - - -	February, 1912 -	O.H.M.S.
	W. Thomas (Temporary).		
"DAVID BURNETT"—			
Master - - - - -	C. H. Price - - - - -	October, 1913 -	O.H.M.S.
Engineer - - - - -	J. Steen (see "George Briggs") -	September, 1914 -	A.
Deckhand - - - - -	Vacant - - - - -	- - - - -	- - - - -
Stoker - - - - -	Do. - - - - -	- - - - -	- - - - -
"GEORGE BRIGGS"—Motor Launch—			
Master - - - - -	C. Strange - - - - -	October, 1913 -	A.
Engineer - - - - -	J. Steen - - - - -	- - - - -	A.
GREENWICH MOORINGS—			
FUMIGATING BARGE "THOMAS"—			
Stoker, &c. - - - - -	Vacant - - - - -	- - - - -	- - - - -
BARGE "ELLA VICARS"—			
Watchmen - - - - -	{ H. A. Clarkson - - - - -	May, 1912 -	O.H.M.S.
	{ E. Ditch - - - - -	December, 1914 -	A.
	{ H. E. Martin (Temporary) -	July, 1914 -	O.
GRAVESEND—			
HULK "HYGEIA"—			
Shipkeeper - - - - -	I. Rogers - - - - -	April, 1893 -	O.
Ditto - - - - -	A. Salter - - - - -	July, 1898 -	O.

* These Inspectors possess the Special Certificate of the Royal Sanitary Institute for Inspectors of Food.

NOTE.—O.H.M.S. Active Service. A. Attested. O. Over age. F. Female.

PORT OF LONDON SANITARY OFFICES,
51, KING WILLIAM STREET,
GREENWICH, S.E. 10.

TO THE WORSHIPFUL THE PORT OF LONDON
SANITARY COMMITTEE.

GENTLEMEN,

I have the honour to present my Annual Report for the year ending 31st December, 1917, containing a detailed account of the work done in the Port during that period by your Medical Officers and Inspectors.

In giving expression to results from the point of view of quantity, the Report depends naturally upon numbers, and, where this applies to vessels, some modification of the results as compared with former years is only to be expected.

The important nature of the year's work, in more than one direction, is clearly apparent. In the following remarks I allude to some of these, which are dealt with at greater length in the body of the Report.

The number of cases of infectious disease admitted to the Hospital is small, but included admissions from two plague-infected ships.

Localised Plague also existed among the rats in one part of the district in the first quarter of the year, constituting a danger which, with its limits, was disclosed in the course of the customary examination of rats undertaken throughout the Port Sanitary District ashore.

Under the Public Health (Venereal Diseases) Regulations, 1916, such work as falls to Medical Officers other than those of Controlling Authorities has been systematically performed, while your monetary contribution towards the cost of the scheme of one of the Controlling Authorities abutting on the Port district secured the early establishment of a treatment centre at an important point for the control of Venereal Disease amongst seamen.

For the first time for many years Malignant Malaria was found to be largely affecting the health of crews entering the Port. The source was traced, and information as to prevention and cure conveyed to the companies concerned.

Throughout the year the work of Food Inspection has been rendered difficult under the necessity of preserving all possible food. This preservation had already become the care of your officers in its relation to condemnation long before the recognition of that necessity was urged.

The Orders made in 1916, under the Public Health (Shellfish) Regulations, 1915, regarding certain shellfish layings under your jurisdiction were the subject of an appeal heard on the 19th October by an Inspector of the Local Government Board. A decision is pending.

Two launches, instead of the pre-War three, were at work on the River for the purpose of Sanitary Inspections on vessels.

The fumigating plant was used on sixteen occasions during the year: the special cases this apparatus is intended to meet occurring in the Plague ships mentioned above.

Accidents of unusual nature occurred on two launches—a fire in the cabin of the "David Burnett," and an explosion in the boiler of the "Lady Truscott."

Amid difficulties in working, inevitable at the present time wherever mechanical contrivances are in use, and when many businesses with which the work of the Authority is associated have altered their methods and *criteria*, the whole Staff has supported your Medical Officer in arranging the due performance of all the duties of the Port work, with such modifications in the scheme evolved throughout past years as circumstances demanded.

MEDICAL INSPECTION AT GRAVESEND.

The total number of vessels, 971, medically inspected on arrival has been naturally less than usual, for reasons which are beyond the scope of this Report. Taking the aggregate number of foreign arrivals in the Port for the five years ending the 31st December last, the proportion to this total shown by the arrivals, and of the number medically inspected, in each year is as follows:—

<i>Year.</i>			<i>Arrivals %.</i>	<i>Medically Inspected %.</i>
1913	...	...	24·7	4·9
1914	...	...	20·3	5·0
1915	...	...	18·2	6·0
1916	...	...	18·0	4·1
1917	...	...	17·9	2·4

The proportion shown by the number medically inspected during 1917, to the total arrivals in that year, is 10·9 per cent., with a total number of 6,460 passengers and 50,659 of crews.

It will be observed that the ratio of medical inspection does not follow strictly the number of arrivals.

This follows from the fact that medical inspection is governed by special requirements from the point of view of epidemiology. Thus, though all foreign arrivals are visited, inspection is given only to those from infected or suspected ports.

On the vessels so examined 458 cases of infectious disease were found to have occurred during the voyage.

Of these, 61 were removed to the Port Sanitary Hospital.

Among these cases were some of Malignant Tertian Malaria, on which I have furnished a few observations elsewhere.

In view of the practical difficulty in obtaining suitable substitutes at the present time, no leave of absence has been possible to your Medical Officers during the year, and I have happily to record no absence from sickness. It is to be noted, however, that present arrangements make no provision in respect to that contingency.

TABLE I.

MEDICAL INSPECTION—GRAVESEND. From 1st January to 31st December, 1917.

	Jan.	Feb.	March	April	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Total.
Number medically inspected	109	106	75	98	125	83	98	99	58	38	45	37	971
Number of passengers ...	1,285	586	550	522	665	302	348	349	185	730	327	611	6,460
Number of crew ...	5,570	4,749	3,368	5,487	6,262	3,744	3,690	3,702	3,129	2,869	5,294	2,795	50,659

MEDICAL INSPECTION OF SHIPS ENTERING THE MEDWAY.

Since early in the War the practice of boarding and medically inspecting ships entering the Medway at Sheerness has not been carried on.

The Port was largely closed to ordinary traffic, and the customary facilities for the Boarding Medical Officer, telephonic and transport, were not available. The services of Dr. Legge were utilised at Gravesend. Traffic has, however, increased in the Port of late at this point, though of such a nature as to require less attention as regards infectious disease than formerly. In case of infectious disease, an arrangement has been made with His Majesty's Customs for the conveyance of immediate information to this Authority.

Aliens among the crews on merchant ships about to enter the Medway are landed at Southend-at-Sea by the Naval Authorities. This gave rise to the possibility of transfer of infectious cases to that town, and in one instance a case of Measles was landed. An arrangement has therefore been made by which information of infectious disease among crews is forthwith sent to this Authority by the Naval Examining Authorities, and the ship implicated is directed to proceed towards Gravesend. Such a vessel is met by launch, inspected, and such removals and disinfection as is necessary are effected.

INFECTIOUS DISEASE.

The total number of cases reported from all sources was 515, this number being somewhat above the decennial average. The number of cases of Measles, 168, shows an approach to the average, and is much below the number reported in any year since 1913.

There is likewise a reduction in the number of cases of Enteric Fever, and of Tuberculosis in its various forms.

Of Plague, 18 cases were reported as having occurred on the voyage, this number being nearly four times the average. Nine of these cases were removed to the Port Sanitary Hospital.

Only two cases of Small-pox were reported: a quite remarkable occurrence, the decennial average being 19.0. Both of the cases reported were landed at distant oversea ports, and all proper precautions taken.

With the exception of "German Measles," 33 cases, the remaining infectious diseases show a reduction. The 166 cases of "other diseases" include 102 cases of Malaria, which is not a notifiable disease, but one which has required attention, and to which I have given space in this Report.

TABLE II.—INFECTIOUS DISEASE.

DISEASE.	1908.	1909.	1910.	1911.	1912.	1913.	1914.	1915.	1916.	Mean annual number for 10 years end ing 31st December, 1917.	1917.
<i>(a) CASES REPORTED :</i>											
Cholera (including suspected cases)	5	3	5	9	2	19	...	2	5	5.2	2
Yellow Fever (ditto) ...	2	...	...	...	...	4	...	...	...	0.6	...
Plague (ditto) ...	1	4	6	...	9	4	4	4	...	5.0	18
Small-pox ...	16	27	8	13	34	19	9	47	15	19.0	2
Scarlet Fever ...	23	16	21	11	10	40	30	18	5	17.4	...
Diphtheria ...	18	11	11	18	37	16	10	18	7	15.5	9
Enteric Fever ...	90	36	39	70	61	65	67	64	61	59.6	43
Measles ...	86	19	23	175	61	64	228	337	836	199.7	168
German Measles ...	...	...	...	...	3	4	...	10	8	5.8	33
Erysipelas ...	7	5	5	11	3	3	3	9	1	4.7	...
Typhus Fever ...	...	...	...	...	1	...	...	...	...	0.2	1
Continued Fever ...	19	10	1	5	9	13	2	7	5	7.3	2
Relapsing Fever ...	...	1	...	...	...	...	...	...	...	0.1	...
Tuberculosis :—											
Pulmonary ...	...	...	...	...	71	151	127	96	53	54.3	45
Miners' Phthisis ...	...	...	...	...	...	...	...	...	...	...	23
Other kinds ...	...	...	...	...	...	7	45	6	19	8.0	3
Other diseases (including Chicken-pox).	41	57	25	38	42	38	50	48	44	54.9	166
TOTAL...	308	189	144	350	343	447	575	662	1,059	457.3	515
<i>(b) TREATED IN PORT SANITARY HOSPITAL :</i>											
Cholera (including suspected cases)	...	1	2	...	...	...	...	...	...	0.3	...
Yellow Fever (ditto) ...	...	...	...	...	...	...	...	...	...	...	...
Plague (ditto) ...	...	1	2	...	1	2	1	...	...	1.6	9
Small-pox ...	...	4	2	6	2	9	2	10	2	3.7	...
Scarlet Fever ...	6	14	...	6	...	3	8	10	2	4.9	...
Diphtheria ...	5	1	4	3	...	7	1	3	1	2.6	1
Enteric Fever ...	42	11	17	22	35	29	30	17	34	25.2	15
Measles ...	13	5	2	7	27	18	9	33	4	12.1	3
Erysipelas ...	1	1	...	...	1	...	...	1	...	0.5	1
Typhus Fever ...	...	...	...	...	...	...	...	...	...	...	...
Continued Fever ...	6	10	1	4	7	9	1	5	4	5.5	8
Other diseases (including Chicken-pox).	15	10	7	8	7	14	9	11	6	11.1	24
TOTAL...	88	58	37	56	80	91	61	90	53	67.5	61

TABLE III.

Return of the Number of Cases of Infectious Disease Notified to the Local Government Board during the Year 1917, and of Deaths from the Diseases Notified :—

	<i>Notified.</i>	<i>Deaths.</i>
Plague - - - - -	8	3
Do. (Suspected) - - - - -	2	...
Small-pox - - - - -	...	...
Scarlet Fever - - - - -	...	...
Diphtheria (including Membranous Croup) -	6	...
Enteric (Typhoid) Fever - - - - -	20	1
Puerperal Fever - - - - -	...	...
Typhus Fever - - - - -	...	...
Cholera - - - - -	...	...
Relapsing Fever - - - - -	...	...
Continued Fever - - - - -	7	1
Cerebro-spinal Fever - - - - -	...	...
Acute Poliomyelitis - - - - -	...	...
Erysipelas - - - - -	1	...
Ophthalmia Neonatorum - - - - -	...	...
Tuberculosis : Pulmonary - - - - -	18	...
Other kinds - - - - -	28	...
Chicken-pox - - - - -	23	...
Whooping Cough - - - - -	...	...
Measles - - - - -	12	...
German Measles - - - - -	6	...
Other Diseases - - - - -	32	...
	<u>163</u>	<u>5</u>

NUMBER OF NOTIFICATIONS (SURVEILLANCE) DURING 1917.

Plague :—Passengers - - - - -	36
Crew - - - - -	216
Stevedores, &c. - - - - -	251
	<u>TOTAL - 503</u>
Number of Notifications received from Practitioners - - - - -	<u>57</u>

TABLE IV.

VESSELS AND PREMISES DISINFECTED, FROM 1ST JANUARY TO 31ST DECEMBER, 1917.

Month.	Reason for Disinfection.															Total number of Disinfections.		
	Cerebro-spinal Meningitis.	Chicken-pox.	Cholera.	Continued Fever.	Diphtheria.	Enteric Fever.	Erysipelas.	Malaria.	Measles.	Whooping Cough.	Plague.	Remittent Fever.	Scarlet Fever.	Small-pox.	Pulmonary Tuberculosis, &c.		Precautionary Measure.	Vessels Fumigated and Sprayed.
January	...	1	...	1	...	...	...	...	...	...	...	...	...	...	2	...	1	5
February
March	...	1	...	...	...	...	...	...	...	...	...	...	...	...	1	...	2	4
April	1	...	...	1	...	...	...	...	...	...	...	6	8
May	1	...	...	...	...	...	...	2	3
June	1	...	...	...	...	...	...	...	2	3
July	1	...	...	...	...	...	...	...	...	...	...	1	2
August	2	...	...	...	...	1	...	...	...	...	...	2	5
September	1	...	...	...	...	...	...	...	...	1
October	2	...	...	...	...	...	...	...	...	1	3
November	1	1	...	...	...	...	...	...	...	...	...	...	1	3
December	2	1	...	...	...	...	...	...	...	1	...	...	4
Totals	...	2	...	1	1	7	1	2	3	...	2	...	...	...	4	...	18	41

TABLE V.

NUMBER OF DISINFECTIONS OF EFFECTS, BEDDING, &C., FROM 1ST JANUARY TO 31ST DECEMBER, 1917.

Month.	Reason for Disinfection.														Hospital Bedding, &c.	Total Effects.	Number of times Steam Disinfectant was used.	Disinfected by Fumigation.
	Cholera.	Chicken-pox.	Cerebro-spinal Meningitis.	Continued Fever.	Diphtheria.	Enteric Fever.	Erysipelas.	Measles.	Pulmonary Tuberculosis, &c.	Plague.	Malaria.	Scarlet Fever.	Small-pox.	Precautionary Measure.				
January	...	1	...	1	...	...	...	...	1	...	...	...	...	...	...	3	5	1
February	4	...	...	4	4	...
March	1	...	...	...	...	1	...	...	...	...	...	...	...	2	7	...
April	3	...	1	...	...	...	...	...	...	...	4	2	...
May	1	...	...	...	...	1	...	2	4	...
June	1	...
July	1	...	...	...	...	...	...	...	...	...	1	1	...
August	2	...	...	1	...	...	...	...	...	...	3	3	...
September	1	...	...	...	...	...	...	...	1	1	1
October	3	...	...	...	...	...	3	3	...
November	1	1	...	...	...	...	...	...	...	...	...	2	1	...
December	2	1	...	...	...	...	...	...	...	...	3	2	...
Totals	...	1	1	1	1	9	1	3	1	2	3	...	...	4	1	28	34	2

TABLE VI.

RETURN OF RATS CAUGHT AND DESTROYED DURING 1917.

The entire cost of destroying these rats has been borne by the Shipowners and Port of London Authority.

