

[Report 1905] / Medical Officer of Health, Manchester Port Health Authority.

Contributors

Manchester (England). Port Health Authority.

Publication/Creation

1905

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PORT OF MANCHESTER.

ANNUAL REPORT

OF THE

Medical Officer of Health

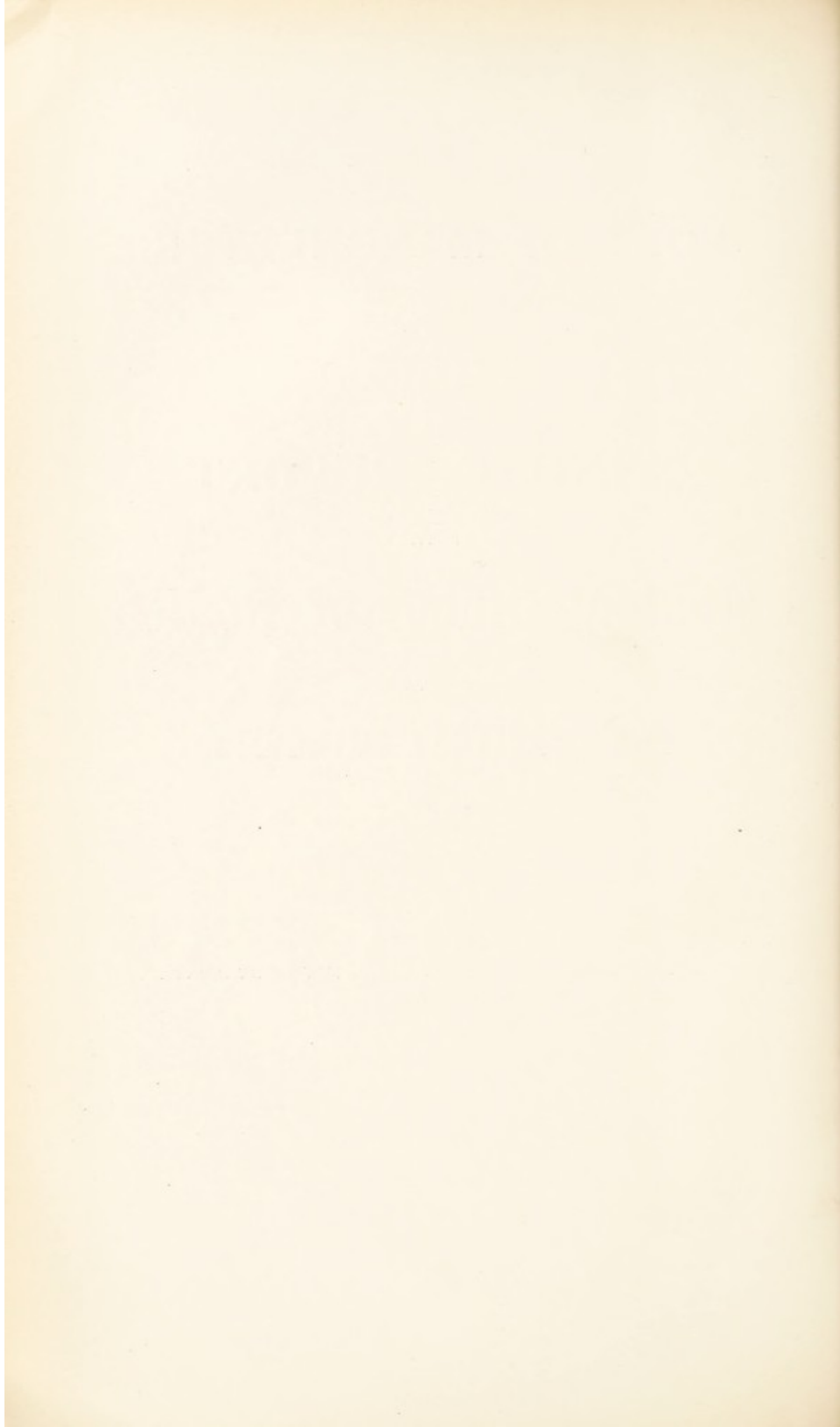
TO THE

PORT SANITARY AUTHORITY,

1905.

*ORDERED BY THE PORT SANITARY AUTHORITY TO BE PRINTED,
26th April, 1906.*

MANCHESTER:
H. SNAPE & SONS, 54, CHAPEL STREET, SALFORD.



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PORT OF MANCHESTER.

Limits of Jurisdiction of the Manchester Port Sanitary Authority—RED.

Hospitals where Infectious cases can be removed, under certain conditions, from vessels bound for or within the Port of Manchester—X

- | | |
|--|---|
| 1. Liverpool Small-pox Hospital. | 6. Widnes Infectious Diseases Hospital. |
| 2. Liverpool Cholera, Plague and Yellow Fever Hospital. | 7. Warrington Infectious Diseases Hospital. |
| 3. Wirral Small-pox Hospital. | 8. Salford Infectious Diseases Hospital. |
| 4. Wirral Infectious Diseases Hospital. | 9. Salford Small-pox Hospital. |
| 5. Runcorn Infectious Diseases Hospital and Small-pox Sheds. | |