	Jan.	Feb.	Mar.	April.	May.	June.	July.	Aug.	Sept.	Oct.	Nov.	Dec.	TOTALS.
Millwall Dock—													
Warehouses - - -	209	146	135	126	143	168	139	91	166	130	163	173	1,789
Vessels during voyage	20	30	—	—	30	10	—	22	35	12	30	20	209
„ while in dock -	63	187	97	76	85	83	12	27	146	125	110	79	1,090
Surrey Commercial Dk.—													
Warehouses - - -	132	85	81	67	65	43	37	19	34	30	103	70	766
Vessels during voyage	—	—	—	—	—	—	—	—	—	—	—	—	—
„ while in dock -	370	193	482	187	116	151	235	54	150	72	—	—	2,010
Regent's Canal Dock—													
Warehouses - - -	—	—	—	—	—	—	—	—	—	—	—	—	—
Vessels during voyage	—	—	—	—	—	—	—	—	—	—	—	—	—
„ while in dock -	—	—	—	—	—	—	—	—	—	—	—	—	—
St. Katharine's Dock—													
Warehouses - - -	44	39	55	43	53	64	57	48	26	42	87	51	609
Vessels during voyage	—	—	—	—	—	—	—	—	—	—	—	—	—
„ while in dock -	—	—	—	—	—	—	—	—	—	—	—	—	—
London Dock—													
Warehouses - - -	70	77	104	105	170	150	133	127	232	136	290	322	1,916
Vessels during voyage	—	—	—	—	—	—	—	—	—	—	—	—	—
„ while in dock -	—	—	—	—	—	—	—	—	—	—	—	—	—
Albert and Victoria Dks.—													
Warehouses - - -	473	338	429	369	444	302	316	326	672	524	319	313	4,825
Vessels during voyage	375	2	149	114	513	362	77	347	42	668	330	883	3,862
„ while in dock -	1,526	927	812	1,027	678	909	720	895	743	578	356	445	9,616
West India Dock—													
Warehouses - - -	195	248	278	171	144	186	169	166	192	103	145	182	2,179
Vessels during voyage	72	65	65	42	30	12	42	243	40	32	105	120	868
„ while in dock -	368	245	378	320	187	452	244	169	186	127	366	352	3,394
East India Dock—													
Warehouses - - -	24	6	15	10	14	49	27	9	21	31	27	25	258
Vessels during voyage	—	—	—	—	—	—	—	—	—	—	—	—	—
„ while in dock -	163	96	154	77	51	23	22	12	39	91	23	50	801
Tilbury Dock—													
Warehouses - - -	276	401	416	317	225	221	217	304	343	259	268	299	3,536
Vessels during voyage	—	84	326	80	88	—	—	100	—	—	364	—	1,042
„ while in dock -	532	337	726	456	551	302	485	934	265	266	431	362	5,647
River—													
During voyage - -	—	—	—	—	—	—	—	—	—	—	—	—	—
While in river - -	—	—	—	—	—	—	—	—	—	—	—	—	—
TOTALS - - -	4,912	3,506	4,702	3,587	3,587	3,487	2,931	3,893	3,332	3,226	3,508	3,746	44,417

Total from February, 1901, to 31st December, 1916 - 931,846

Total from 1st January to 31st December, 1917 :—

In Dock Warehouses - - - -	15,878	}	44,417
On Vessels during voyage - - -	5,981		
On Vessels while in Dock and River -	22,558		

TOTAL - - - 976,263

TABLE VII.

RETURN OF RATS EXAMINED BACTERIOLOGICALLY, 1917.

DOCK.	No. Trapped.	Found Dead.	Infected Rats.	
			Trapped.	Found Dead.
Royal Albert - - -	1,658	12	2	—
Royal Victoria - - -	253	7	—	—
East India - - -	49	—	—	—
Millwall - - -	139	—	—	—
West India - - -	16	—	—	—
Tilbury - - -	197	—	—	—
London - - -	317	—	—	—
Surrey Commercial - - -	—	—	—	—
St. Katharine - - -	246	—	—	—
Not located - - -	24	—	—	—
	2,899	19	2	—

SUMMARY—

Total Rats examined -	-	-	-	-	-	2,918
„ „ infected -	-	-	-	-	-	2

SPECIES—

Mus alexandrinus -	-	-	-	-	-	127
Mus decumanus (Norvegicus) -	-	-	-	-	-	2,314
Mus rattus -	-	-	-	-	-	474
Mus musculus -	-	-	-	-	-	3
Not classified -	-	-	-	-	-	—
Total -	-	-	-	-	-	2,918

CHOLERA.

On the 19th April, an arrival reported that two cases of Cholera had been removed at Bassein on the 9th February. It was ascertained on the 13th February that both patients were recovering. Disinfection was carried out at Bassein. No further case arose during the voyage.

PLAGUE.

The s.s. "Sardinia" arrived from Sydney via Bombay on 2nd May, with 31 passengers and 178 crew, and was found to be infected with Plague.

The following sequence of cases occurred :—

<i>Rating.</i>	<i>Nationality.</i>	<i>Taken ill.</i>	
1. Sailor - -	Asiatic - -	April 27 -	Died 30th April. Buried at sea.
2. Coal trimmer - -	" - -	" 27 -	Died 1st May. Buried at sea.
3. Coal trimmer - -	" - -	May 1 -	Removed to Denton Hospital. Recovered.
4. Fireman - -	" - -	" 1 -	Died 2nd May, one hour after arrival.
5. Storekeeper - -	European - -	April 28 -	Removed to Denton Hospital. Recovered.
6. Sailor - -	Asiatic - -	May 3 -	Removed to Denton Hospital. Died 8th May.
7. Sailor - -	" - -	" 8 -	Died 9th May in Denton Hospital.
8. Fireman - -	" - -	" 10 -	Removed to Denton Hospital (suspect), probably not Plague. Recovered.

Of these cases, 1, 6 and 7 occupied nearly adjacent bunks in the starboard fore-castle.

The duties of No. 5 took him daily into the natives' food store, situated in the fore peak and approached by a trap hatch in the starboard fore-castle.

Dead rats had been found in the fore peak since the ship left Marseilles, where fumigation of the hold was carried out. To this fumigation the finding of dead rats was ascribed, and though a sick rat or two had been seen and killed, the significance of the rat mortality seems to have been overlooked.

The focus of recent infection was probably the native food stores in the fore peak, to which the rats from the hold had access at and after Marseilles, both through opened hatches over deck and directly by certain runs through chain locker and chain locker hatch, ventilators, &c.

Food and other cargo was taken in at Bombay, the port at which infection of the rats on board could naturally occur: peas, lentils, acajou nuts, skins and hides forming an attraction for the animals.

The ship left Bombay on the 23rd March. Between this date and her arrival in the Channel there would be time for the development of the epizootic amongst the rats and the communication of the disease through the rat flea to man.

It will be noticed that the British storekeeper, the only white man attacked by Plague, was brought into association with the rat in the issue of stores. On the last occasion of Plague in a ship arriving at Gravesend it was similarly the man who issued the native stores who was attacked by Plague; on that occasion no other member of the crew was attacked, but a rat mortality had occurred in the holds in the fore part of the ship.

The eighth case was probably not one of Plague, since the patient presented only slight fever for two days and a small tender bubo under the jaw ; however, the possibility of his having a mild attack could not be overlooked considering the ship's history. He was therefore removed to hospital for observation.

Cases 1, 2, 3, 4 and 5 were bubonic in type ; 6 and 7 were septicæmic.

It is possible that cases 6 and 7 were infected directly from case 1.

The following precautions were taken :—

1. The sick and a suspect were removed to Denton Hospital.
2. The living quarters were fumigated with sulphur dioxide, to kill rats and fleas therein, and washed down with disinfectant. The native crew bathed, and all their effects put through the steam disinfector at Denton.
3. All passengers were under surveillance, as also any of the British crew who left the ship, by notification to their place of destination.

The number of notifications were as follows :—

Passengers -	-	-	-	-	-	-	31
Crew -	-	-	-	-	-	-	178
Stevedores, &c. -	-	-	-	-	-	-	180
							389
							389

4. The native crew was kept on board under daily observation.
5. The ship's cargo was discharged on the "quarantine" grounds under precautions against infection of the workers and against transfer of rats in the craft used.
6. All workers were under surveillance by notification.
7. Certain portions of the cargo underwent storage as a precaution against infection—skins, carpets, waste and raw silk, &c.
8. When empty, the holds, native quarters and fore peak were filled with sulphur dioxide by means of the fumigating plant, and simultaneously the galleys and food stores throughout the ship by means of sulphur burned in them.

The arrival of this plague-infected ship emphasises the necessity of preserving a sufficient and efficient staff of workers to deal with serious emergencies.

The s.s. "Matiana" arrived at Gravesend from Bombay on Monday, 13th August. Nine cases of Bubonic Plague were declared to have occurred during the voyage. Of the nine, six were buried at sea and three survivors were removed forthwith to Denton Hospital.

A tenth case arose on the 14th August, the day after arrival, and was landed at Denton Hospital. Death occurred on the 17th, and Dr. Betenson confirmed the diagnosis of Plague by microscopic examination.

All cases occurred in the native crew, and all except one in the crew occupying the fore-castle. One native coal trimmer occupied quarters amidships.

The first case arose on the 14th July, and nine cases had occurred before the 28th July. On the 22nd July the fore-castle was cleaned out, and the crew camped on deck. On the 25th July a sulphur fumigation of the crew's quarters by the ship's surgeon cleared most of the infection from the fore-castle, where ten dead rats had been found on the 22nd. One dead rat was found in the native store room situated in the fore peak and reached only by a trap door in the floor of the starboard fore-castle. The native crew states that other dead rats had been found and thrown overboard since leaving Delagoa Bay. One dead rat was found in a bundle of clothing belonging to a native who was dead of Plague. This rat had probably crept there to die.

A rat infection may be assumed to have existed on the ship and to have originated in Bombay.

At Delagoa Bay, where the ship arrived on 26th June, a fumigation of Nos. 1 and 2 holds was made. The first human case occurred on 14th July. At Delagoa Bay the hatches were lifted to discharge cargo. Infected rats would there have an opportunity of reaching the fore-castle, and may even have been evicted by the fumigation of the holds and have taken up quarters in the fore-castle.

The fumigation of the holds without simultaneous fumigation of the living quarters is certainly a possible cause of dispersal of the rats and conveyance of their disease to the crew. Of 77 rats found dead in the holds during discharge of cargo at Gravesend, No. 1 hold gave five, No. 2 nine, No. 3 thirty-four, and No. 4 twenty-nine. The fewness of the rats in Nos. 1 and 2 holds compared with the numbers in Nos. 3 and 4 supports the theory of eviction by the fumigation.

In the infection on s.s. "Sardinia" there is a parallel history of partial fumigation followed by the human disease in the fore-castle which raised a similar suspicion.

The "Matiana" was detained in Gravesend Reach. Passengers and all ship workers were kept under "surveillance" and the crew under "observation."

The cargo was discharged into lighters under precautions against the transfer of rats and infection of ship workers. A preliminary disinfection of crew's quarters and effects was made, and, when discharge of the cargo was completed, a fumigation of the whole ship for the destruction of rats and fleas was carried out before release of the ship from the mooring grounds.

The complete rat history of the ship is as follows:—

On voyage—42 trapped; 12 dead found.

At Gravesend before fumigation—2 trapped on board at Gravesend; 77 dead found.

After fumigation—3 dead found in baker's shop; 10 dead reported by Chief Officer.

The majority of the rats examined at Gravesend were of the species *Mus Rattus* (Black Rat), and three *Mus Decumanus* (Brown Rat).

No further cases arose on or from this ship.

A vessel arrived on the 23rd July, 1917, when it was ascertained that shortly after leaving Gibraltar a bad smell was noticed in the Surgeon's Room. On investigation,

a dead rat was found behind the woodwork of the cabin. Two days later another dead rat was found in the same place. Portions of the rats had been preserved by the ship's surgeon. These were forwarded to the London School of Tropical Medicine for examination, and Dr. Newham reported as follows :—

“ I have cut sections of the rats' organs submitted to me, but careful search has failed to reveal the presence of any evidence of Plague.”

In view of the suspicion, precautions were adopted in the case of this vessel, but no evidences of a rat plague infection were found.

Plague-infected ships are rare arrivals in the Thames. It is significant that two outbreaks in quick succession should have appeared, both in ships in which partial fumigation had been carried out.

If, as I believe, there is a direct connection between these partial fumigations and the human outbreaks, two points of great importance arise.

First—The ship's structure and possible paths of communication for rats should be closely investigated in connection with any partial fumigation of a ship, and the necessary precaution against invasion of living quarters by possibly infected rats arranged for.

No fumigation of holds should be attempted without simultaneous fumigation of living quarters to which a rat-path exists.

Secondly—Had the human cases not occurred, would the rat infection on the ships have been disclosed at the moment for most effective action ?

In practice the present safeguard against the landing of infected rats is the power of Port Sanitary Authorities to put questions and make examinations concerning rat mortality or sick rats. The time for putting the questions is necessarily protracted over the whole period from the ship's arrival to completion of discharge of cargo. In the absence of repetition of the questions from day to day a discovery of importance may not be disclosed at the proper time for effective action, if at all.

As an additional safeguard against the landing of infected rats from vessels arriving from plague-infected ports, it is desirable that the duty of immediate notification of sick or dead rats found on board and of knowing the state of the ship with regard to rats both on the voyage and after arrival in Port, be imposed on owners, officers and other persons in charge of vessels, as part of the Orders of the Local Government Board relating to Plague.

Your Medical Officer recommended that the two considerations detailed above be formally brought to the notice of the Local Government Board. This was done in due course.

The routine examination of rats found dead and trapped alive throughout the Port Sanitary District has been maintained systematically.

Dr. H. B. Newham, at the London School of Tropical Medicine, made the necessary macroscopic and microscopic examinations up to the end of November, at which time he went on Military Service. Dr. Cockin is continuing the work in his absence.

Plague was found in two rats, the last discovery being in March. This is possibly the termination of a small outbreak which occurred on the north side of the

Royal Albert Dock at the end of 1916. On each of the dates, 5th, 16th, 19th October, 6th November, 1916, and the 15th January and 29th March, 1917, single rats were discovered on examination to be plague-infected, but the two 1917 rats were found on the south side of the Dock, and may have had no connection with the north side outbreak, of which the circumstances are as follows :—

All the infected rats of 1916 were caught in the neighbourhood of a certain shed which has since been taken down in the course of extensive improvements in hand on the north side. The construction of this shed was such that it could afford extensive harbourage for rats ; evidence of their presence in and about grain sweepings in the shed was plentiful.

The shed was cleared of all edibles and other merchandise attractive to rats except the grain sweepings alluded to, which were left in order that possible plague rats might not be driven to fresh feeding grounds. The shed was thrown out of use. Poison baits were regularly laid and taken up and traps set. A search was made for the purpose of determining the extent in area of the epizootic, and, if necessary, a campaign of extermination therein.

At first it appeared satisfactory that the poison baits were taken in progressively diminishing numbers, but careful search in the banks and in the neighbourhood of the shed failed to reveal any mortality arising from the poison or indeed from Plague. In due course a cache of poison baits was found beneath the shed floor.

The traps were somewhat ineffective, as is natural when these are set in proximity to foodstuffs.

A small hut adjacent, in constant use by dock men, was noticed to be over and under run by rats ; its walls of wood were doubled and originally filled with sawdust—primitive insulation affording, with the fire kept burning for cooking purposes in the hut, comfort to both man and rodent.

A sick rat, which was subsequently found to be plague-infected, was killed within a few feet of this shed on 6th November, 1916. On fumigating the shed with sulphur dioxide and opening up the floor, a few rats in a state of putrefaction were found. The shelter was again fumigated and put out of use. The close association of infected rats and human beings which had probably existed here had been a dangerous condition, but was unaccompanied by human Plague.

No infected rats have been found on the north side since November, 1916.

The origin of the infection is a matter for speculation. It is noticeable that Japanese ships made extensive use of the wharf at this point. An infected rat may have gained access to the shore from one of these or from some other ship from an infected port using the same berth.

Your Inspector in this district, on closely examining the rat conditions in connection with this outbreak, concludes that rats are not as numerous in the Royal Albert Dock as formerly, and attributes the diminution to the system of rat catching closely pursued by the Port of London Authority.

This diminution in numbers is more apparent on the south side of the Royal Albert Dock. Here two rats, one in January and one in March, 1917, were found infected ; these were caught in sheds far apart. A close watch and trapping has failed to disclose an extensive or indeed any epizootic here.

These rats may have been infected from the north side. It is as probable that these were separate escapes from ships berthed on the south side, and that their detection is due to the efficiency of the Port of London Authority's system in combination with the routine examination carried out under the direction of your Worshipful Committee in meeting the danger arising from plague-infected rats.

Rat plague is said to smoulder in large ports and now and then break out into an epizootic ; with regard to the plague rats found from time to time in the Port of London, these only occur in areas and at wharves where there is close and constant shipping connection with the East. If smouldering, the rat plague should extend to other parts of the Port. I cannot find any evidence that this occurs in the recorded returns of rat examinations. Again, smouldering rat plague if present in the Port would be discovered continuously in routine rat examination. I am of opinion that these small time-spaced outbreaks are severally due to introductions of infected rats from unnoticed epizootics of Eastern origin on shipboard.

Dr. Newham's examinations probably represent the proportions in which the varieties of rat are found in the Port district.

The figures are as follows :—

	<i>Decumanus.</i>	<i>Rattus.</i>	<i>Alexandrinus.</i>
Royal Albert Dock - - -	1,266	88	2
Royal Victoria Dock - - -	1,023	124	23
East India Dock - - -	22	7	1
Millwall Dock - - -	134	17	1
West India Dock - - -	52	2	—
Tilbury Dock - - -	82	10	2
London Dock - - -	316	266	117
St. Katharine Dock - - -	249	243	68
	<u>3,144</u>	<u>757</u>	<u>214</u>
		} 971	

These figures are for 1916.

Of infected rats (four in all), two were of species *decumanus*, and two *rattus*.

The significance of the large proportion of *mus rattus* in the Upper Docks lies possibly in the amount of warehousing in these Docks, which affords undisturbed nesting for rats, under favourable conditions as to food, that is, a nearer approach to conditions of domestication than is afforded in transit sheds.

There is also less chance of *decumanus* invasion in the Upper Docks, which are remote from rubbish tips and other conditions of wildness favourable to the persistence of the wilder species.

The species *rattus*—the black rat (domestic rat of India) is sometimes said to be extinct in England. As shown above this is not the case in the Port, where, in places, the black *rattus*, with its variety *alexandrinus*, is found in excess of the wild "sewer" or brown rat *decumanus*, and the black and brown species carry on their depredation side by side, where food is plentiful, without apparent discord.

The examinations for 1917 show :—

	<i>Mus Decumanus.</i>	<i>Mus Rattus.</i>	<i>Mus Alexandrinus.</i>
Royal Victoria Dock - - -	243	15	2
Royal Albert Dock - - -	1,448	201	20
St. Katharine Dock - - -	135	97	13
London Dock - - -	108	120	88
Millwall Dock - - -	121	17	1
East India Dock - - -	41	7	1
West India Dock - - -	16	—	—
Surrey Commercial Dock - - -	—	—	—
Tilbury Dock - - -	182	15	—
Not located - - -	20	2	2
	<u>2,314</u>	<u>474</u>	<u>127</u>
Total - - -	-	<u>2,918</u>	

The total number caught in the various Docks during 1917 is 44,417.

RAT MORTALITY.

The examination of rats found dead, and of rats at a centre where rat mortality has been discovered, is of obvious importance. Such a centre appeared in December, 1916, in relation with a large office used by a number of clerks.

The cellar beneath, together with skirtings and cupboards, was searched because of an offensive smell. Thirty-nine dead rats in all were found. Many of these were examined, but no trace of Plague as a cause of the mortality discovered.

A group of rats appeared to have taken possession of the cellar as winter quarters, finding ideal conditions in the presence of water, a heating apparatus, access to a refectory on the premises and easy access to food in the adjoining warehouses. The mortality was of short duration.

Such works were executed by the Port of London Authority as to permanently sever any association of man and rodent at this office. No mortality was found in the warehouses in the vicinity.

Premises in constant or daily habitation are ones to which the attention of your Inspectors is especially directed, and rat-proofing is recommended where rats are found to have established their runs in connection with them.

SMALL-POX.

A vessel arrived on the 10th April, when it was ascertained that a case of Small-pox had been landed therefrom at Aden. Disinfection of infected quarters was carried out, and all bedding and effects destroyed.

A vessel arrived on the 29th March, and it was reported that a case suspicious of Small-pox had been landed therefrom at Delagoa Bay.

All necessary disinfection was carried out there.

These vessels were kept under observation while in the Port.

No case of Small-pox was brought into or arose within the Port Sanitary District.

TYPHUS FEVER.

On the arrival of a vessel from Buenos Ayres on 28th October, it was reported that a fireman, taken ill on the 5th of the month, had died on the 14th of Typhus Fever. A sailor had been landed at Monte Video on the outward voyage suffering from supposed Influenza, since stated to have been Typhus Fever.

The patient was isolated, and the crew's quarters were fumigated by burning sulphur. No further cases arose.

The crew's quarters were again fumigated on arrival, this being a matter of routine on the ships of the company to which this vessel belonged. The measures taken by the ship's surgeon are of primary importance in preventing the spread of Typhus Fever. In this disease the louse plays as important a part as does the flea in the dissemination of Plague.

A simple and effective remedy on steamships against vermin and their eggs in textile articles is steaming in a covered tub or similar receptacle. This, in conjunction with sulphur fumigation, has been resorted to against fleas by the ship's surgeon on a plague-infected ship arriving in the Port.

The all-round utility of sulphur fumigation for disinfection, and for suppression of vermin of all descriptions on shipboard, where effective closure of infected or suspected quarters can nearly always be secured, is deserving of more extensive recognition, and should rank as a *domestic* measure to be applied at once where and when necessity arises. Absolute efficiency against vermin depends on the thoroughness of application. It is effective against adults and young of bugs, fleas and lice in quarters and in clothing and effects; it is also effective, but less absolutely, against the eggs of these vermin. Thoroughness of application implies efficient sealing of the quarters; a sufficient duration of the fumigation (not less than 12 hours—the longer the better up to 24 hours); a sufficient quantity of sulphur burned (not less than one pound per 1,000 cubic feet); and as full an exposure of the textile articles and other contents as possible.

Failure in absolute efficiency may then arise from some unkilld eggs and the natural habit of parasites, especially the louse, in clinging to the infested person. The louse usually hatches out within a fortnight of the laying of an egg, and lays eggs within a month. The flea hatches within a fortnight (often a few days), but is not mature for another month. The bug usually hatches within a fortnight, but is not mature for about two months. Therefore a second fumigation, undertaken a fortnight to three weeks after the first, should cleanse a fore-castle and its contents, provided that the infested persons also cleanse themselves and their underclothing, the only remaining sources of reintroduction after the newly hatched but immature vermin have been killed.

MALARIA.

Ships were found to be arriving in September and October in the Port with an undue amount of sickness on board, the origin of which was traced to the Port of Dakar.

Primarily for diagnostic purposes, five of the most ill of a ship's company of which nearly all the members were more or less affected, were removed to Denton Hospital. The illness was found to be Malignant Tertian Malaria. Two deaths occurred amongst the crew, one of these in Denton Hospital.

A fortnight later thirteen cases were removed to Denton Hospital from another ship in order to facilitate movements of the ship and to bring the patients under curative treatment at the earliest possible moment. Nineteen cases had occurred on this vessel.

On the 25th October another vessel was found to have thirty-five cases on board.

On the arrival of the second vessel on which Malaria was noticed to be present in epidemic and malignant form, your Medical Officer communicated the facts to the Medical Officer of the Local Government Board, in case the matter of Malignant Tertian Malaria acquired at Dakar had not yet been considered in connection with administration at that port. It was suggested that the Steamship Companies using the Port of Dakar should be informed of preventive and curative measures, and the attached letter embodying those more simple of application on shipboard was sent in accordance with that suggestion :—

COPY OF CIRCULAR LETTER ADDRESSED TO OWNERS OF VESSELS WHICH
MAY BE CALLING AT THE PORT OF DAKAR.

30th October, 1917.

GENTLEMEN,—I would call your attention to the following matter of urgency, and ask you to direct the Masters of your vessels in mitigating or preventing serious illness among ship's crews and embarrassment of shipping movements.

Dakar Port is infested with mosquitos which convey Malaria. The illness is being freely communicated to the crews of ships which call or lie in the port. The path of infection is through mosquito bites only.

The precautions which, if duly carried out, are effective against infection are as follows :—

(1) While the ship is lying in the Port of Dakar, every member of the crew should take a daily dose of five grains of either the sulphate, bisulphate or bihydrochloride of quinine just before sundown, and preferably at a meal time. If the convenient tabloid form of drug be used, the tabloid should be cracked up before being taken. The drug is both preventive and curative; an ample stock should be provided on ships using Dakar Port.

(2) The crew should not be allowed to remain or be ashore between dusk and sunrise, this being the biting period of the mosquito conveying the disease.

(3) Mosquito netting should be used over all apertures to sleeping quarters and securely closed at dusk.

In cases of onset of headache or chills seven to ten days after arrival at the port, five grains of quinine should be administered four times daily until the tenth day after the fever has disappeared. Thereafter the continuance of small daily doses of quinine over three months are necessary to effect a complete cure.

Your obedient Servant,

(Signed) W. M. WILLOUGHBY,
Medical Officer of Health, Port of London.

Many shipowners replied that they were taking the matter up forthwith.

In the appended list of cases of Malaria reported on ships arriving at Gravesend, it will be noticed that one vessel arrived from Dakar on 17th November and reported that no cases of Malaria had occurred. This ship was followed by arrivals from the same port reporting 12, 2, 16, and 3 cases respectively. She was anchored for two days in the inner harbour, Dakar; four grains of quinine were given to each member of the crew daily, and no one was allowed on shore. The crew consisted of 16 British and 43 Asiatics.

The incidence on ships arriving ceased about the middle of November.

It was noted that stocks of quinine and elementary knowledge of its use on some of the infected ships were insufficient for preventive and curative administration.

In September a ship put in at Ascension Island, very many of the crew being down with reported "Relapsing" Fever. She had arrived there from Dakar in the height of the Malaria season, and it seems possible that the disease was Malaria, not Relapsing Fever. Other echoes from this port are found in reported cases in men who visited Dakar during the Malaria season and have undergone relapses of the disease during subsequent voyages, and in a fatality with sudden coma as onset occurring in a discharged seaman in a private practice in London. In this case the history of a visit to Dakar was the only clue the medical attendant had to the true nature of the illness.

The diffusion of knowledge of the mosquito as cause, and quinine as cure, of Malaria amongst owners, ship masters and officers, should in future prevent any severity of incidence and illness on shipboard such as has been found this year.

MALARIA.

<i>Date.</i>	<i>Name of Vessel.</i>	<i>Where from.</i>	<i>No. of Cases.</i>
1917.			
July 17	"Ardgarrock" - -	Rangoon - -	1 case.
Aug. 9	"Irish Monarch" - -	Beira - -	5 cases landed at Plymouth.
Sept. 7	"Walton Hall" - -	Kobe - -	1 death Malaria.
" 20	"Clintonia" - -	Karachi - -	2 cases.
" 28	"Fabernian" - -	Colombo - -	10 "
" 28	"Chinkoa" - -	Calcutta - -	11 "
" 28	"Mytilus" - -	Dakar - -	12 " 2 deaths.
Oct. 5	"Arzila" - -	Lagos - -	Several.
" 16	"Carpentaria" - -	- -	2 cases.
" 17	"Kaluna" - -	Yokohama - -	17 cases.
" 17	"Polglass Castle" - -	Bombay - -	17 " 1 death.
" 23	"City of Chester" - -	Shanghai - -	Several.
" 24	"Highland Pride" - -	Buenos Ayres - -	35 cases.
" 26	"Paparoa" - -	Dakar - -	15 " (14 Falmouth).
Nov. 3	"Kazemba" - -	Rangoon - -	1 death at Falmouth (Malaria).
" 7	"Brigetta" - -	Kotemandry - -	4 cases.
" 7	"Tobory Maru" - -	Yokohama - -	1 case.
" 8	"Atlantic City" - -	Colombo - -	6 cases.
" 17	War Council - -	Dakar - -	No cases.
" 19	"Eggesford" - -	Karachi - -	12 cases.
" 21	"Ilwen" - -	East London - -	2 "
" 21	"Penmount" - -	Gambia - -	16 "
" 21	"Broom Park" - -	" - -	3 "
" 21	"Cavastota" - -	Beira - -	1 case.

DEATHS.

<i>Date.</i>	<i>Name of Vessel.</i>	<i>No. of Cases.</i>
1917.		
Sept. 7	- "Walton Hall" - - -	- 1 declared Malaria.
" 28	- "Mytilus" - - -	- { 1 Gravesend. 1 Denton Hospital.
Oct. 17	- "Polglass Castle" - - -	- 1 death, night of arrival at Gravesend.
Nov. 3	- "Kazemba" - - -	- 1 death Falmouth.
		— 5 —

The subject of mosquitoes has recently been raised by reason of the occurrence of indigenous cases of Malaria in this country. The danger of spread of Malaria is only real in the association of human beings carrying the blood parasite with one of a few species of mosquito. The mosquito implicated has probably never been absent from certain districts in England, and many cases of Malaria are now returned from foreign.

It has recently been shown that the species of mosquito necessary to transmission is present in Tilbury Dock and in the grounds of Denton Hospital. The connection of these places with malarious centres in tropical countries suggests the desirability of measures of precaution; but if, in the future, it is found necessary, a large scheme of Malaria prevention would naturally include both these places, which are situated on marshes where mosquitoes abound, and thus hardly form isolated problems in mosquito control.

SCABIES.

Information was received on the 13th October that the mate of a steamer was suffering from Scabies. He was treated at the London Hospital, and subsequently resumed duty. The quarters on the ship occupied by this patient were thoroughly disinfected, and afterwards repainted; personal effects were fumigated.

INFECTIOUS DISEASES.

(CASES WITH DATE OF REPORT.)

CHOLERA.		SMALL-POX.	
<i>Date.</i>	<i>No. of Cases.</i>	<i>Date.</i>	<i>No. of Cases.</i>
1917.		1917.	
April 20	- - - - 1	Mar. 29	- - - - 1
	1 (suspected)	April	- - - - 1
	— 2 —		— 2 —
PLAGUE.		CONTINUED FEVER.	
May 3	- - - - 7	Jan. 12	- - - - 1
" 3	- - - - 1 (suspected)	Oct. 2	- - - - 1
Aug. 13	- - - - 10		— 2 —
	— 18 —		

ENTERIC FEVER.

<i>Date.</i>	<i>No. of Cases.</i>
1917.	
Jan. 16 - - - -	1
" 18 - - - -	2
" 25 - - - -	1
Feb. 3 - - - -	1
" 12 - - - -	1
" 15 - - - -	1
" 23 - - - -	1
Mar. 14 - - - -	1
April 2 - - - -	2
" 13 - - - -	2
" 21 - - - -	1
" 26 - - - -	1
" 30 - - - -	2
June 23 - - - -	3
" 24 - - - -	1
Aug. 7-8 - - - -	4
" 18 - - - -	1
Sept. 6 - - - -	3
" 15 - - - -	5
" 17 - - - -	1
Oct. 2 - - - -	2
" 18 - - - -	1
Nov. 20 - - - -	1
Dec. 8 - - - -	1
" 13 - - - -	1
" 25 - - - -	2
	<u>43</u>

DIPHTHERIA.

Jan. 15 - - - -	1
Mar. 30 - - - -	1
April 16 - - - -	1
July 2 - - - -	1
" 13 - - - -	1
Sept. 19 - - - -	1
" 25 - - - -	1
Nov. 3 - - - -	1
Dec. 18 - - - -	1
	<u>9</u>

TYPHUS FEVER.