LIVERPOOL

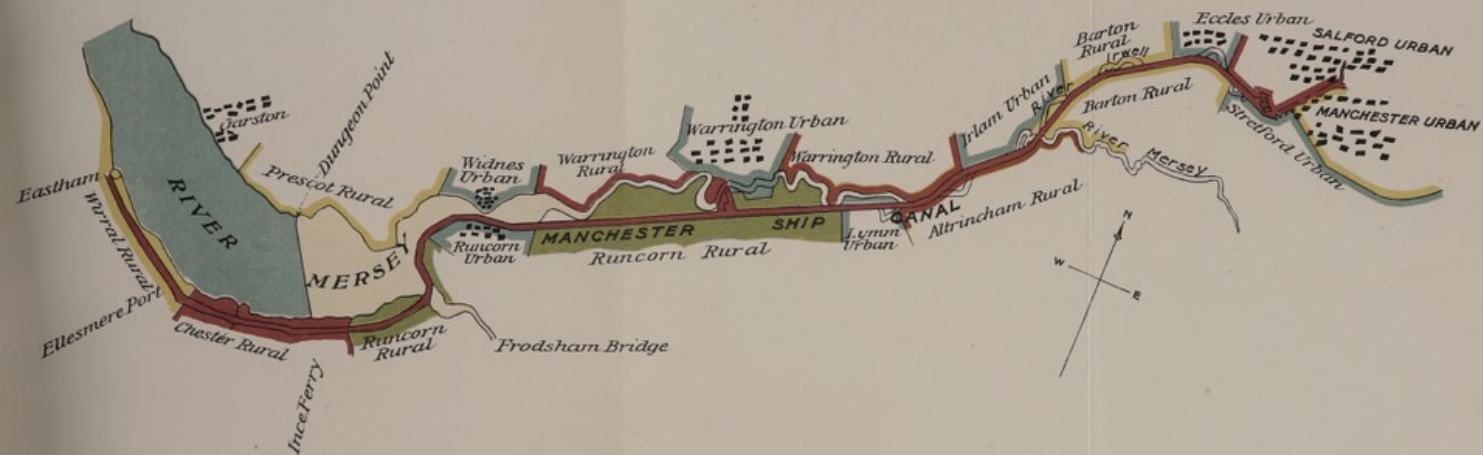



CHART SHOWING THE SANITARY DISTRICTS ABUTTING ON THE
PORT OF MANCHESTER.



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PORT OF MANCHESTER.

TO THE CHAIRMAN AND MEMBERS OF THE MANCHESTER
PORT SANITARY AUTHORITY.

GENTLEMEN,

I beg to submit to you the Ninth Annual Report of your Medical Officer of Health.

I would congratulate your Authority on the absence of serious sickness during the past year.

The amount of work done compares favourably with that of previous years.

I have the honour to be, Gentlemen,

Your obedient Servant,

A. M. N. PRINGLE,

Port Medical Officer.

MANCHESTER PORT SANITARY AUTHORITY.

The Authority is composed of the following Members:—

Mr. Alderman Walton Smith, Manchester, *Chairman*.

Mr. Councillor W. Huddart, Salford, *Deputy Chairman*.

Mr. Councillor W. F. Dearden	}	Manchester.
„ „ T. Hassall, ...		
„ „ H. Marsden, ...		

Mr. Alderman W. Stephens, ..	}	Salford.
„ „ J. J. Meakin, ..		
„ „ E. Desquesnes		

„ <i>Councillor T. Robinson</i>	}	Borough of Eccles. R.D. of Barton-upon-Irwell. U.D. of Irlam.
Mr. Alderman Nathan Parr ...		

Mr. Councillor Evans, ...	}	Borough of Warrington. R.D. of Warrington.

Mr. Councillor T. Dean, ...	}	U.D. of Lymm. U.D. of Runcorn R.D. of Runcorn. R.D. of Bucklow.

Mr. Alderman G. I. Neil	}	Borough of Widnes. R.D. of Chester. R.D. of Wirral.
...		

The Officials of the Authority are as follows:—

Medical Officer of Health—A. M. N. PRINGLE, M.B., C.M. Edin.,
D.P.H. Camb., 15, Salisbury Buildings, Trafford Road, Salford.

Clerk—A. HOLMES, Solicitor, Bexley Square, Salford.

Sanitary Inspectors—H. ATKINSON, C.S.I. and Certified Food
Inspector, 534, Chester Road, Old Trafford, Manchester.

W. RICHMOND, C S.I., 131, Church Street, Runcorn.

SICKNESS DURING THE YEAR 1905.

The total number of cases of Sickness investigated during the year was 109.

The numbers for the previous years, since the formation of the Port Sanitary Authority, are as follows :—

1897	...	...	...	16
1898	...	...	...	65
1899	...	...	...	46
1900	...	...	...	71
1901	...	...	...	89
1902	...	...	...	144
1903	...	...	...	124
1904	...	...	...	159
1905	...	...	...	109

The number of cases is thus considerably lower than in each of the last three years.

That the sickness rate is so low in Manchester, is due, in part at least, to the fact that the Port is chiefly connected with healthy trades. The Canadian, New York, Boston, Australian, and Baltic trades, are all healthy trades. For example, it has been the rare exception to find a case of serious illness on the vessels engaged in the Canadian trade. I do not recollect one case of Enteric Fever on one of these vessels, during the last four and-a-half years.

During the year there has been, on the whole, no very great evidence of Epidemic Disease abroad.

The Epidemic of Yellow Fever at New Orleans attracted considerable attention at the time. So far as this country is concerned, Yellow Fever need not engage more than a passing interest. In only one authentic case within the last half century have any cases occurred in this country, and in that instance the circumstances were exceptional and favourable in an extraordinary degree to the occurrence of the disease. No doubt it is still necessary to insist upon hospital treatment of cases of Yellow Fever, and it is undoubtedly necessary to disinfect

premises in order to destroy the *Stegomyia Fasciata*, the Mosquito through whose bite the disease is transmitted. It must be borne in mind however, that a case of Yellow Fever, in the absence of its particular Mosquito, is harmless. It cannot, per se, give rise to any spread of the disease, and hence may be treated in the same way as a non-infectious disease. Fortunately the conditions of temperature and moisture prevailing in this country are such as to be entirely inimical to the life of the *Stegomyia Fasciata*, which cannot live and re-produce itself outside certain well defined geographical limits. This country is not included within these limits and hence there is no need to fear the establishment of an epidemic condition. A few sporadic cases may occur under extremely exceptional circumstances, but the possibility of such an occurrence is so remote that it need not be seriously considered. It is notable that in the Report of the Proceedings of the International Sanitary Congress in Paris in 1903, Yellow Fever has been removed from the company of Cholera and Plague, with which Diseases it had been previously bracketed, and is given a clause of some half-dozen lines to itself. I quote the clause as showing the attitude of the official mind in the matter:—

“The countries concerned are recommended to modify their sanitary regulations in such fashion as to bring them into harmony with the present scientific data as to the manner in which Yellow Fever is transmitted and, in particular, as to the part played by Mosquitoes in carrying the germs of the disease.”