Oct. 28 - - - -	1
	<u>1</u>

CHICKEN-POX.

<i>Date.</i>	<i>No. of Cases.</i>
1917.	
Jan. 15 - - - -	1
" 16 - - - -	1
Feb. 1 - - - -	1
Mar. 1 - - - -	1
" 29 - - - -	1
April 10 - - - -	1
June 12 - - - -	1
July 29 - - - -	1
Aug. 1 - - - -	3
Nov. 16 - - - -	3
" 29 - - - -	4
Dec. 6 - - - -	13
" 17 - - - -	3
" 25 - - - -	1
	<u>35</u>

MALARIA.

Oct. 17 - - - -	10
" 18 - - - -	25
" 24 - - - -	35
Nov. 3 - - - -	26
" 8 - - - -	6
	<u>102</u>

CEREBRO-SPINAL MENINGITIS.

Jan. 13 - - - -	4
" 15 - - - -	1
Feb. 1 - - - -	2
" 21 - - - -	5
Mar. 5 - - - -	6
" 30 - - - -	2
" 31 - - - -	1
May 5 - - - -	1
	<u>22</u>

MEASLES.

Jan. 1 - - - -	1
" 15-16 - - - -	2
" 29 - - - -	2
Feb. 1 - - - -	5
	<u>10</u>
Carried forward -	10

MEASLES—*continued.*

<i>Date.</i>					<i>No of Cases.</i>
1917.	Brought forward				10
Feb.	3	-	-	-	2
"	16	-	-	-	1
"	21	-	-	-	16
"	22	-	-	-	17
Mar.	3	-	-	-	3
"	5	-	-	-	3
"	14	-	-	-	1
"	30	-	-	-	8
April	16	-	-	-	30
May	25	-	-	-	32
June	1	-	-	-	1
"	12	-	-	-	1
Aug.	1	-	-	-	1
"	8	-	-	-	15
"	9	-	-	-	1
"	10	-	-	-	20
"	19	-	-	-	1
"	30	-	-	-	3
Sept.	1	-	-	-	1
"	3	-	-	-	1
					168

GERMAN MEASLES.

Jan.	16	-	-	-	1
Feb.	1	-	-	-	1
"	3	-	-	-	1
April	6	-	-	-	1
"	16	-	-	-	4
"	26	-	-	-	1
May	5	-	-	-	2
"	21	-	-	-	1
"	26	-	-	-	1
Oct.	19	-	-	-	20
					33

MUMPS.

Dec.	25	-	-	-	7
					7

PULMONARY TUBERCULOSIS.

Jan.	7	-	-	-	2
"	20	-	-	-	3
"	31	-	-	-	1
Feb.	12	-	-	-	1
					7
Carried forward				-	7

PULMONARY TUBERCULOSIS—*continued.*

<i>Date.</i>					<i>No. of Cases.</i>
1917.	Brought forward				7
Feb.	24	-	-	-	1
Mar.	6	-	-	-	2
May	22	-	-	-	1
"	26	-	-	-	3
June	12	-	-	-	1
"	16	-	-	-	1
"	23-24	-	-	-	4
"	28	-	-	-	2
July	16	-	-	-	1
"	22	-	-	-	1
"	24	-	-	-	1
"	29	-	-	-	1
"	31	-	-	-	1
Aug.	3	-	-	-	3
"	10	-	-	-	1
"	30	-	-	-	1
Sept.	10	-	-	-	1
"	25	-	-	-	1
Oct.	2	-	-	-	1
"	10	-	-	-	1
"	22	-	-	-	3
Nov.	16	-	-	-	1
"	20	-	-	-	1
Dec.	1	-	-	-	1
"	25-26	-	-	-	3
					45

MINERS' PHTHISIS.

Jan.	2	-	-	-	2
"	11	-	-	-	2
"	30	-	-	-	2
April	16	-	-	-	8
May	5	-	-	-	1
"	25	-	-	-	1
Aug.	30	-	-	-	4
Sept.	18	-	-	-	2
Dec.	25	-	-	-	1
					23

TUBERCULOSIS (Other kinds).

Jan.	17	-	-	-	1
"	19	-	-	-	1
Dec.	25	-	-	-	1
					3

TABLE OF MISCELLANEOUS NON-NOTIFIABLE CASES OF ILLNESS REPORTED.

<i>Disease.</i>	<i>No. of Cases.</i>	<i>Disease.</i>	<i>No. of Cases.</i>
Angina Pectoris - - -	1	Brought forward - - -	19
Appendicitis - - -	2	Injury - - -	1
Apoplexy - - -	2	Lobar Pneumonia - - -	1
Broncho-Pneumonia - - -	1	Mumps - - -	1
Bronchitis - - -	1	Muscular Wasting - - -	1
Colic - - -	1	Malaria - - -	12
Dropsy - - -	1	Pneumonia - - -	2
Dysentery - - -	1	Pleurisy - - -	1
Dyspnœa - - -	1	Peritonitis - - -	2
Epilepsy - - -	2	Suicide - - -	1
Heart Disease - - -	2	Suppurative Nephritis - - -	1
Heatstroke - - -	1	Septic Hand - - -	1
Hepatitis - - -	1	Scabies - - -	1
Infantile Convulsions - - -	1	Senile Decay - - -	1
Influenza - - -	1	Tonsillitis - - -	1
		Total - - -	46
Carried forward - - -	19		

VENEREAL DISEASES.

In February, 1917, your Medical Officer reported that provision for treatment of these diseases available to seamen on ships lying in the Port on the North side existed at the London Hospital, and on the South side at Guy's and the Seamen's Hospitals.

A treatment centre was also in course of arrangement by Kent County Council at Gravesend, which could be of service to the Tilbury aggregate of shipping.

The Docks most distant from any treatment centre were the Royal Albert and Victoria Docks, these constituting a shipping aggregate which, though as fully provided for as the County Boroughs of East and West Ham, was, in the opinion of your Medical Officer, under a disability in the matter of treatment.

The Circular addressed to Port Sanitary Authorities by the Local Government Board suggested that facilities for treatment should be available to seamen of whatever nationality.

Under the circumstances the provision of a centre at or near the Royal Albert and Victoria Docks seemed to be indicated.

The preliminary correspondence with the Controlling Authorities raised the question of payment, which, in the case of the Port Sanitary Authority, is not provided for in the Regulations. It was intimated on inquiry, however, that the Local Government Board would not object to any financial agreement come to with the Controlling Authorities with a view to the establishment of such a centre.

The contribution of half the cost of the centre at the Branch Hospital of the Seamen's Hospital Society (the London School of Tropical Medicine), Royal Albert Dock, was recommended by your Medical Officer, the Council of the County Borough of West Ham being the Controlling Authority and supplying the other money.

This payment, 300*l.* (subject to the Government return), resulted in the immediate establishment of the centre, which began work on 2nd April, and covered half the cost of nine months of experimental working.

The Port of London Authority consented to and undertook the advertisement of this treatment centre and others bordering the Port and easily accessible to seamen, by posting the appended Notice in suitable places throughout the Dock areas: —



Port of London Sanitary Authority.

VENEREAL DISEASES.

NOTICE.

SYPHILIS AND GONORRHOEA

are infectious diseases, dangerous to the individual
and to the State.

TREATMENT FREE

and under conditions of privacy can be
obtained at—

THE SEAMEN'S HOSPITAL,
Greenwich.

THE BRANCH SEAMEN'S HOSPITAL,
Connaught Road, Royal Albert Dock.

THE LONDON HOSPITAL,
Whitechapel Road, E.

GUY'S HOSPITAL,
Near London Bridge Station.

And at many other Hospitals in London.

4th April, 1917.

The Notice is also given to officers in charge of vessels visited by your Sanitary Inspectors.

Cases reported at Gravesend on incoming vessels receive advice as to treatment and where it can be obtained from your Boarding Medical Officers.

Dr. R. P. Cockin, the Director of the Venereal Diseases Department at the Royal Albert Dock Hospital, reported, on the first four months' working, that there were 227 patients treated, 163 of these being men, of whom 96 were seamen. Further, that the majority of men patients other than seamen were on work connected with ships and shipping.

This was anticipated, as the centre is a natural one for shipworkers resident in West Ham and East Ham Districts, whose work lies in the Royal Albert and Victoria Docks.

Dr. Cockin's report on the nine months' working in 1917 shows:—Persons treated : Males, 349 ; Females, 93.

The proportion of Syphilis to Gonorrhœal cases treated :—

Males	-	-	-	-	213	:	118
Females	-	-	-	-	65	:	13

Intravenous injections, of antisyphilitic drugs other than Salvarsan, 700 in 159 cases.

Wasserman Reactions	-	-	-	-	527
Pathological Examinations (total)	-	-	-	-	935
Total number of Attendances at Out-Patient Clinic	-	-	-	-	3,152

The districts served by the Hospital include East Ham and an important corner of the County of Essex. For the purposes of maintenance of the centre, at the cost of 1,000*l.* for 1918, the County Council of Essex and the Borough of East Ham have joined with the County Borough of West Ham and the Port Sanitary Authority.

The subscription of the Authority remains at the same figure as for the nine months of the previous year.

The above excerpted figures indicate a vast body of work and denote the need that existed for this centre as affording true facilities.

TABLE VIII.

(VENEREAL DISEASE.—CASES REPORTED ON ARRIVAL.)

Date.	Case.	Rating.	Advice given.
1917.			
Jan. 1	Syphilis - - -	Seaman - -	Landed at Colombo.
„ 8	Gonorrhœa - - -	D.B.S. - -	To attend Seamen's Hospital, Greenwich.
„ 8	Soft Sore (old) - -	Steward - -	Ditto.
„ 8	Gonorrhœa - - -	Fireman - -	Ditto.
„ 13	Syphilis - - -	Engineer - -	To consult Specialist.
„ 15	Buboes - - -	Two Seamen -	To attend Seamen's Hospital, Greenwich.
March 3	Gonorrhœa - - -	Chinaman - -	Ditto.
„ 10	Chanere - - -	Seaman - -	To attend Guy's Hospital.
„ 28	Gonorrhœa - - -	Do. - -	Ditto.
„ 28	Ditto - - -	Three Firemen -	Ditto.

Date.	Case.	Rating.	Advice given.
1917.			
Mar. 28	Soft Chancre - -	Steward - -	To attend Guy's Hospital.
„ 28	Syphilis - -	Fireman - -	Ditto.
April 7	Chancre - - -	Seaman - -	To attend Seamen's Hospital, Greenwich.
„ 7	Ditto - - -	Boilermaker -	Ditto.
„ 24	Ditto - - -	Two D.B.S. -	To attend Albert Dock Hospital.
„ 28	Gonorrhœa - -	Gunner - -	To attend London Hospital.
May 3	Gonorrhœal Rheumatism	Fireman - -	To attend Albert Dock Hospital.
„ 3	Syphilis - - -	Engineer - -	To attend Seamen's Hospital, Greenwich.
„ 31	Ditto - - -	Fireman - -	Ditto.
June 8	Ditto - - -	Native - -	To attend Gravesend Hospital.
„ 8	Ditto - - -	Fireman - -	To attend Albert Dock Hospital.
„ 8	Gonorrhœa - -	Seaman - -	Ditto.
„ 10	Ditto - - -	Two Chinese -	Ditto.
„ 21	Ditto - - -	Seaman - -	Ditto.
„ 21	Soft Chancre - -	Do. - -	Ditto.
„ 23	Bubo - - -	Do. - -	To attend Gravesend Hospital.
„ 23	Chancre - - -	Do. - -	Ditto.
„ 23	Gonorrhœa - -	Do. - -	Landed at Valencia.
July 4	Ditto - - -	A.B. - -	To attend Albert Dock Hospital.
„ 4	Syphilis - - -	Do. - -	Ditto.
„ 20	Ditto - - -	Fireman - -	To attend Seamen's Hospital, Greenwich.
Nov. 3	Venereal Bubo - -	Lascar - -	To attend Gravesend Hospital.
„ 11	Gonorrhœa - -	A.B. - -	To attend Seamen's Hospital, Greenwich.
„ 11	Syphilis - - -	Do. - -	Ditto.
„ 16	Gonorrhœa - -	Trimmer - -	Ditto.
„ 19	Hard Chancre - -	A.B. - -	Ditto.
Dec. 24	Syphilis - - -	Engineer - -	Ditto.
„ 24	Ditto - - -	Two Greasers -	Ditto.
„ 24	Ditto - - -	Seaman - -	Ditto.

Total cases - - - - - 45

TABLE IX.

HOSPITAL.

NUMBER OF CASES ADMITTED, COST OF MAINTENANCE, &c.

Patients remaining in Hospital on 31st December, 1916 - - - Nil.

	Admitted.	Discharged.	Died.	Remaining under treatment.
Cholera - - - - -	0	0	0	0
Cholera (suspected) - - - - -	0	0	0	0
Plague - - - - -	8	6	2	0
Plague (suspected) - - - - -	0	0	0	0
Small-pox - - - - -	0	0	0	0
Scarlet Fever - - - - -	0	0	0	0
Enteric Fever - - - - -	15	13	1	1
Continued Fever - - - - -	10	8	2	0
Diphtheria - - - - -	1	1	0	0
Measles - - - - -	3	3	0	0
Erysipelas - - - - -	1	1	0	0
Chicken-pox - - - - -	7	7	0	0
Cerebro-spinal Fever - - - - -	0	0	0	0
Other Diseases - - - - -	16	16	0	0
	—	—	—	—
Totals - - - - -	61	55	5	1
	—	—	—	—

Remaining in Hospital on 31st December, 1917 - - - - -	1
Total number of days treatment during the year - - - - -	1,058
Average number of days treatment for each case - - - - -	17·34
Average daily number of patients in Hospital - - - - -	5·98
Average daily cost of maintenance per patient - - - - -	1s. 10·74 <i>d.</i>
Average total cost of maintenance per patient - - - - -	£1 12s. 10·44 <i>d.</i>

TABLE X.

QUANTITY AND DESCRIPTION OF UNSOUND FOOD SEIZED AND DESTROYED FOR THE
YEAR ENDING 31ST DECEMBER, 1917.