PLAGUE has been as usual, prevalent in many different parts of the Globe.

Australia, South America, South Africa, Alexandria, etc., have all from time to time furnished cases of the Disease, sometimes in considerable number.

It is a noticeable fact that several vessels have arrived in this country or the continent from the River Plate, with rats dead from

Plague on board, and that several cases of Plague amongst human beings have occurred therefrom. At the time that one or two of these vessels arrived in this country, Plague was not "officially" in existence in certain of the Ports from which these vessels sailed.

Recently there have been a good many cases in Rio de Janeiro.

CHOLERA once more made its appearance in Russia in September and October, and also in Northern Germany. I have no doubt that the coming Summer will show a recrudescence of this disease in Russia. It is not difficult to imagine what may happen amongst a population in such a state of poverty and destitution as the Russian peasantry, when once one or the other of these visitants (Plague or Cholera) gain a footing in their midst. The usual occurrence in the case of Cholera is for the Disease to be dormant during the Winter and to make its reappearance on the commencement of Summer.

The following is a brief Summary of the facts in connection with the cases of Infectious Disease notified during the year.

The number of cases of Dangerous Infectious Disease dealt with on board Manchester bound vessels was as follows:—

Enteric Fever	...	...	...	5
Smallpox	...	...	...	1
Scarlet Fever	..	...	...	1
Diphtheria	...	...	...	1
Total				<u>8</u>

ENTERIC FEVER.

All the cases of Enteric Fever were removed to hospital at Salford. Four of the cases recovered and one died. There was nothing of an exceptional character in connection with any of the cases.

SMALLPOX.

One case of Smallpox occurred during the year. The patient, a passenger, was removed to Drinkwater Park Hospital. All the crew and passengers on the vessel were re-vaccinated and the vessel thoroughly disinfected. The patient made a good recovery.

SCARLET FEVER.

One case of Scarlatina Maligna occurred. The patient was removed to the Salford Fever Hospital, and all the necessary precautions taken. The case, of course, proved fatal. The patient was a sailor on a coasting steamer.

DIPHTHERIA.

A case of Diphtheria occurred on a small coasting schooner, at Runcorn. The patient was removed to the hospital at Salford, in the launch. The case was an ordinary one. The schooner was disinfected by the Inspector at Runcorn. The cabin on the launch was disinfected by the Salford Authorities before the boat was allowed to return to Runcorn.

SUMMARY OF THE CASES OF SICKNESS OCCURRING
DURING THE YEAR 1905.

The following tables give the usual particulars regarding the cases of sickness which have occurred during the year :—

TABLE I.

Accidental Injuries ...	...	...	...	...	24
Cold and Influenza ...	...	...	...	...	8
Chronic Rheumatism ...	...	...	...	...	7
Venereal Diseases ...	...	...	...	...	7
Phthisis ...	...	...	...	...	6
Poisoned Wounds ...	...	...	...	...	6
Drowning ...	...	...	...	...	5
Enteric Fever ...	...	...	...	...	5
Malaria ...	...	...	...	...	5
Bronchitis ...	...	...	...	...	4
Heart Disease ...	...	...	...	...	3
Pneumonia ...	...	...	...	...	3
Unknown ...	...	...	...	...	3
Acute Gastric Catarrh ...	...	...	...	...	2
Hernia ...	...	...	...	...	2
Tonsillitis ...	...	...	...	...	2
Acute Rheumatism ...	...	...	...	...	1
Apoplexy ...	...	...	...	...	1
Bubo ...	...	...	...	...	1
Cancer of the Stomach ...	...	...	...	...	1
Catarrhal Jaundice ...	...	...	...	...	1
Carbuncles ...	...	...	...	...	1
Cervical Abscess ...	...	...	...	...	1
Chronic Brights Disease ...	...	...	...	...	1
Diphtheria ...	...	...	...	...	1
Eczema ...	...	...	...	...	1
Erytherma Multiform ...	...	...	...	...	1
Ischio Rectal Abscess ...	...	...	...	...	1

Insanity	...	...	...	...	...	...	1
Pleurisy	...	...	...	...	...	...	1
Phlebitis	...	...	...	...	...	...	1
Scarlet Fever	...	...	...	...	...	...	1
Smallpox	...	...	...	...	...	...	1
Total...							<u>109</u>

TABLE II.

The diseases thus summarised may be classified as follows:—

Diseases of the Alimentary System	...	...	8
" " Circulatory "	...	...	4
" " Integumentary "	...	...	6
" " Locomotor "	...	...	8
" " Nervous "	...	...	2
" " Respiratory "	..	...	14
" " Urinary "	...	...	1
Specific Fevers	...	...	8
Malarial Fevers	...	...	5
Influenza and Colds ..	...	...	8
Venereal Diseases	...	...	7
Unknown	...	..	3
Total...			<u>74</u>

Injuries—

Accidental	..	...	24
Poisoned Wounds	...		6
			<u>30</u>
Drowning	...	...	5
			<u>35</u>
Total...			<u>109</u>

TABLE III.

The following Table gives the number of cases which were removed to various hospitals, other than those within the Port of Manchester, from Manchester bound ships :—

Removed to Hospital at Liverpool	..	...	4
" " St. John's	...	...	3
" " Halifax ...	...	...	2
" " Alexandria	...	...	1
" " Babia Blanca	...	...	1
" " Birkenhead	...	...	1
" " Beyrout ...	...	...	1
" " Douglas ...	...	...	1
" " Fredrikshaven	...	...	1
" " Philadelphia	...	...	1
" " Tornea ...	...	...	1
Total...			<u>17</u>

TABLE IV.

The number of cases removed to Hospital within the Port of Manchester was as follows :—

Removed to Hospital at Manchester or Salford	18
" " Runcorn... 	2
" " Widnes	1
	<hr/>
Total...	21

TABLE V.

In this Table are included those who died at sea from Sickness, together with those who lost their lives through drowning.

Deaths at sea from Disease	...	...	...	4
Deaths from Drowning	...	...	...	5
				<u>9</u>

TABLE VI.

In this table are inserted the name of the Vessel, the Port whence she sailed, the nature of the sickness discovered, and a few short notes concerning the particulars of the case.

Date	Name of Vessel	Where from	Where Inspected	Sickness	REMARKS
Jan. 3	s.s. Cairndon	Brunswick, U S.	Salford	Accidental Injury	One of the sailors on this vessel was found to be incapacitated from duty owing to an injured hand.
" 5	s.s. Gertrude	Kragero	Ellesmere Port	Accidental Injury	One of the firemen was found to be incapacitated from duty owing to a severely crushed hand, the result of an accident.
" 10	s.s. Princess Ena	Glasgow	Pomona	Cold	The Master was laid up, suffering from a severe cold.
" 25	s.s. Manchester Importer	St. Johns	Salford	Venereal Disease	One of the sailors was reported to have been removed to hospital at St. John, suffering from venereal disease.
				Tonsillitis	Another sailor was also removed to hospital at St. Johns, suffering from severe acute tonsillitis.
" 28	s.s. Arabia	Glasgow	Salford	Cold	One of the firemen was found to be laid up, suffering from a severe cold.
Feb. 6	Mary Ann (canal boat)		Runcorn	Chronic Rheumatism	The Master was found to be laid up, suffering severely from chronic rheumatism.

Date	Name of Vessel	Where from	Where Inspected	Sickness	REMARKS
Feb. 9	s.s. Seti	Alexandria	Salford	Smallpox...	...
<p>Information was received that there was a case of smallpox on this vessel, which was then at Irlam. The vessel was boarded at Mode Wheel Locks by the Port Medical Officer, who found the patient, a lady passenger, to be suffering from severe confluent smallpox. After removal of the patient the ship was thoroughly disinfected, and the whole of the crew, numbering 52, 11 passengers, and, as an additional precaution, the pilot and his assistant, were re-vaccinated; the total number of persons re-vaccinated being 68. No person was allowed to board or leave the ship until 8 o'clock next morning, when the disinfection was completed.</p> <p>The reason of the vessel being allowed to enter the Canal, with smallpox on board, was that the ship's doctor did not at first recognise the nature of the disease, and on arrival at Liverpool gave the authorities the usual certificate that there was no case of infectious disease on board. On entering the Canal, however, the suspicions of the doctor were aroused.</p> <p>The vessel was re-visited every day by the Port Medical Officer during</p>					

Date	Name of Vessel	Where from	Where Inspected	Sickness	REMARKS
Feb. 13	Pearl (schooner)	Charlestown	Runcorn	Influenza	her stay in the port, and all were well on leaving on the 14th February.
" 20	Ribble (canal boat)	Middlewich	Weston Point	Pneumonia	The Master was found to be laid up, suffering from a severe attack of influenza. One of the children of the Master of this boat was laid up on the 15th February whilst the boat was at Middlewich. The case was attended by a doctor in that town. After leaving Middlewich the boat came to Weston Point, and the child died just before the boat arrived there. The doctor in attendance certified that death was due to pneumonia.
" 21	s.s. Thespis	New York	Salford	Pneumonia	The Chief Officer reported that a passenger from Laxcras to Brazil had died on board, the cause of death being pneumonia. The body was buried at sea the same day.
" 22	s.s. Crewe Hall	Liverpool...	Salford	Bronchitis	The Second Mate of this vessel was found to be suffering from an attack of bronchitis. He was confined to his room.
				Syphilis	One of the Lascars was found to be suffering from a severe attack of syphilis.

Date	Name of Vessel	Where from	Where Inspected	Sickness	REMARKS
Feb. 27	Mary Ashburner (schooner)	Par...	Runcorn ...	Accidental Injury	The Master of this vessel had his leg broken by a heavy sea on the 19th February. He was put ashore at St. Tudwall, North Wales.
" 28	Alder (canal boat) ..	Middlewich	Weston Point	Bronchitis	A child, 15 months old, was found to be laid up with bronchitis. It was under the charge of a doctor at Middlewich.
Mar. 1	Fremad (ship)	Port-de-Paix, West Indies	Eastham ...	Syphilis	One of the crew of this vessel was found to be laid up suffering from the effects of severe syphilis. The patient was ordered to be removed to the Lock Hospital at Manchester on arrival of the vessel there.
" 2	s.s. Calchfaen	Dublin	Wiggs' Works	Cold	One of the sailors was found to be laid up, incapacitated from duty owing to a severe cold.
" 6	Sarah Lightfoot (schooner)	Portleven ..	Weston Point	Drowning	The Master reported that one of the sailors fell from aloft on the 25th February and was drowned. The body was not recovered.
" 9	s.s. Erds	Spain	Salford	Cold	The Chief Engineer was found to be laid up, suffering from a severe cold. He was attended to by a doctor.
" 9	Ariel (brigantine)	Teignmouth	Weston Point	Eczema	The Mate was found to be suffering from eczema in a very severe form.

Date	Name of Vessel	Where from	Where Inspected	Sickness	REMARKS
Mar. 9	s.s. Bernicia	Bombay ...	Salford ...	Erythema Multiforme	One of the firemen of this vessel was reported to me as being sick. All had been reported well on arrival, but the man in question was taken ill two days after arrival. When examined he was covered with an eruption of the nature indicated.
" 15	Scottish Moors (ship)	San Francisco	Runcorn ...	Chronic Brights Disease Chronic Rheu- matism	One of the sailors was removed to hospital at Runcorn, suffering from chronic Brights disease. Another sailor had been laid up, off and on during the voyage, with chronic rheumatism.
" 25	s.s. Vadso	Halmstadt	Acton Grange	Cold	One of the crew was laid up, suffering from a severe cold, whilst the vessel was discharging her cargo at this place.
" 27	s.s. Nith	Fleetwood	Widnes ...	Accidental Injury	One of the sailors broke his leg whilst the vessel was at Douglas, Isle of Man. The man was removed to hospital there.
" 27	s.s. Miami	Port Limon	Salford ...	Heart Disease	The Chief Officer reported that one of the firemen died suddenly on the passage outwards to Port Limon, the body being buried at sea the same day. The cause of death was heart disease.