	Original packages.		Sundry quantities by weight.				Loose Articles.		Approximate Total weight of Goods destroyed.							
	No.	Description.	Tons.	cwts.	qrs.	lbs.	No.	Description.	Tons.	cwts.	qrs.	lbs.				
MEAT—																
Fresh and Frozen—																
Beef - - - -	2370	quarters and crops	...	...	...	...	418	bags & pieces	227	17	1	7
Mutton and Lamb - -	2,651	carcases	...	...	1	21	261	pieces	44	10	2	19		
Veal, Pork and Offal -	1,461	various	...	11	1	0	109	pieces, &c.	495	4	1	15				
Preserved—																
Tinned - - - -	3	cases	...	...	...	...	506	tins	1	10	0	8
Smoked and Salted - -	288	boxes, &c.	2	13	3	22	...	...	78	17	3	16		
Sundry - - - -	...	...	...	...	...	...	...	...	...	...	...	...
RABBITS—																
Frozen - - - -	3,877	crates, &c.	...	...	...	...	138	rabbits	235	4	3	20
Tinned - - - -	...	...	...	...	...	...	123	tins	...	2	0	22
POULTRY and GAME—																
Frozen - - - -	4	cases	...	...	...	...	...	...	...	3	1	4
FISH—																
Preserved, Dried - - -	8	cases	...	...	...	...	...	...	...	8	0	0
„ Tinned and Bottled -	130	cases	...	...	...	...	25,190	tins	13	14	3	9
Shell - - - -	1	barrel	...	...	...	...	...	...	...	2	0	0
Wet - - - -	3	barrels	...	...	...	...	...	...	...	7	1	10
FRUIT—																
Fresh - - - -	5,393	various	3	10	0	0	...	...	132	7	1	24		
Preserved, Dried - - -	15,564	various	1	6	3	10	...	...	315	15	2	15		
„ Tinned and Bottled -	2,032	cases	...	6	2	25	2,529	tins	61	4	2	5				
„ Jam and Marmalade -	...	...	...	...	...	...	...	...	...	...	...	...
VEGETABLES—																
Fresh - - - -	3,540	bags, &c.	90	...	...	...	...	...	267	1	1	14
Preserved, Dried - - -	...	...	...	18	1	6	...	...	...	18	1	6
„ Tinned - - - -	1	case	...	...	...	...	30	tins	...	1	0	4
NUTS—																
Whole - - - -	972	boxes, &c.	...	...	...	...	...	...	47	19	0	0
Desiccated and Shelled -	436	bags, &c.	...	...	...	...	...	...	35	10	3	10
PROVISIONS—																
Tea - - - -	...	...	...	...	...	...	...	...	...	...	...	...
Coffee - - - -	41	bags	...	...	...	...	...	...	1	5	1	9
Cocoa - - - -	79	barrels, &c.	...	...	...	...	22	tins	9	2	0	25
Butter, Cheese, Lard, Margarine	99	cases	1	8	3	14	...	...	3	15	3	4		
Condensed Milk - - -	2,340	cases, &c.	...	...	...	...	...	...	58	2	1	25
Prepared Foods - - -	1,064	various	...	...	...	...	166	tins	55	3	0	23
Biscuits and Confectionery -	88	cases	...	...	...	27	...	...	4	0	0	17
Sugar - - - -	...	...	...	9	1	12	...	...	...	9	1	12
Sundry - - - -	249	bags, &c.	...	...	...	...	1	tin	24	12	3	1
GRAIN—																
Wheat, Maize, Barley, Rice, &c.	251	bags, &c.	2486	19	1	27	...	...	2,505	19	2	20		
MEAL and FLOUR - - -																
CONDIMENTS and SPICES -	2,438	bags, &c.	10	1	1	9	...	...	201	5	0	2		
EGGS - - - -	29	cases	...	...	...	16	...	...	4	15	2	1
EGG YOLK - - - -	271	cases	...	...	...	...	...	...	3	19	2	5
DRUGS - - - -	2	casks	...	...	...	...	...	...	...	10	0	0
SUNDRIES - - - -	5	cases	...	15	2	24	50	bottles	...	18	1	18				
	123	packages	4	2	2	24	31	tins	14	7	2	27				
TOTAL - - - -	45,750	various	2603	5	1	13	29,574	various	4,847	8	1	5				
Approximate Total weight of Goods destroyed during the year									1909	-	-	-	1,415	7	0	22
„	„	„	„	„	„	„	„	„	1910	-	-	-	2,483	6	2	13
„	„	„	„	„	„	„	„	„	1911	-	-	-	1,408	4	3	1
„	„	„	„	„	„	„	„	„	1912	-	-	-	3,758	7	1	2
„	„	„	„	„	„	„	„	„	1913	-	-	-	2,458	0	2	21
„	„	„	„	„	„	„	„	„	1914	-	-	-	1,184	11	1	1
„	„	„	„	„	„	„	„	„	1915	-	-	-	3,118	5	3	19
„	„	„	„	„	„	„	„	„	1916	-	-	-	5,664	9	2	5
„	„	„	„	„	„	„	„	„	1917	-	-	-	4,847	8	1	5

TABLE XI.
DESCRIPTION OF MEAT DESTROYED.

YEAR.	BEEF.				MUTTON.				VEAL, PORK, OFFAL.				TINNED.				SMOKED AND SALTED, &c.				TOTAL.			
	Tons	cwts.	qrs.	lbs.	Tons	cwts.	qrs.	lbs.	Tons	cwts.	qrs.	lbs.	Tons	cwts.	qrs.	lbs.	Tons	cwts.	qrs.	lbs.	Tons	cwts.	qrs.	lbs.
1908	47	14	2	6	22	12	2	10	1	3	0	8	3	12	2	8	2	19	1	13	78	2	0	17
1909	19	11	3	7	21	3	1	17	Pork and Veal— 4 15 3 23 Offal— 65 4 2 15	} 2	} 10	} 2	} 19	} 0	} 2	} 3	} 22	} 113	} 9	} 1	} 19			
1910	1,100	0	0	27	50	8	1	13	Pork and Veal— 3 5 0 13 Offal— 44 12 1 19															
1911	341	6	3	18	25	9	1	6	Pork and Veal— 4 8 1 19 Offal— 80 19 1 8	} 6	} 8	} 2	} 5	} 3	} 18	} 2	} 0	} 462	} 11	} 0	} 0			
1912	58	3	0	3	14	3	2	3	Pork and Veal— 7 14 2 13 Offal— 19 10 0 10															
1913	31	13	0	18	134	5	3	14	Pork and Veal— 0 16 1 2 Offal— 69 3 1 14	} 1	} 14	} 3	} 22	} 14	} 14	} 3	} 6	} 252	} 8	} 1	} 20			
1914	82	9	3	26	161	11	1	22	Pork and Veal— 11 6 1 27 Offal— 55 18 0 17															
1915	294	18	2	20	64	2	1	15	Pork and Veal— 13 7 0 27 Offal— 58 1 1 3	} 6	} 3	} 0	} 15	} 17	} 2	} 0	} 2	} 453	} 14	} 2	} 26			
1916	162	7	2	4	10	12	1	10	Pork and Veal— 21 9 2 4 Offal— 24 5 2 3															
1917	227	11	1	18	44	10	2	19	Pork and Veal— 0 9 2 15 Offal— 8 13 0 27	} 1	} 10	} 0	} 18	} 78	} 17	} 3	} 16	} 361	} 13	} 0	} 1			
Total for ten years ...	2,365	17	1	7	548	19	3	17	495 4 1 15													41	4	0	5	848	17	0	19	4,300	2	3	7

FOOD INSPECTION.

The Regulations issued by the Local Government Board, under the Public Health (Regulations as to Food) Act, 1907, were carried out in the Port of London, and resulted in 4,847 tons 8 cwts. 1 qr. 5 lbs. of Unsound Food being destroyed or disposed of in such a manner as to prevent its being used for human consumption.

This shows a reduction in the quantity destroyed of 14.42 per cent. compared with the year 1916.

A summary of the Unsound Food disposed of is shown in Table X.

In no instance was it necessary to apply for a magistrate's order for the condemnation and destruction of Unsound Food seized by your Officers.

During the year arrangements were made with the Board of Agriculture and Fisheries (Food Production Department) that where the owners of certain classes of goods which had been seized as unfit for human consumption had given consent to the destruction of the same, the matter should be brought to the notice of the Board with a view to the goods being utilised in the manufacture of cattle food. This resulted in considerable quantities of goods being handed over to that Department.

It was not found necessary to serve any Notice under Articles III (5), IV. (1) and VI. of the Public Health (Foreign Meat) Regulations, 1908, requiring the exportation of foreign meat.

BEEF.

The total quantity of beef seized and destroyed as unfit for human consumption was 1,366 quarters 941 crops 76 bags and 342 pieces, weighing 227 tons 11 cwts. 1 qr. 18 lbs.

The largest quantity seized on any ship was 727 quarters and 626 crops, weighing 115 tons 8 cwts ; this was on a vessel which had been on fire.

MUTTON AND LAMB.

The mutton and lamb seized and destroyed totalled 2,651 carcasses and 261 pieces, weighing 44 tons 10 cwts. 2 qrs. 19 lbs.

The largest individual seizure was 1,812 carcasses, weighing 29 tons 8 cwts. This was from the same vessel as the large quantity of beef referred to above.

AUSTRALIAN BEEF AFFECTED WITH "WORM" (ONCHOCERCA).

No beef affected with "Worm" (Onchocerca) came under the notice of your Officers during the year.

ACTINOMYCOSIS IN OX-TONGUES.

Most of the ox-tongues which arrived in the Port of London were, at the request of the consignees, removed from the district of the Port Sanitary Authority (without inspection) to cold stores within the City of London and the Metropolitan Borough of Finsbury, to be examined there under the supervision of the Medical Officers of Health of those districts.

In those consignments where a 2 per cent. examination was conducted by your Officers, none were found to be diseased.

PORK.

During the year detailed examination was made of 11,791 pig carcasses, with the result that 15 carcasses were seized on account of tuberculosis.

On the 7th December a vessel arrived with 275 sides of pork as part of the cargo. This meat came within the definition of Foreign Meat of Clause 1, the importation of which is prohibited.

The owners explained that this meat was shipped at a new source of supply without their knowledge, but that as soon as they became aware of the shipment they cabled for an explanation and received a reply that the shippers were not familiar with the Regulations and would make no further shipment of meat of this class.

Under all the circumstances the exportation was not demanded.

The sides of pork were examined as far as possible by one of your Food Inspectors, and three found to be diseased were destroyed.

The facts were reported to the Local Government Board.

The pork seized and destroyed during the year was as follows:—

From.	Tuberculous.		Unsound.	
	Carcases.	Sides.	Carcases.	Pieces.
United States - - -	3	3	...	1
Argentina - - - -	10	...	...	...
TOTALS - - -	13	3	...	1

OFFAL.

Considerable improvement has been noticed in the condition in which this class of meat has arrived recently. During the year the total quantity seized and destroyed was only 8 tons 8 cwts. 0 qrs. 27 lbs., whereas the average quantity for the previous five years was 45 tons 7 cwts. 2 qrs. 20 lbs.

	Tons.	Cwts.	Qrs.	Lbs.
Livers, Ox—17 cases, 48 loose - - -	0	11	2	21
„ Sheep—9 loose - - - -	0	0	0	11
Sweetbreads —120 cases, 1 bag - - -	0	11	3	4
Kidneys —20 cases, 1,182 boxes, 61 bags, 11 part bags - - - -	5	5	3	8
Hearts, —20 bags, 4 part bags - - -	0	16	1	5
Tongues, —10 bags, 36 loose - - - -	0	6	0	24
Cheeks, —5 bags - - - - -	0	2	3	12
Tripe —2 bags - - - - -	0	2	1	9
Tails, —Nil - - - - -	0	0	0	0
Skirts, —8 bags, and a quantity loose -	0	4	3	17
Sundries - - - - -	0	6	1	0
Total weight -	8	8	0	27

MEATS—CANNED.

The tinned meats seized and destroyed comprised :—

	Tons.	Cwts.	Qrs.	Lbs.
Beef—500 tins - - - -	1	6	3	4
Brawn—6 tins - - - -	0	0	1	14
Ham—1 case - - - -	1	0	0	0
Sausage Meat—2 cases - -	0	2	0	0
Total weight - - - -	2	9	0	18

MEAT—SMOKED AND SALTED.

	Tons.	Cwts.	Qrs.	Lbs.
Bacon—287 boxes and 1 bale - -	76	4	1	22
Hams—loose - - - -	2	13	3	22
Total weight - - - -	78	18	1	16

SUNDRY MEAT.

The only seizures under this heading were two of sausages, weighting 5 cwts.

RABBITS (FROZEN).

The total quantity of rabbits seized during the year showed a considerable increase, being 3,877 crates and bags and a number loose, weighing 235 tons 4 cwts. 3 qrs. 20 lbs.

During June about 30,000 crates, which had been landed at a southern port, were brought to London by rail and arrived in very bad condition, and it was necessary for your Food Inspector to make a detailed examination of the whole consignment, comprising about 720,000 rabbits. One of your Food Inspectors was engaged upon the work for 81 days, which resulted in the condemnation and destruction of 174,810 of the rabbits on the one hand, and a considerable saving of foodstuff on the other.

RABBITS (TINNED).

Only two seizures of tinned rabbits were made during the year, the total quantity seized and destroyed being 123 tins, weighing about 2 cwts. 0 qrs. 22 lbs.

POULTRY AND GAME.

This class of goods seized and destroyed consisted of—1 box of chickens and three crates of hares, the total weight being 3 cwts. 1 qr. 4 lbs.

FISH.

The fish of all kinds seized and destroyed totalled 14 tons 12 cwts. 0 qrs. 19 lbs. compared with about 86 tons in the previous year, and comprised :—

	Tons.	Cwts.	Qrs.	Lbs.
WET—3 barrels herrings - - -	0	7	1	10
DRIED—6 cases kippers, 2 cases codlings -	0	8	0	0
SHELL—1 barrel oysters - - -	0	2	0	0
TINNED—Crab, 47 tins - - -	0	0	0	23
„ Crayfish, 57 cases, 99 tins -	1	8	2	25
„ Herrings, 3 cases - - -	0	3	0	0
„ Lobster, 474 tins - - -	0	8	1	24
„ Salmon, 3 cases, 24,570 tins -	10	1	2	0
„ Sardines, 65 cases - - -	1	12	3	0
„ Various, 2 cases - - -	0	0	0	21
Total weight	14	12	0	19

Most of the tinned salmon was from a vessel which arrived in a damaged condition.

FRUIT (GREEN).

The green fruit seized and destroyed was nearly 50 per cent. less than in the previous year, and included :—

	Tons.	Cwts.	Qrs.	Lbs.
Apples—1,068 boxes, 4 barrels - - -	25	9	1	0
Bananas—2 crates - - - - -	0	1	0	0
Grapes—185 barrels - - - - -	4	12	2	0
Lemons—6 boxes - - - - -	0	9	0	0
Pears—105 barrels, 79 boxes, 446 packages	21	2	1	0
Pineapples—22 cases - - - - -	1	2	0	0
Plums—877 packages - - - - -	21	12	0	0
Damsons—63 barrels, 158 baskets, 192 packages - - - - -	12	6	0	0
Oranges—74 boxes, 70 cwts. loose - - -	10	3	2	0
Greengages—1,954 baskets - - - - -	34	17	3	12
Mandarins—156 boxes - - - - -	0	9	0	12
Sundries—2 casks - - - - -	0	3	0	0
Total weight	132	7	1	24

FRUIT (DRIED).

Most of the dried fruit, although unfit for human consumption, had commercial value for cattle food or distillation, and was accordingly released, under suitable guarantees, for those purposes, the Medical Officers of Health of the districts to which it was being sent being notified of the facts. When any was actually destroyed it was owing to the parcel being small or in worthless condition relatively to the difficulty of handling.

	Tons.	Cwts.	Qrs.	Lbs.
Currants—84 boxes, 170 $\frac{1}{2}$ -boxes, 36 $\frac{1}{4}$ -boxes, 149 bags, 386 $\frac{1}{2}$ -bags, 6 cwts. 0 qr. 9 lbs. loose, 6 cwts. 2 qrs. 25 lbs. tinned -	42	6	2	21
Dates—1,479 cases - - - - -	50	2	3	5
Figs—2,199 taps, 1,069 cases, 309 bags, 60 serons - - - - -	107	7	2	14
Plums—103 boxes - - - - -	1	5	1	14
Prunes—4,751 boxes, 15 bags - - - - -	60	7	2	27
Raisins—3 bags, 20 cwts. 1 qr. 15 lbs. loose	1	3	1	15
Sultanas—39 boxes, 42 lbs. loose - - - - -	0	19	3	14
Peaches—1,342 boxes - - - - -	8	6	2	0
Pears—3,350 boxes - - - - -	43	2	2	0
Various—7 boxes, 12 cases, 1 cask - - - - -	0	13	0	17
Total weight	315	15	2	15

FRUIT (TINNED AND BOTTLED).

Efforts were made, without success, to dispose of this class of goods for cattle and poultry feeding. The quantities destroyed as unfit for human consumption were:—

	Tons.	Cwts.	Qrs.	Lbs.
Apricot pulp—117 cases, 417 tins - - - - -	6	18	3	15
Pineapple—159 cases, 166 tins - - - - -	35	0	3	10
Raspberry pulp—117 tins - - - - -	0	15	2	0
Tomato pulp—1,737 cases, 215 tins - - - - -	44	16	1	13
Various—19 cases, 1,614 tins - - - - -	5	2	3	23
Total weight	92	14	4	5

FRUIT, PRESERVED (JAM AND MARMALADE).