Date	Name of Vessel	Where from	Where Inspected	Sickness	REMARKS
Mar 28	s.s. Hogland	Gothenburg	Salford	Heart Disease	One of the sailors was found to be suffering from heart disease. He was ordered to be paid off on the arrival of the vessel at home.
" 29	s.s. Tuscan Prince	Alexandria	Salford	Phthisis	The Master reported, when the vessel arrived in Liverpool on the 23rd March, that the donkeyman had been very ill for several days. He had been spitting blood, and was evidently suffering from phthisis. He was removed to the Southern Hospital, Liverpool.
April 4	s.s. Amphitrite	New York	Salford	Rheumatism	The Third Engineer was found to have been suffering, off and on during the voyage, from chronic rheumatism.
" 6	Canal Boat No 236	Blackburn	Salford	Acute Tonsillitis	On the arrival of this boat in Manchester, it was reported that the Master had left the boat at Blackburn and gone to his home, suffering from acute tonsillitis.
" "	s.s. Snel	Birkenhead	Runcorn	Accidental Injury	One of the sailors of this vessel fell between the ship's side and the quay wall on the 5th instant, and sustained severe injuries to his legs and body.

Date	Name of Vessel	Where from	Where Inspected	Sickness	REMARKS
April 10	s.s. Tintoretto	New York	Salford	Apoplexy	The lamptrimmer, a man aged 60 years, was attacked by apoplexy shortly after leaving New-York. He was attended by the ship's doctor. On the arrival of the vessel at Salford the man was removed to Salford Royal Hospital.
" 17	John Gibson (brigantine)	Garston	Runcorn	Accidental Injury	The Master was found to be suffering from a severely injured hand, the result of an accident.
" 26	s.s. Kinsman	Philadelphia	Davyhulme	Debility	The Chief Officer reported that the cook was removed to hospital at Philadelphia, suffering from general debility.
May 3	s.s. Wistow Hall	Glasgow	Salford	Malaria Poisoned Wound of the Foot	The casual on this vessel was found to be suffering from an attack of malarial fever. One of the sailors was found to be laid up, suffering from a poisoned wound of the foot.
" 8	s.s. Miami	Port Limon	Salford	Enteric Fever	One of the firemen of this vessel was found to be laid up with fever. His symptoms were—high temperature, vomiting, pain in the stomach and region of the back, severe headache, and constipation. The indications pointed to malarial fever, but there was a possibility of

Date	Name of Vessel	Where from	Where Inspected	Sickness	REMARKS
May 9	s.s. Mjolner ...	Riga ...	Salford ...	Incipient Phthisis	the case being an aberrant case of Enteric Fever. I determined to isolate him at Ladywell Sanatorium, in order to have him under observation for a few days. The patient was accordingly removed to the hospital, along with his clothes and bedding. The man's room was thoroughly disinfected, also the closets. The case ultimately proved to be one of enteric fever, the man dying on the 14th instant from perforation of the intestine.
" 24	s.s. Jupiter ...	Halifax, N.S. .	Salford ...	Hernia ...	The Second Engineer of this vessel was found to be suffering from incipient phthisis.
" 24	s.s. Rokeby ...	Mobile ...	Salford ...	Incipient Phthisis	The Chief Officer reported that one of the sailors was removed to hospital at Halifax, suffering from a rupture. He rejoined the vessel before her departure for this port. One of the firemen was also removed to hospital at Halifax, suffering from incipient phthisis.
" 24	s.s. Rokeby ...	Mobile ...	Salford ...	Cold ...	One of the firemen on this vessel was reported to be suffering from a feverish cold. On examination of the man the report was confirmed.

Date	Name of Vessel	Where from	Where Inspected	Sickness	REMARKS
May 25	s.s. Teviot ...	Rio de Janeiro ..	Salford ...	Malarial Fever ...	The Chief Engineer of this vessel was found to have been suffering from a slight attack of malarial fever during the voyage.
" 27	s.s. Woodbridge ...	Bahia Blanca ...	Salford ...	Unknown ...	The Master reported that one of the sailors had been left behind at the hospital at Bahia. The doctor of the hospital was unable to state the precise nature of the man's illness.
" 29	s.s. Bohemia ...	Glasgow ...	Salford ...	Incipient Phthisis	One of the firemen was found to be suffering from incipient phthisis. He was ordered to be kept in a room by himself and paid off at Bombay, the cabin to be then disinfecting.
June 1	s.s. Hussar ...	Hamburg...	Salford ...	Chronic Rheumatism	The Master was found to be leaving the vessel, as he was suffering from chronic rheumatism.
" 2	Vaarbud (barque) ...	Rio Grande ..	Runcorn ...	Acute Gastric Catarrh	One of the crew was found to be suffering from acute gastric catarrh.
" 15	s.s. Lincairn ...	Savannah...	Salford ...	Malarial Fever ...	One of the firemen was found to be suffering from the effects of a severe attack of malarial fever. He had been ill off and on the whole voyage. He was ordered to be removed to Salford Royal Hospital.
				Catarrhal Jaundice	One of the sailors of this vessel was

Date	Name of Vessel	Where from	Where Inspected	Sickness	REMARKS
June 19	s.s. Clan Ogilvy ...	Glasgow ...	Salford ...	Pneumonia ...	found to be suffering from a severe attack of catarrhal jaundice. He also was ordered to be paid off and removed to Salford Royal Hospital.
" 27	s.s. Victoria ...	Penmaenmawr ...	Widnes ...	Cervical Abscess	The Master reported that one of the Lascars was removed to hospital at Birkenhead on the 10th June, suffering from pneumonia.
" 27	James (ketch)	Llandulas	Widnes ...	Poisoned Wound	The Master of this vessel was reported to have left the ship and gone to his home, suffering from an abscess in his neck.
" 28	s.s. Glen Gelder	Greenock ...	Runcorn ...	Poisoned Wound	The Master was found to be off duty, suffering from a poisoned wound of the leg.
" 28	s.s. Brest Rock	Manchester	Runcorn ...	Injured Spine ...	The Master reported that the Steward left the ship at Greenock, suffering from a severe poisoned wound of the leg.
				Poisoned Wound	The Master reported that one of his sailors was removed to the Cottage Hospital at Runcorn, suffering from injuries which were the result of his falling down the empty hold during a quarrel.
				Poisoned Wound	A fireman on the same vessel was

Date	Name of Vessel	Where from	Where Inspected	Sickness	REMARKS
June 29	s.s. Calderon ...	New York ..	Salford ...	Enteric Fever ...	<p>removed to the Stanley Hospital at Liverpool, suffering from blood poisoning. The man was bitten on the arm by another fireman, and developed symptoms of general blood poisoning.</p> <p>One of the sailors was found to be suffering from enteric fever. The man had been ill for several days, and had been isolated in the hospital belonging to the ship. Immediately on the arrival of the ship the man was removed to the Ladywell Sanatorium. All his effects were removed to Mode Wheel for disinfection. The hospital was then thoroughly disinfected by the Salford Corporation. The man's bed was burned in the ship's furnace. The names and addresses of the crew, who were all well, were forwarded to the Sanitary Authority of the place whither they were bound. The closets on board ship were disinfected. It was not considered necessary to deal with the water tanks.</p>
July 4	s.s. Maggie Schultz	Archangel ...	Salford ...	Chronic Muscular Rheumatism	<p>One of the firemen was found to be unfit for duty, owing to severe chronic rheumatism. He was</p>

Date	Name of Vessel	Where from	Where Inspected	Sickness	REMARKS
July 6	Yacht (schooner) ...	Plymouth...	Runcorn ...	Accidental Injury	ordered to be paid off and sent home. Another fireman was suffering from a severe strain of the muscles of his back.
				Diphtheria ..	I received information that one of the crew on this vessel was suffering from a severe sore throat. I at once went down and examined him, and came to the conclusion that there was reasonable doubt as to the simple nature of the complaint, and a chance of the case being one of diphtheria. As it was necessary to act at once I removed the man in the launch to the Ladywell Sanatorium, the Salford ambulance meeting the launch on arrival at Mode Wheel. The man's clothes were brought away with him, and his cabin was disinfected with sulphur fumigation, and then washed down with perchloride of mercury, and finally a coat of limewash. The cabin of the Hygeia, in which the man was brought up, was disinfected with formalin.
" 10	s.s. Vasco ...	Tornea (Baltic) ...	Salford ...	Accidental Injury	The Master reported that one of the sailors was removed to hospital at Tornea, suffering from injuries received through accidentally falling down the hold.

Date	Name of Vessel	Where from	Where Inspected	Sickness	REMARKS
July 10	Elizabeta (barquentine)	Rio Grande Do Sol	Runcorn ...	Unknown...	The Master reported that the cook was laid up on the 14th May, twenty-five days after leaving Rio Grande. The man gradually became weaker, until his death at sea on the 15th June. The cause of death could not be definitely ascertained.
" 11	Gem (canal boat) ...	—	Ellesmere Port ...	Bronchitis	A baby on this boat was found to be suffering from severe bronchitis.
" 12	Strathisla (barque)...	Maitland, N.S. ...	Runcorn ...	Accidental Injury	One of the sailors fell from aloft on the 6th July and broke his arm.
" 17	s.s. Manchester Skipper	Montreal ...	Salford ...	Carbuncles	The Chief Officer was found to be laid up, suffering from a number of carbuncles.
				Chronic Rheumatism	One of the sailors was found to be suffering from chronic rheumatism.
" 20	s.s. Hittfeld...	Stettin ...	Salford ...	Drowning (Suicide)	The Master reported that on the 15th instant the cook jumped overboard, when the vessel was on passage to this port, and was drowned.
" 21	s.s. Urda ...	Archangel ...	Salford ...	Cancer of the Stomach	A passenger on this vessel was found to be suffering from cancer of the stomach. He was ordered to be sent home to Norway at once, as he was in a very low state, and delay would have been dangerous. The Norwegian Consul was informed of the case.

Date	Name of Vessel	Where from	Where Inspected	Sickness	REMARKS
July 21	s.s. Nicoya ...	Port Limon ...	Salford ...	Enteric Fever ...	On the 14th July the s.s. Nicoya arrived at Salford from Port Limon. All were well on arrival. The crew were paid off on the 15. On the 17th one of the crew, who had been paid off, went to Hope Hospital complaining of feeling unwell. He was kept in the hospital until Wednesday the 19th when symptoms of enteric manifested themselves. The man was at once removed to Ladywell Sanatorium. As I was absent at the time, attending the conference of the Association of Port Sanitary Authorities, Dr. San-dison deemed it advisable to disinfect the fore-castle of the Nicoya as well as the closets as a precautionary measure. This was accordingly done on the 21st July.
" 23	s.s. Bell Rock ..	Kingstown ...	Salford **	Advanced Phthisis	The Second Engineer was found to be suffering from advanced phthisis, and was sent to Hope Hospital. His room was fumigated with sulphur and sprayed with formalin. I feel no doubt that the room, which was situated over the boilers and was consequently unbearably hot, had something to do with the man's condition.

Date	Name of Vessel	Where from	Where Inspected	Sickness	REMARKS
Aug. 8	Sumarlide (barque)	Bathurst ...	Runcorn ...	Malarial Fever ...	The Mate of this vessel was found to have been laid up off and on during the voyage, suffering from attacks of malarial fever.
" 9	s.s. Roman Prince ...	Beyrout ...	Salford ...	Phthisis ...	The Master reported that the cook was removed to hospital at Beyrout, suffering from advanced phthisis.
" 16	s.s. Gretavale ...	St. Johns, N.B. ...	Salford ...	Syphilis ...	He also reported that he paid off one of the firemen at Beyrout, as the man was suffering from syphilis.
" 17	s.s. Minna Horn ...	Vyburg ...	Acton Grange ...	Phlebitis ...	The Master reported that the Chief Officer was removed to hospital at St. John's, suffering from phlebitis.
Sept. 4	s.s. Ashton ...	Newry ...	Pomona ...	Chronic Muscular Rheumatism	One of the firemen on this vessel was laid up, suffering from severe rheumatism.
" 8	s.s. Trowbridge ...	Karachi ...	Salford ...	Accidental Injury	The Master of this vessel received an injury to his foot, through a rope jumping off the bitts when the vessel was making fast.
" 8	s.s. Trowbridge ...	Karachi ...	Salford ...	Bubo ...	The Chief Officer reported that one of the firemen was removed to hospital at Liverpool, suffering from a swelling of the groin, on the 16th instant. The berth occupied by the man was disinfected by the Liverpool authorities as a precautionary measure.