No jam or marmalade was seized by your Inspectors during the year.

VEGETABLES.

Of these goods about 15 cwts. of beans and 3 $\frac{1}{2}$ cwts. of potatoes were used for cattle food, the remainder being destroyed.

	Tons.	Cwts.	Qrs.	Lbs.
FRESH—				
Onions—3,475 bags, 10 boxes, 17 tons loose	191	8	1	14
Potatoes—5 bags, 3 boxes, 73 tons loose -	73	6	0	0
Sweet potatoes—47 boxes - - - - -	2	7	0	0
DRIED—				
Beans—loose - - - - -	0	18	1	6
TINNED—				
Mushrooms—1 case, 40 tins - - - - -	0	1	0	4
Total weight	268	0	2	24

NUTS.

The Acajou ("Cashew") nuts and desiccated cocoanut referred to below were used for cattle food and oil extraction. The remainder of the goods were destroyed.

	Tons	Cwts.	Qrs.	Lbs.
Chestnuts—923 bags, 49 cases - - -	47	19	0	0
Acajou nuts—240 cases - - -	24	0	0	0
Walnuts (shelled)—100 cases - - -	5	0	0	0
Desiccated cocoanut—90 cases, 6 bags -	6	0	3	10
Total weight -	82	19	3	10

PROVISIONS.

Only 97 tons 7 cwts. 3 qrs. 20 lbs. of this class of goods were seized and destroyed, compared with about 850 tons in the previous year, the reduction being chiefly in respect of tea, coffee, margarine and condensed milk. Of the quantities disposed of as unfit for human consumption, the cocoa, tapioca and about 14 tons of condensed milk were used for cattle food, the margarine for soapmaking, the sugar for the manufacture of ink, and about 45 tons of the condensed milk in the manufacture of confectionery. In all cases where the goods were removed from the district of the Port of London for such purposes, guarantees were obtained from the actual users, and the Medical Officers of Health of the districts to which the goods were removed were notified of the facts.

	Tons.	Cwts.	Qrs.	Lbs.
Tea—Nil - - - - -	0	0	0	0
Coffee—41 bags - - - - -	1	5	1	9
Cocoa—78 barrels, 1 case, 22 tins - -	9	2	0	25
Cheese—6 cases, 28 cwts. 3 qrs. 14 lbs. loose	1	13	3	15
Margarine—93 boxes - - - - -	2	1	3	17
Butter—Nil - - - - -	0	0	0	0
Sugar—loose sweepings - - - - -	0	9	1	12
Condensed Milk—2,302 cases, 38 casks -	58	2	1	25
Tapioca—246 bags - - - - -	24	12	0	0
Vermicelli—1 tin - - - - -	0	0	0	1
Macaroni—3 boxes - - - - -	0	0	3	0
Total weight	97	7	3	20

PREPARED FOODS.

With regard to these goods, the Lacto Maltine was used for veterinary purposes and the Nestle's Food and rolled oats for cattle food; the remainder were destroyed.

	Tons.	Cwts.	Qrs.	Lbs.
Lacto Maltine—5 cases - - - - -	0	3	0	0
Malted Food—166 tins - - - - -	0	1	1	26
Nestlé's Food—15 cases - - - - -	1	3	0	16
Infants' Food—2 cases - - - - -	0	1	2	0
Rolled Oats—1,014 bags - - - - -	50	6	3	16
Orange Peel—27 barrels, 1 case - - -	3	7	0	21
Total weight	55	3	0	23

BISCUITS AND CONFECTIONERY.

	Tons.	Cwts.	Qrs.	Lbs.
Biscuits—2 cases, and 27 lbs. loose - -	0	2	3	5
Confectionery—86 cases - - - -	3	17	1	12
Total weight - -	4	0	0	17

GRAIN.

Practically the whole of the grain seized as unfit for human food was subsequently released, under guarantees, for cattle or poultry food, and notifications were sent to the Medical Officers of Health of the districts to which it was taken.

The quantity seized as unfit for human consumption was as follows :—

	Tons.	Cwts.	Qrs.	Lbs.
Wheat - - - - -	2,421	7	2	16
Maize - - - - -	35	15	0	23
Oats - - - - -	16	4	1	18
Barley - - - - -	6	7	2	0
Rye - - - - -	2	16	0	26
Rice - - - - -	23	7	1	17
Total weight - -	2,505	18	1	16

MEAL AND FLOUR.

The meal seized consisted of 1,000 bags of oatmeal, weighing about 100 tons, and it was released for cattle food.

The flour comprised 1,348 bags, 60 cases, 30 pockets, and a quantity loose. It was all released for cattle and poultry food and the manufacture of dog biscuits.

CONDIMENTS AND SPICES.

These comprised 28 cases of mustard and 1 case of sundries, weighing 4 tons 15 cwts. 2 qrs. 17 lbs.

EGGS.

Only five seizures of eggs were made during the year, resulting in the destruction of 264 cases and 7 cases of preserved eggs weighing about 3 tons 19 cwts. 2 qrs. 5 lbs. Two casks of egg yolk, weighing about 10 cwts., were also seized and destroyed.

DRUGS.

The drugs seized and destroyed comprised 5 cases of cassia, weighing 2 cwts. 2 qrs. 20 lbs., and 15 cwts. 2 qrs. 24 lbs. senna leaves.

SUNDRIES.

Included under this heading are :—

	Tons	Cwts.	Qrs.	Lbs.
Chicory—47 casks - - - - -	5	17	2	12
Hops—19 packages - - - - -	2	17	0	0
Peas, Lentils, Gram, &c. - - - - -	4	2	2	24
Various—57 packages, 31 tins - - - - -	2	0	1	19
Total weight - -	14	17	2	27

The chicory, gram, peas and lentils were used for cattle food, under the usual guarantees.

The following special analyses were made during the year by Dr. Teed :—

SULPHUR BLEACHED RAISINS.—Sulphur dioxide, '06 per cent., was found, of which two-thirds was given off on boiling with water. The flavour in the raisins was objectionable.

SODA BLEACHED RAISINS.—Nothing deleterious was found.

TINNED PEARS.—1·19 grains of tin per pound.

BUTTER (UNSALTED, WITH PRESERVATIVE).—Boric acid, 19·6 grains per pound found.

SHELLED WALNUTS.—Free fatty acid (calculated as olive), 3·61 per cent. Rancidity was apparent, but not nauseously so.

PEAS ("PREPARED WITH A SMALL QUANTITY OF COPPER").—·35 grains copper per pound of peas found.

MEAT AND FLOUR—which had been subject to possible arsenical contamination in water damage, was found to be free from arsenic.

SEAMEN'S ACCOMMODATION.

In 1906, certain recommendations of your late Medical Officer, Dr. Herbert Williams, on the subject of the accommodation of seamen in merchant vessels were brought through your Worshipful Committee to the notice of the Standing Committee on Trade to which the Bill to amend the Merchant Shipping Act had been at that time referred.

Among other *desiderata* he recommended that—

1. The cubic space per head be increased.
2. The superficial floor space be increased.
3. The provision for ventilation be efficient.
4. Lighting be adequate.
5. A refectory room apart from sleeping quarters be provided.
6. Bare iron in the quarters be efficiently insulated.
7. The galley be separate from living quarters ; and
8. Stoves where used be efficiently appointed against escape of fumes into the accommodation space.

He pointed out that the fore part of a vessel is unsuitable for accommodation.

The whole matter was reviewed by him in his Annual Report for the year 1913, where the Australian and Norwegian regulations were compared with those of the United Kingdom.

In July, 1914, he read a paper at the Congress of the Royal Sanitary Institute at Blackpool, entitled "Insanitary Conditions on Shipboard," critical of the adverse conditions under which seamen lived.

The work of Dr. Williams in this matter was timely. The building at present of a number of new vessels known as "Standard Ships," ships of just that tonnage and class in which heretofore the crew had often been tucked away in the fore-castle, afforded an opportunity for the drastic reform advocated.

By courtesy of the Secretary, Ministry of Shipping, I am informed that in these ships the improved accommodation is on the following lines :—

1. The crew are berthed in the poop instead of in the fore-castle.
2. Separate two-berth cubicles are provided.
3. Messing entirely separate from sleeping accommodation is provided, also a smoke room for the general use of the men.
4. Each cubicle is fitted with a folding table.
5. Dirty clothes' lockers are provided in the firemen's and seamen's wash-places respectively, one for each man.
6. The floor space and cubic space is considerably in excess of the Board of Trade requirements.
7. Three spare cabins with adjuncts can be adapted as isolation quarters in case of necessity.
8. Special arrangements for steam heating in the crew's accommodation are being provided.

The vast improvements in lighting, ventilation and increase of space which are possible on removal of the quarters from the fore part of the ship to aft, *i.e.*, from the busier, more sea swept and narrower, to the less hampered, drier and more roomy end, should naturally follow this change ; and will certainly react favourably on the moral and physical tone of the personnel.

Constructive sanitation along the lines suggested by your late Medical Officer has been easily put into practice in the building of new ships. The problem of the older types of accommodation remains.

It is obvious that under present conditions and for some time to come drastic structural alterations on old ships would not be a profitable solution of the difficulty, the building of new vessels being the immediate necessity. In individual ships, however, certain lesser structural alterations contributory to health could be made. Your Inspectors have been instructed to observe and report on such points as are practically remediable in individual ships with a view to the possible formulation of general recommendations. This inspection would, of course, run parallel with the administration of the nuisance clauses of the Public Health (London) Act, 1891, which are the legal approach to the question at present open to your Staff.

A "Questionnaire" was forwarded to your Medical Officer, amongst others, through the Local Government Board, from the International Health Board of the Rockefeller Foundation. This had regard to quarantine stations and organisation, and covered the whole procedure of the Authority in dealing with the major and minor quarantinable diseases.

A full answer, with a plan and map of the disinfecting station and Port Sanitary District was returned, and will eventually find a place in what should prove a useful compendium of the quarantine methods in vogue throughout the world.

SANITARY INSPECTION.

The total number of visits of inspection paid by your Officers during the year was slightly below that for the preceding year. Among other reasons for this are the diminished number of Officers devoting the whole of their time to this particular work in the Docks, and the serious difficulty experienced in river transport from restricted fuel supply.

Figures relating to this important branch of the work of your Officers will be found in the Tables, which show that the total number of visits was 29,246, of which 8,365 were to vessels from foreign, 15,451 to vessels coastwise and inland navigation, and 5,430 to various premises on shore (Table XII.).

Orders for the cleansing of crews' quarters were necessary in 1,742 cases, equal to 7.3 per cent. of the total inspections of vessels.

The total number of nuisances found on vessels, inclusive of the foregoing, was 2,005 (see Table XIII.), while 591 were reported with reference to shore premises, making, with two on the River, a grand total of 2,598 nuisances, equal to 8.88 per cent. of the total inspections.

The total number of cases where abatement of nuisance involved some form of structural alteration was 131, while the number reported carried out was 106, or 80.9 per cent.

In dealing with the total number of nuisances, namely 2,598, written intimations were necessary in 140 cases only, equal to 5.3 per cent.

This is testimony to the efficiency of the work carried out by your Officers, in preventing nuisances such as accumulations of offensive refuse, which readily occur in Docks, &c., in the absence of adequate supervision.

No Police Court proceedings have been found necessary during the year.

In relation to shore premises, Table XIV. gives some particulars of various sanitary works carried out under the supervision of your Officers in accordance with plans submitted to your Worshipful Committee from time to time.

Such plans are submitted by amiable arrangement between parties. The Port Sanitary Authority should, however, be in a position to insist, if necessary, upon presentation of plans of all drainage and allied work to be constructed within the district of the Port, and to enforce alteration or modification if required.

NUISANCES.

In the matter of a complaint received from the Port of London Authority that a quantity of thick black oil was pumped into the River at Gravesend from a vessel, and the suggestion that the proviso of Section 92 of the Thames Conservancy Act, 1894, would bring this within the purview of the Port Sanitary Authority. The matter is one that demands attention from that body under whose jurisdiction its falls, since large patches of oil on the surface of the Thames interfere with the amenities of the River, at Gravesend and elsewhere, from time to time.

Section 92 of the Thames Conservancy Act, 1894, carries a proviso to its Sub-section (4) which might appear to debar action by the Port of London Authority under that section and clause, but, of course, this proviso conveys no powers to the Port Sanitary Authority.

The relevant section and clause are as follows :—

“ If any person without lawful excuse (the proof whereof shall lie upon him) does any of the following, namely :—

“ (4) Willingly causes or suffers any washing or other substance produced in making or supplying gas or any other offensive matter whether solid or fluid to flow or pass into the Thames or any tributary he shall for every such offence be liable to a penalty not exceeding 20*l.*
 “ Provided always that Sub-section (4) of this section shall not extend or apply to any vessel within the limits of the Port of London and under the jurisdiction of the Port Sanitary Authority thereof.”

The powers (if any) of the Port Sanitary Authority are conveyed in Clause 2 (B) of the Nuisance Clauses of the Public Health (London) Act, 1891 :—

“ Any pool ditch gutter watercourse so foul or in such a state as to be a nuisance or injurious or dangerous to health shall be nuisances liable to be dealt with summarily under this Act.”

Spread oil is not a nuisance or injurious or dangerous to health in the biological sense which underlies the provisions against nuisance in the Public Health Act ; the spreading of crude oil on pools and ditches is adopted in the district of the Port Sanitary Authority as a remedy against mosquitoes.

The regulation of conditions affecting the river water is specifically placed in the jurisdiction of the Port of London Authority, with the one proviso quoted, by the Thames Conservancy Act, 1894, and the Port of London Act, 1908.

The matter of diffused oil as a nuisance is one regarding the amenities of the River rather than public health, and is comparable with that of excessive or irregular whistling by steamers.

The nature of the nuisance does not, in my opinion, bring the vessel responsible “ under the jurisdiction of the Port Sanitary Authority ” within the terms of the proviso, and the complainants were informed accordingly.

TABLE XII.

GENERAL SUMMARY, and Analysis, of the Sanitary Inspections of Vessels, &c., in the Port of London, for the year ended 31st December, 1917.

FOREIGN.			COASTWISE.			INLAND NAVIGATION.						Shore Premises.			WATER BARGES.																
Steam.		Sail.	Steam.		Sail.	Steam.		Sail.		Lighters (uninhabited).	Canal Boats.																				
Inspected.	Defective.	To be Cleaned.	Inspected.	Defective.	To be Cleaned.	Inspected.	Defective.	To be Cleaned.	Inspected.	Defective.	To be Cleaned.	Inspected.	Defective.	To be Cleaned.	Inspected.	Defective.	To be Cleaned.	No. in Districts in which the No. of Vessels inspected in 1917.	New Barges.	Condensed.	Use discontinued.	No. of Barges in 1917.									
7741	62	887	624	11	39	1233	11	94	332	5	14	551	2	36	9167	55	411	3876	6	219	292	38	12	5420	36	524	1	—	—	—	—
Total Inspections to 31st December, 1916 -															1,165,417																
Total Inspections from 1st January to 31st December, 1917—																															
Foreign - - -															8,365																
Coastwise - - -															1,565																
Inland Navigation -															13,886																
Premises on shore - -															5,430																
															<u>29,246</u>																
Total - - -															<u>1,194,663</u>																
Cleansing of Crew's Quarters, &c. :—																															
Total to 31st December, 1916 - -															76,645																
Total No. of Vessels from 1st January to 31st December, 1917- - -															1,742																
Total - - -															<u>78,387</u>																
Number of vessels inspected :—																															
In the Launches—																															
“Lady Truscott” - - -															3,789																
“David Burnett” - - -																															
“George Briggs” - - -															3,556																
Total - - -															7,345																
In the Docks, &c. - - -															16,471																
Total - - -															<u>23,816</u>																
																					Docks and River.										
																					No.										
																					St. Katharine's - - - - -										
																					1,188										
																					London - - - - -										
																					1,589										
																					Regent's Canal - - - - -										
																					901										
																					Millwall - - - - -										
																					1,345										
																					West India - - - - -										
																					1,951										
																					Poplar - - - - -										
																					349										
																					East India - - - - -										
																					1,509										
																					Victoria - - - - -										
																					2,560										
																					Royal Albert - - - - -										
																					1,950										
																					Commercial - - - - -										
																					1,818										
																					Tilbury - - - - -										
																					1,311										
																					Gravesend District - - - - -										
																					—										
																					River—*Upper District - - - - -										
																					2,741										
																					*Middle „ - - - - -										
																					815										
																					*Lower „ - - - - -										
																					3,789										
																					Total vessels - - - - -										
																					23,816										
																					Shore premises - - - - -										
																					5,430										
																					Total - - - - -										
																					29,246										
																					*Upper District extends from Greenwich to Teddington.										
																					*Middle „ „ „ Greenwich to Erith.										
																					*Lower „ „ „ Erith to outer limits of the Port of London.										