Date	Name of Vessel	Where from	Where Inspected	Sickness	REMARKS
Sept. 12	s.s. Miami ...	Port Limon	Salford ...	Acute Gastric Catarrh	The Third Officer had been laid up for several days, suffering from diarrhoea. He left the vessel on arrival here, and went to his home.
" 14	s.s. Trooper...	London ...	Pomona ...	Accidental Injury	The Mate of this vessel was suffering from an injured finger, the result of an accident.
" 16	s.s. Manchester	Porsgrund	Salford ...	Accidental Injury	The cook was laid up suffering from an injured leg. He was attended by a doctor.
" 18	s.s. Dewsland	Riga ...	Salford ...	Pleurisy ...	The Master reported that the boatwain had been laid up for the last three weeks. He was examined by a doctor on arrival here, and on his recommendation was removed to Salford Royal Hospital, suffering from pleurisy.
" 19	s.s. Pacuare ...	Port Limon	Salford ...	Accidental Injury	One of the firemen was removed to the Infirmary on the arrival of the vessel. He was suffering from traumatic orchitis.
" 19	s.s. Dotterel ..	Rotterdam	Salford ..	Accidental Injury	The Chief Officer was accidentally injured internally during the voyage. He immediately went to his home on the arrival of the vessel here.
" 29	Elsie (schooner)	Poole	Runcorn ...	Poisoned Wound	One of the sailors was found to be

Date	Name of Vessel	Where from	Where Inspected	Sickness	REMARKS
Oct. 7	s.s. Hogland	Gothenburg	Salford	Accidental Injury	laid up, suffering from a poisoned wound of the leg. One of the sailors was found to be badly cut on the face, the result of an accident. He was attended to at the Salford Royal Hospital.
" 9	s.s. Jane	Ronneby	Acton Grange	Accidental Drowning	The Second Mate reported that the Chief Officer had been washed overboard and drowned on the 8th September.
" 9	s.s. Manchester Commerce	Philadelphia	Salford	Ischio Rectal Abscess	The chief cattleman on this vessel was found to be suffering from this form of abscess. He was at once removed to Hope Hospital, Salford.
" 10	s.s. Fusilier	London	Pomona	Scarlet Fever	One of the sailors was discovered to be suffering from scarlet fever. He had been ill for two days, apparently from cold. I at once ordered his removal to Ladywell Sanatorium. The whole of the bedding and clothes of the men in the forecables were removed to the Mode Wheel disinfecting station and disinfected by steam. The forecables were thoroughly disinfected, the sides, floors, deck, &c., being sprayed with formalin solution. Finally the places were fumigated with formalin. The water

Date	Name of Vessel	Where from	Where Inspected	Sickness	REMARKS
Oct. 19	s.s. Fearless...	Hamburg ..	Salford ...	Acute Rheumatism	tanks were also disinfected. All the remainder of the crew were well. The case, unfortunately, proved fatal.
" 20	s.s. Florence	—	Widnes ...	Burns ...	The Chief Officer reported that one of the crew was removed to hospital at Liverpool. The man was suffering from an attack of acute rheumatism.
" 23	s.s. Lancashire	Ardrossan	Pomona ...	Accidental Injury	The Mate was removed to hospital at Widnes, suffering from severe burns to his head, the result of an accidental explosion of coal gas on board ship.
Nov. 1	s.s. Melanie Groedel	Galatz	Salford ...	Drowning (Accidental)	One of the firemen was removed to hospital at Manchester, suffering from severe injuries to his ribs, the result of an accident in the engine room.
" 6	s.s. Pacuare...	Port Limon	Salford ...	Malarial Fever ...	The Chief Officer reported that one of the crew fell overboard, while the vessel was at Galatz, and was drowned. A passenger on this vessel left on arrival suffering from a mild attack of malarial fever.

Date	Name of Vessel	Where from	Where Inspected	Sickness	REMARKS
Nov. 11	s. s. Sailor Prince ..	Alexandria	Salford ...	Enteric Fever ..	The Third Engineer was found to be suffering from enteric fever. He was at once removed to Ladywell Sanatorium. His clothing, bedding, &c., were removed to Mode Wheel, and disinfected by steam. His cabin, in which he had been isolated, was thoroughly disinfected by means of formalin. The engineer's closet was carefully disinfected. All the rest of the crew were well.
" 14	s. s. Anselma de Larringa	Galveston	Salford ...	Syphilis ...	One of the seamen was found to be laid up, suffering from this complaint.
" 16	s. s. Gro ...	Krageno ...	Salford ...	Drowning	The Chief Officer reported that one of the sailors was washed overboard and drowned on the 11th November.
" 21	s. s. Carl Horn	Wilajocki (Finland)	Acton Grange	Venereal Disease	The Mate reported that one of the sailors was off duty. The man was suffering from venereal disease.
" 21	s. s. Kafir Prince ..	Alexandria	Salford ...	Accidental Injury	The Third Officer reported that the carpenter had been under treatment for a severe sprain, the result of an accident in Alexandria. He rejoined the ship when she left there, and was quite well on arrival.