COMPARATIVE TABLE.

Total number of Inspections of vessels from—	1908.	1909.	1910.	1911.	1912.	1913.	1914.	1915.	1916.	1917.	Yearly average for the 10 years ending 31st December, 1917.
“Foreign” - - -	15,258	14,887	13,710	14,015	15,177	14,425	13,539	12,472	10,244	8,365	13,309.2
“Coastwise,” “Inland Navigation,” and other Inspections -	20,014	25,469	24,857	24,009	28,035	24,501	24,475	22,237	19,634	20,881	23,411.2
Total - - -	35,272	40,356	38,567	38,024	43,212	38,926	38,014	34,709	29,878	29,246	36,720.4

TABLE XIII.

NUMBER OF NUISANCES ON **VESSELS** REPORTED AND DEALT WITH during the year ending 31st December, 1917.

DESCRIPTION OF NUISANCES.	January.	February.	March.	April.	May.	June.	July.	August.	September.	October.	November.	December.	Totals.
SMOKE NUISANCES :—													
Number of complaints received ...	...	...	...	...	...	...	...	...	...	...	...	...	...
Number of recurrences reported ...	...	...	...	...	...	...	...	...	...	...	...	...	...
OFFENSIVE CARGOES (Bye-laws) :—													
Number of Infringements reported ...	...	...	3	...	1	...	1	1	...	...	...	...	6
STRUCTURAL AND OTHER DEFECTS :—													
Ventilation	2	3	2	9	...	4	4	4	3	4	1	3	39
Lighting	3	4	3	7	...	1	5	3	3	6	2	1	38
Heating ... ..	...	2	1	1	2	1	1	1	...	4	3	1	17
Bare iron in crew's quarters ...	...	1	1	...	1	...	...	1	...	1	...	1	6
Leaky decks, hawse-pipes, cable casings, &c.	4	2	3	4	1	2	3	2	3	7	3	2	36
Defective bulkheads and floors ...	...	...	2	2	1	3	2	...	3	1	2	1	17
Sanitary conveniences	1	1	4	5	1	1	4	4	1	4	2	1	29
Ship's gear or stores stowed in crew's quarters ... ..	...	...	...	...	...	...	...	2	...	3	1	2	8
Foul bilges and peaks ... ..	...	...	...	1	4	7	...	...	1	...	...	...	13
Storage of drinking water (dirty or defective tanks)	1	...	1	...	...	...	2	2	...	1	1	...	8
Dirty quarters	139	143	161	151	227	137	119	130	113	136	135	151	1,742
Accumulation of offensive matter ...	...	...	...	1	1	4	1	...	2	...	...	1	10
Miscellaneous Nuisances	2	5	6	1	2	6	4	3	1	4	1	1	36
Totals	152	161	187	182	241	166	146	153	130	171	151	165	2,005
Total number of vessels on which structural alterations were ordered	5	9	12	14	6	8	11	9	7	17	9	6	93
Total number of vessels on which structural alterations were reported as carried out	4	1	7	5	21	3	3	2	10	4	8	3	71

NUMBER OF NUISANCES IN **THE RIVER** REPORTED AND DEALT WITH during the year ending 31st December, 1917.

From discharge of foul liquid, sewage, &c., into the River ... ..	...	...	...	...	...	1	...	...	...	...	1	...	2
Offensive condition of River water ...	...	...	...	...	...	...	...	...	...	...	...	...	...
Totals ... ..	...	...	...	...	...	1	...	...	...	...	1	...	2

TABLE XV.
SANITARY WORKS.

PART I.

Date completed.	Works.
1917.	
Jan. 22	East India Dock, New Offices at No. 4 Shed, Import Dock—Additional sanitary accommodation.
„ 26	West India Dock, North Quay—New closet accommodation, Nos. 2 and 9 Warehouses.
„ 26	Ditto—Storm water overflow to sewer.
„ 26	Ditto—Surface water drain, No. 3 Shed.
Mar. 30	Millwall Dock—Surface water drain, Nos. 6-7 and F Sheds.
April 5	West India Dock—Reconstruction of conveniences at Engineers' Yards.
„ 10	Royal Albert Dock—Lavatory accommodation at Messrs. Lester and Perkins' Works.
„ 16	Millwall Dock—Drainage for H.M. Customs' new premises.
„ 16	Surrey Commercial Dock—Drainage for H.M. Customs' Office No. 6.
July 27	Royal Albert Dock—Conveniences at Messrs. Lester and Perkins' premises.
Sept. 13	Surrey Commercial Dock, South Lock—Drainage in connection with Dockmaster's House.
„ 20	*Royal Albert Dock—Erection of earth closet for Temperance Catering Co.'s Dining Rooms.
Oct. 2	Regent's Canal Dock—Extension of water-closets on South Quay, &c.
Nov. 6	Royal Albert Dock—Lavatory accommodation for women clerks at Export Charges Office.
„ 12	Royal Albert Dock—Conveniences for women employées at Messrs. Lester and Perkins'.

* Passed as a temporary measure only.

PART II.

Sanitary Works and alterations, not yet reported as completed :—

Date Plan submitted.	Works.
1917.	
Jan. 9	Poplar Dock—Proposed accommodation for female staff.
July 28	Royal Albert Dock—Proposed sewer to Export Charges Office, North Side Basin.
Aug. 24	Royal Victoria Dock—Proposed latrines on South side.
Nov. 30	Royal Victoria Dock—Proposed lavatory accommodation at Temperance Catering Co.'s Coffee Tavern.
Dec. 19	Royal Albert Dock—Proposed drainage in connection with Canteen.

TABLE XVI.

BYE-LAWS—OFFENSIVE CARGOES.

Six cases of infringement of the above-mentioned Bye-laws were reported during the year. In each case written notice was sent to the owners of the barges concerned :—

Date.	Name of Vessel.	Infringement.
1917.		
March 13	"Demon" - -	Loaded with a cargo of house refuse not properly and securely covered so as to prevent any nuisance arising therefrom, and also loaded above the coamings.
" 13	"Jess" - - -	Ditto Ditto.
" 24	"Barbo" - -	Ditto Ditto.
May 9	"Era" - - -	Carrying certain offensive matter, to wit, fish refuse otherwise than in a suitable tank or receptacle properly constructed and furnished with a sufficient covering so as to prevent any nuisance arising therefrom.
July 9	"Lilian" - -	Loaded with a cargo of shredded rabbit-skins totally uncovered, and causing a serious nuisance.
August 2	"Mayflower" - -	Loaded with a cargo of refuse matter not properly and securely covered so as to prevent any nuisance arising therefrom.

FUMIGATING APPARATUS, BARGE "THOMAS."

The fumigating plant was used on 16 occasions during the year.

TABLE XVII.

Date.	No. of Vessels.	Capacity in Cubic Feet.
1917.		
January 20th - -	1	265,000
March 19th - -	1	268,000
April 6th - - -	1	324,570
" 12th - - -	1	251,909
" 19th - - -	1	423,682
" 21st - - -	1	322,376
" 24th - - -	1	405,991
" 28th - - -	1	497,190
May 9th - - -	1	335,000
" 11th - - -	1	304,250
June 4th - - -	1	415,282
" 28th - - -	1	329,840
July 12th - - -	1	383,626
August 16th - -	1	407,930
" 31st - - -	1	530,934
November 18th -	1	200,180
Totals - - -	16	5,665,760

The largest capacity fumigated on any one ship was 540,000 cubic feet. Two of the fumigations were directed against ascertained plague epizootics, and the remainder were disinfections on ships which had carried troops or for the destruction of rodents on non-infected ships.

In the early part of the year the engine bedplate was found to be split, and was repaired at a cost of 9*l.* 15*s.* The barge in which this engine is fitted is old, but in war time it was deemed expedient to repair the decks and put in stiffening beams rather than attempt replacement. In dry dock she has been found to be sound below the water line.

A new bedplate was ordered, but is held over until required.

LAUNCHES.

"LADY TRUSCOTT."—On the 13th March, when the cover from the manhole in the top drum of the boiler was being removed, an explosion occurred breaking the engine room skylight, and burning the men engaged about the face, neck and hands, fortunately not seriously. An inspection of the boiler was made by your Consulting Engineers. They reported that nothing detrimental to the boiler had occurred. The drum was free from scale and clean, and exception could not be taken to the tubes or the lower headers.

A test by hydraulic pressure was recommended and applied to the boiler, disclosing no defect.

The cause of this explosion is one of some rarity. Zinc blocks are used in the boiler to prevent scaling.

The water of Gravesend town, which is used in the boiler, contains considerable "hardness," rendering electrolysis possible at a low voltage.

The launch having been laid by, hydrogen had therefore accumulated in the proportions necessary to form a highly explosive admixture with air. The intense heat of the hydrogen flame, though momentary, produced painful burns, and the Engineer, J. A. Hardman, is to be commended for pluckily remaining on duty.

During the year this launch has been kept available for special duties when required, but from shortage of fuel and hands has not been in general service. These conditions continue at the date of closing this Report.

During March, new zinc plates were fitted on the quarter of this launch, protecting the steel plating from electrolytic wasting, at a cost of 5*l.* 12*s.* 6*d.*

"DAVID BURNETT."—The repair of the damage caused by fire in fore cabin during December, 1916, was carried out in March, 1917, at a cost of 200*l.* In the course of this work the deck was exposed and found to be damaged. This was repaired at a further cost of 48*l.* 15*s.* The whole of this damage was covered by insurance.

Advantage was taken of the occasion to fit the new funnel, which had been sanctioned.

The boiler of the "David Burnett," which had been leaking at one of the seams, was repaired in February and March. The weak seam was built up by the electric welding process, and has not given further trouble.

This launch has been in constant service throughout the year, having been called upon not only for the usual work of inspections, removal of infectious diseases, &c., but for a considerable amount of work in the form of towage of the fumigating plant to various parts of the Port, involving absence of launch and crew from the Gravesend station on occasions for more than twenty-four hours.

In these circumstances, provision for the removal of any case of infectious disease which might arrive required careful arrangement.

At the end of the year, evidence of this continual work was apparent in the worn state of the tail shaft, and an opportunity had to be sought for stopping the boat as soon as possible. In other respects, this launch continues in a seaworthy and efficient condition.

"GEORGE BRIGGS."—This motor launch has had to cope with the work of inspection between Woolwich and London Bridge. In covering this ground a certain amount of fuel is necessarily consumed, which does not vary considerably. When the restrictions upon the use of motor spirit were enforced the quantity allowed to this launch by the Petrol Control Committee was reduced, in 1916, to 60 per cent., and in 1917 to 40 per cent. of the original consumption.

These restrictions meant simply that the movement of the boat had to be curtailed in proportion. It is therefore not surprising to find that the total number of inspections fell in 1916 to 50 per cent., and in 1917 to 40 per cent. of the total for the year 1915. Other factors operated, of course, but the significance of the reduction of fuel predominates.

It was necessary in the latter part of the year to run the launch on three days per week only, for no other reason than to conserve the stock of fuel.

Charges for repairs and upkeep in respect of this launch have been moderate during the year.

The unsuitability of the boat for relief work on the Gravesend station is occasionally a cause of inconvenience.

"HYGEIA."—A. Salter (Shipkeeper) was absent on sick leave from 5th January to the 5th March. He was admitted to Denton Hospital for treatment. The nature of his illness, while not confining him to a room, excluded him from the performance of his customary duties on the hulk, but did not prevent his carrying out useful service about the Hospital during such time as treatment was required.

The best interests of all parties were thus served.

STAFF.

INSPECTORS.—Inspector H. Spadaccini, Senior Food Inspector, who reached the age of 65 years on the 25th May, resigned his appointment on the 8th November. Inspector A. Garland, who had acted as his Assistant, was appointed Food Inspector for the district formerly worked by Mr. Spadaccini.

Inspector Spadaccini was appointed in 1882, and had therefore served the Corporation for thirty-five years.

During practically the whole of this time he had been responsible for the sanitary condition of the East India and the Royal Victoria and Albert Docks and for the examination of the important cargoes of foodstuffs discharged therein. His unfailing tact, firmness and upright personal character always insured careful consideration for his opinions and suggestions, and the respect of all officials and others of the various interests concerned in these Docks.

Your Medical Officers of Health in succession have appreciated very highly the nature of the services rendered to the Port Sanitary Authority by the unselfish devotion to duty always exhibited by Mr. Spadaccini.

Inspector H. R. Hopkins was absent on sick leave from 11th November to 17th December.

Inspector C. A. Shepherd has been promoted to the rank of Lieutenant R.N.R., and given command of a vessel.

LAUNCHES.—I regret to report that C. J. Wilcox (stoker) and J. Baulsom (deckhand) were reported to have died from wounds received in action.

OFFICES.—No further reduction of the Staff has taken place. The temporary lady clerks have performed their duties well, and no arrears of work have accumulated. The work of the office was very seriously disturbed and incommoded by the damaged condition of the offices, referred to below.

The difficulties thus caused were adequately met, and the work did not suffer as a consequence, except from occasional delays, of which perhaps the most noticeable was the deferred appearance of your Medical Officer's Annual Report.

OFFICES.

In the explosion which occurred at Silvertown in January, the large windows and frames in the lower offices were destroyed, exposing the interior. Suitable precautions were taken, and by April new windows and frames were fitted.

In the interval artificial light had to be used during business hours, and all business conducted in one small room. The rest of the building suffered principally from broken glass, &c.

On 24th December, a portion of the ornamental work on top of the building broke away and fell on to the pavement. The remaining portion appeared to be in a dangerous condition. The City Surveyor was communicated with, and the necessary repairs carried out.

HOSPITAL.

Certain changes have taken place in the Nursing and Domestic Staff at the Hospital. These appointments are of a temporary nature only. It has been found increasingly difficult to obtain Nurses, but temporary arrangements have sufficed for the satisfactory nursing of patients in view of the lessened number of admissions.

A. E. R. Lewis (Caretaker) resigned on the 27th July. J. H. Robinson was engaged to fill the vacancy, and commenced duty on the 11th August.

The Ward equipment of linen and bedding has required certain renewals, and is now on an efficient basis.

The wind power pump received some slight damage during a gale early in the year.

CANAL BOATS ACTS.

In accordance with Section 3 of the Canal Boats Act, 1884, I beg to present herewith the Annual Report on the working of the Canal Boats Acts and Regulations within the district of the Port of London Sanitary Authority during the year ending 31st December, 1917.

The Acts and Regulations apply within the whole of the district under the jurisdiction of the Port of London Sanitary Authority, including the River and Docks—as a “canal,” for the purposes of the Act, “includes any river, inland navigation, lake, or water being within the body of a county, whether it is or is not within the ebb or flow of the tide.”

The navigation, in addition to the enclosed Docks, includes the following navigable tributary waters and creeks of the River Thames :—

On the right bank from Teddington downwards :—

Wandsworth Creek (River Wandle).
 Hay's Dock.
 St. Saviour's Dock.
 Part of the Grand Surrey Canal within the Surrey Commercial Docks.
 Deadman's Dock.
 Deptford Creek (River Ravensbourne).
 Dartford Creek (Rivers Cray and Darent).
 The entrance to the Gravesend Canal.
 Cliffe Creek.
 Yantlet and Coalmouth Creeks.
 Part of the River Medway, and of the Swale.

On the left bank from Teddington downwards :—

The entrance to the River Brent.
 Chelsea Dock.
 Grosvenor Dock.
 Limekiln Creek.
 Part of the River Lea.
 Barking Creek (River Roding).
 Rainham Creek (River Ingrebourne).
 Mucking Creek.
 Thames Haven.
 Hole Haven.
 Potton and Rushley Creeks.
 River Roach as far up as Rochford.

The whole of this area is divided into three districts, known as the Upper, Middle and Lower, each district being in charge of an Inspector, as follows :—

RIVER.

UPPER DISTRICT.

Teddington to Greenwich.

Inspector Lambe - - - 220*l.* per annum.

MIDDLE DISTRICT.

Greenwich to Erith.

Inspector Lambe - - - 220*l.* per annum.

LOWER DISTRICT.

Erith to seaward limits of the Port of London
(including part of the River Medway).Inspector Berry - - - 162*l.* 10*s.* per annum.

The Docks are divided into four districts, known as the Central, Eastern, Western and the Gravesend district.

CENTRAL DISTRICT.

West India Dock.

South West India Dock.

Poplar Dock.

Millwall Dock.

Inspector Rolfe - - - 240*l.* per annum.

EASTERN DISTRICT

Royal Victoria Dock.

East India Dock.

Inspector Burr - - - 240*l.* per annum.

Royal Albert Dock.

Inspector Wetjen - - - 240*l.* per annum.

WESTERN DISTRICT.

London Dock.

St. Katharine Dock.

Regent's Dock.

Inspector Hopkins - - - 240*l.* per annum.

Surrey Commercial Dock.

Inspector Elward - - - 201*l.* 10*s.* per annum.

GRAVESEND DISTRICT.

Tilbury Dock.

Left Shore, from Purfleet down.

Right Shore, from Erith down.

Inspector Massie - - - 195*l.* per annum.

(2) The total number of inspections for the year was 280, representing a net number of 118 boats. The remainder, 162, represents repeated visits by Inspectors of this Authority.

The number of boats not conforming to the Acts and Regulations was 55 (inspected on 66 occasions, or 19·64 per cent. of the total inspections, the percentage for the previous five years being 15·83 per cent.).

In addition to the above, 31 boats were at the time of visit found with the cabin doors locked, there being no person on board. Inspection was therefore impossible, and these visits are not included in the number of boats inspected.

(3) With reference to the various infringements of the Act :—

UNREGISTERED BOATS.

The following boats were found, on inspection, to be unregistered within the meaning of the Act :—

Date.	Name of Boat.	Registration Authority.	Reason for Registration or Re-registration.
1917.			
Feb. 16	"Nucleus" -	- - - -	New Boat.
July 27	"Darnley" -	- - - -	Ditto.
Aug. 28	"Robin" -	Port of London -	Ditto.
Sept. 26	Do. -	Ditto -	Ditto.
Oct. 20	"Darnley" -	- - - -	Ditto.
Nov. 8	"Kate" -	Port of London -	Ditto.
" 9	Do. -	Ditto -	Ditto.
" 23	Do. -	Ditto -	Ditto.

NOTIFICATION OF CHANGE OF MASTER.

Nil.

CERTIFICATES.

Absence of Certificate of Registration was found in the following cases, a complaint being sent to the owners. In the case of those boats marked * information was received that the Certificates were subsequently placed on board :—

1917.

Feb. 23	* "Wey" -	- - -	Registered Port of London, No. 478.
March 9	* Do. -	- - -	" " " No. 478.
" 29	"Diligent" -	- - -	" " " No. 3.
April 12	"Emily" -	- - -	Berkhamsted, No. 319.
" 24	* "Mole" -	- - -	" " No. 324.
June 5	* "Soho" -	- - -	Birmingham, No. 1,356.
" 22	"Albert" -	- - -	Berkhamsted, No. 314.
July 24	* "Mersey" -	- - -	" " No. 415.
Aug. 24	"Martha" -	- - -	" " No. 396.
Sept. 17	* "Mersey" -	- - -	" " No. 415.
Oct. 15	* "Sarah Eliza" -	- - -	Uxbridge, No. 482.
" 16	"Robin" -	- - -	Port of London, No. 484.
" 23	"Emily" -	- - -	Berkhamsted, No. 319.
" 30	* "Hope" -	- - -	Port of London, No. 240.
" 31	"Northern" -	- - -	Paddington, No. 245.
Nov. 13	* "Muriel" -	- - -	Port of London, No. 397.
" 13	* "Reliance" -	- - -	" " No. 423.
" 17	"Robin" -	- - -	" " No. 484.
" 17	"Emily" -	- - -	Berkhamsted, No. 319.

CERTIFICATE NOT IDENTIFYING OWNER WITH BOAT.

1917.

March 12 * "Soho" - - - Registered Birmingham, No. 1,356.

MARKING, &c.

The following boats were found infringing in this respect. Those marked * were remedied :—

1917.

Jan. 19 "Marion" - - - Registered Brentford, No. 244.
 Feb. 7 "Fawn" - - - " Port of London, No. 483.
 „ 23 * "Wey" - - - " „ „ No. 478.
 March 5 "Sarah" - - - " Stepney, No. 4.
 „ 30 * "Walter" - - - " Berkhamsted, No. 345.
 June 23 * "Mole" - - - " „ No. 334.

OVERCROWDING.

1917.

Jan. 24 * "Victor" - - - Registered Uxbridge, No. 470.

SEPARATION OF THE SEXES.

Nil.

CLEANLINESS.

Nil.

PAINTING.

The following boats were found to require painting with regard to the interior of the cabin, which was done in the cases marked * :—

1917.

June 2 "Cyril" - - - Registered Brierley Hill, No. 266.
 „ 27 "Oillight" - - - „ Port of London, No. 451.

VENTILATION.

The following boats were found to require better ventilation. Those in which the alterations have been made are noted thus * :—

1917.

July 27 "Darnley" - - - Unregistered.
 Oct. 8 "Cicero" - - - Registered Uxbridge, No. 480.

DILAPIDATION.

1917.

Jan. 19 "Marion" - - - Registered Brentford, No. 244.
 Feb. 16 "Nucleus" - - - Unregistered.
 March 9 "Trent" - - - Registered Uxbridge, No. 392.
 April 12 "Emily" - - - " Berkhamsted, No. 319.
 May 15 * "Lizzie" - - - " Brentford, No. 216.
 „ 22 "Lily" - - - " Uxbridge, No. 385.
 „ 22 "King" - - - " Reading, No. 39.
 June 2 "Cyril" - - - " Brierley Hill, No. 266.
 „ 6 * "Mole" - - - " Berkhamsted, No. 334.
 „ 14 "Searchlight" - - - " Port of London, No. 432.
 „ 14 "Harry" - - - " Brentford, No. 303.
 „ 23 * "Mole" - - - " Berkhamsted, No. 334.
 „ 27 * "Oillight" - - - " Port of London, No. 451.

1917.					
July	24	" Windsor "	-	-	Registered Uxbridge, No. 448.
"	26	" Darnley "	-	-	Unregistered.
Aug.	9	* " Marne "	-	-	Registered Brentford, No. 337.
"	22	* " Tipton "	-	-	" Birmingham, No. 1,354.
Oct.	8	" Cicero "	-	-	" Uxbridge, No. 480.
"	15	" Sarah Eliza "	-	-	" Uxbridge, No. 482.
"	30	" Hope "	-	-	" Port of London, No. 240.
Nov.	6	" Leeds "	-	-	" Berkhamsted, No. 273.
"	16	" Darnley "	-	-	Unregistered.
"	26	" Ada "	-	-	Registered Berkhamsted, No. 404.
Dec.	9	" Kennet "	-	-	" Reading, No. 48.
"	19	" Stour "	-	-	" Uxbridge, No. 419.

REMOVAL OF BILGE WATER.

Nil.

PROVISION OF WATER CASK.

The following boats were not provided with proper vessel for containing drinking water. In the cases marked * I received information that provision had been made:—

1917.					
Aug.	22	* " Tipton "	-	-	Registered Birmingham, No. 1,354.
"	22	* " Turnstall "	-	-	" " No. 1,355.

NOTIFICATION OF INFECTIOUS DISEASE.

Nil.

ADMITTANCE OF INSPECTOR.

No difficulty has been experienced in regard to the visits of the Inspectors of this Authority.

LEGAL PROCEEDINGS.

Nil.

(5) The total number of infringements found was 66 on 55 boats, inspected on 66 occasions. Formal notice of each infringement was at once given to the owners, and in many cases they were remedied without further complaint.

The number of written notices was 34, and the number which has been certified as attended to was 21. This number includes infringements found in previous years, and reported remedied in 1917.

DOUBLE BULKHEADS.

(6) There were no infringements with regard to the provision of these.

(7) No boats have been detained for cleansing.

(8) On December 31st, 1917, there were 269 boats on the Register:—

Propelled by Tug and Oars	-	-	-	251
" " Steam	-	-	-	15
" " Motors	-	-	-	3
Total	-	-	-	<u>269</u>

(9) Two boats were registered in 1917. These were new boats.

TABLE OF CANAL BOATS CARRYING CHILDREN ON BOARD.

Year.	No. of boats.	No. of boats with children.	No. of children.	Average No. of children per boat.	Average No. of boats with children.
1908 - -	1,168	206	459	2·18	17·63
1909 - -	1,432	219	495	2·26	15·29
1910 - -	908	172	354	2·05	18·94
1911 - -	926	173	400	2·31	18·03
1912 - -	841	197	409	2·07	23·42
1913 - -	451	61	196	3·21	13·52
1914 - -	237	82	214	2·60	34·62
1915 - -	197	56	256	4·57	21·52
1916 - -	156	36	101	2·80	23·07
1917 - -	118	41	134	3·26	34·74

I have the honour to be, GENTLEMEN,

Your obedient Servant,

W. M. WILLOUGHBY,
Medical Officer of Health, Port of London.

TABLE XVIII.
SUMMARY OF CANAL BOATS FOR THE YEAR ENDING 31ST DECEMBER, 1917.

	January.	February.	March.	April.	May.	June.	July.	August.	September.	October.	November.	December.	TOTAL.	TOTAL FOR THE YEAR				
														1912.	1913.	1914.	1915.	1916.
New boats registered ... ..	...	...	...	...	...	...	...	...	...	1	...	2	2	2	3	3	7	4
Registration owing to structural alterations ... ..	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Registration for other purposes ...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	5	1	2
No. of Visits of Inspection ...	24	22	21	18	26	29	35	26	10	22	28	19	280	817	576	571	413	280
Conforming to Acts and Regulations	22	18	15	16	23	21	31	21	8	15	18	17	225	692	506	473	328	228
Infringements in respect to:—																		
Registration ... ..	...	1	...	...	...	...	1	1	1	1	3	...	8	9	4	20	23	9
Notification of change of master ... ..	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	1	...	...
Absence of certificate ... ..	...	1	2	2	...	2	1	1	1	5	4	...	19	34	17	18	19	10
Certificates not identifying owner with boat ... ..	...	...	1	...	...	...	...	...	...	...	...	...	1	5	4	4	1	2
Marking, &c.	1	2	2	...	...	1	...	...	...	...	...	...	6	11	7	14	6	9
Overcrowding	1	...	...	...	...	...	...	...	...	...	...	...	1	5	1	1	1	...
Partition separating sexes ... ..	...	...	...	...	...	...	...	...	...	...	...	...	...	2	...	...	...	...
Males over age ... ..	...	...	...	...	...	...	...	...	...	...	...	...	...	2	...	...	...	...
Females over age ... ..	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	1	...
Cleanliness ... ..	...	...	...	...	...	...	...	...	...	...	...	...	...	23	11	14	10	4
Painting... ..	...	...	...	...	...	2	...	...	...	...	...	...	2	17	17	23	12	14
Ventilation ... ..	...	...	...	...	...	...	1	...	...	1	...	...	2	8	6	6	7	3
Dilapidation	1	1	1	1	3	6	2	2	...	3	3	2	25	68	39	52	37	22
Removal of bilge water ... ..	...	...	...	...	...	...	...	...	...	...	...	...	...	3	4	2	...	2
Without pump ... ..	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Refusal to admit Inspector ... ..	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
No proper water vessel ... ..	...	...	...	...	...	...	...	2	...	...	...	...	2	9	8	7	8	7
Without double bulkhead ... ..	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Notification of infectious disease ...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	1	...	...
Detained for cleansing ... ..	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Proceedings taken... ..	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	2	...	1
Cautions given	1	1	3	...	3	7	2	3	1	4	8	1	34	97	59	79	69	39
„ attended to	2	...	3	...	1	3	1	3	...	1	2	5	21	74	55	81	54	38
Total registered by Port Sanitary Authority since 1887 ... ..	...	...	...	...	485	...	...	...	...	...	...	...	...	...	...	...	...	...
Cancelled ... ..	...	...	...	...	216	...	...	...	...	...	...	...	...	...	...	...	...	...
Actual number on the Register, 31st December, 1917 ... ..	...	...	...	...	269	...	...	...	...	...	...	...	...	...	...	...	...	...

Registered for 847 persons.
Carrying males 350.
females 109.
children 134.

ADMINISTRATION OF THE PORT OF LONDON PUBLIC HEALTH (LONDON) ACT, 1891.

Dr.

REVENUE ACCOUNT for the Year and a Quarter ended 31st March, 1918.

Cr.

	£	s.	d.	£	s.	d.		£	s.	d.	£	s.	d.
To Salaries of Medical Officers and Clerk	3,202	19	7				By Proceeds of Sale of Unsound Food (for amounts paid to Consignees see contra)	1,421	15	1			
„ Wages	6,818	16	1				„ Sundry Fees	840	19	0			
„ Contributions to Officers' Pension Funds... ..	399	1	2				„ Refund of proportion of Medical Officer's Salary, &c., by Rochester Port Sanitary Authority	125	0	0			
„ Ditto for Pensions	57	2	11				„ Sundry Reimbursements	5	1	4			
„ Pensions	595	16	8								2,392	15	5
„ Fidelity Guarantees	1	16	0				„ Balance to General Revenue Account	15,454	6	1			
„ Employers' Liability under Workmen's Compensation Acts	23	5	1										
„ National Health Insurance	19	11	5										
„ Officers' Uniforms	225	5	8										
„ Expenses of Steam Launches and Hulk	1,967	15	4										
„ Expenses of Offices at Greenwich, including Rent, Rates and Taxes, Lighting, Heating and Repairs	206	13	1										
„ Expenses of Medical Officer, including Office Expenses, Postages and Petty Cash Charges	478	0	5										
				13,996	3	5							
„ Hospital at Denton, viz. :—													
Expenses of Nursing Staff	290	12	0										
Rent, Rates, Taxes and Insurance	155	19	3										
Maintenance and Repairs	386	1	8										
Maintenance of Patients, &c.	140	13	0										
Miscellaneous Expenses, including Coal, Stores, and Telephone	323	17	7										
				1,297	3	6							
„ Printing and Stationery				139	1	1							
„ Expenses re Epidemic precautions, Examination of Rats, and Analysis of Food Samples				798	1	3							
„ Proceeds of Unsound Food paid to Consignees (for amounts received see contra)				1,170	13	0							
„ Expenses of Inspection of the River and Canvey Island... ..				95	0	0							
„ Disinfectants				194	7	1							
„ Committee Allowance				95	0	0							
„ Legal Expenses				31	17	4							
„ Miscellaneous Expenses				29	14	10							
				£17,847	1	6					£17,847	1	6

CHAMBER OF LONDON,
2nd July, 1918.

These figures are subject to alteration when the City's Cash Accounts are balanced and audited.

Charles Skipper and East, Printers, 49, Great Tower Street, E.C.3.