Date	Name of Vessel	Where from	Where Inspected	Sickness	REMARKS
Nov. 23	s.s. Bostonian	Boston	Salford	Delusional Insanity	One of the firemen was removed to Hope Hospital on the vessel's arrival here. The man was insane.
" 24	s.s. Castleventry	Brunswick	Selford	Strain of Back	The Chief Officer reported that one of the sailors had been off duty during the whole of the voyage.
Dec. 2	s.s. Cheronea	Miramichi	Runcorn	Fractured Clavicle (Accident) Fractured Jaw Assault	The Second Officer accidentally fractured his collar bone whilst the vessel was at the Runcorn lay-by. The cook was suffering from a fractured jaw, the result of an assault by one of the sailors.
" 2	Jura (barque)	Ship Harbour	Runcorn	Poisoned Wound Cold	The Mate had been laid up for several days, suffering from a poisoned wound in his hand. One of the sailors was laid up with a very severe cold, and was unfit for duty.
" 6	s.s. Creole Prince	Alexandria	Salford	Enteric Fever	I received notification from Liverpool that there was a case of sickness on the s.s. Creole Prince, and that the vessel was proceeding to Manchester along with the case, which was possibly one of scarlet fever. I accordingly boarded the vessel at Mode Wheel. I was enabled to exclude scarlet fever, but came to conclusion that a rash which existed might be one of the prodromal rashes of enteric fever. I deter-

Date	Name of Vessel	Where from	Where Inspected	Sickness.	REMARKS
Dec. 15	s s. Robert Koppen	Riga	... Runcorn ...	Venereal Disease Fractured Rib ... Inguinal Hernia ...	mined to isolate the patient for the purposes of observation. As an additional precaution I ordered the disinfection of his cabin and effects. The effects, including bedding, &c., were disinfected by steam. The cabin was disinfected by spraying the walls, floors, sides, &c., with perchloride and by fumigation with sulphur. The w.c.'s were also disinfected in the same way. The water tanks, which badly required cleansing and cementing, were ordered to be pumped out and cleansed.
" 15	s.s. Drot	Quebec	... Salford ...	Accidental Injury	The Second Mate was suffering from syphilis. The cook was suffering from fractured ribs. One of the seamen was found to be suffering from severe inguinal hernia The Chief Officer reported that one of the firemen broke his arm on the passage here, and was sent to his home at Bergen.
" 19	s.s. Aladdin	Riga	... Salford ...	Bronchitis	The Chief Officer reported that one of the crew was removed to

Date	Name of Vessel	Where from	Where Inspected	Sickness	REMARKS
Dec. 21	s.s. City of Venice ...	Alexandria	Salford ...	Heart Disease ...	hospital at Fredrikshaven, suffering from bronchitis. The Chief Officer reported that one of the firemen died at sea from heart disease. The body was buried at sea.

THE SANITARY CONDITION OF SHIPS.

The number of vessels inspected during the year is less than in the previous year. To some extent this is due to the fact that one of the Inspectors of the Authority had the misfortune to break his leg.

The total number of vessels inspected was 2510, as compared with 2621 in the previous year.

The total number of re-visits was 903, as compared with 815 in the previous year.

The number of inspections and re-visits made thus amounts to 3413, as compared with 3436 in the previous year.

Tables I. to VII. show the number of vessels inspected; the nationalities of these vessels; the positions in the port where the inspections were carried out; the number of defective vessels; the nationalities of the defective vessels; the position in the port where these defective vessels were discovered; and lastly, the proportion of defective vessels.

As Table VII. shows that the proportion of defective vessels is 46.57 per cent. This is a little lower than last year.

TABLE I.

The following Table shows the number of vessels, British and Foreign, which have been inspected during the year:—

British Steam Ships	...	...	...	1420
British Sailing „	...	...	...	551
British Flats and Barges	...	...	...	229
Foreign Steam Ships	...	...	...	263
Foreign Sailing „	...	...	...	47
Total				2510

The number of Re-visits made was 903

The total number of Inspections and Re-visits made thus amounts to :—

Inspections	...	...	...	...	2510
Re-visits	...	...	...	...	903
Total					<u>3413</u>

TABLE II.

The Nationalities of the vessels thus inspected are as follows :—

British	...	...	...	...	2200
Norwegian	...	...	...	...	157
German...	...	...	...	...	57
Swedish	...	...	...	...	42
Danish	...	...	...	...	18
Belgian	...	...	...	...	13
Russian...	...	...	...	...	6
Spanish	...	...	...	...	6
Greek	...	...	...	...	4
French	...	...	...	...	3
Austrian...	...	...	...	...	1
Dutch	...	...	...	...	1
Italian	...	...	...	...	1
Portuguese	...	...	...	...	1
					<u>2510</u>

TABLE III.

The inspections, thus tabulated, were carried out at the under-mentioned positions in the port :—

Manchester, Salford, and Stretford (including Mode Wheel)	...	...	...	1157
Runcorn	...	...	...	542
Weston Point	...	...	...	306
Ellesmere Port	...	...	...	164
Widnes	...	...	...	135
Astmoor Marsh (Wiggs Works)	...	...	...	86

Partington	...	...	...	...	34
Acton Grange	...	...	...	...	16
Old Quay (Runcorn)	...	...	...	...	15
Davyhulme	...	...	...	...	11
Weston Mersey Lock	...	...	...	...	10
Barton	...	...	...	...	9
Eccles	...	...	...	...	8
Eastham	...	...	...	...	5
Warrington	...	...	...	...	5
Irlam	...	...	...	...	3
Flixton	...	...	...	...	2
Irwell Park Wharf	...	...	...	...	1
Latchford	...	...	...	...	1
					<hr/>
					2510
					<hr/>

TABLE IV.

Of the vessels thus inspected, the number showing defective or insanitary conditions was 1169

TABLE V.

The Nationalities of the vessels upon which defective or insanitary conditions were discovered are as follows :—

British	...	...	...	...	1049
Norwegian	...	...	...	...	67
German	...	...	...	...	16
Swedish	...	...	...	...	16
Russian	...	...	...	...	5
Belgian	...	...	...	...	4
Danish	...	...	...	...	3
Greek	...	...	...	...	3
French	...	...	...	...	2
Spanish	...	...	...	...	2
Dutch	...	...	...	...	1
Italian	...	...	...	...	1
					<hr/>
Total	...	...	...	...	1169
					<hr/>

TABLE VI.

The Defective or Insanitary vessels were found at the under-mentioned positions in the port :—

Manchester, Salford, and Stretford (including Mode Wheel)	...	...	...	446
Runcorn	...	...	...	269
Weston Point	...	...	...	165
Ellesmere Port	...	...	...	100
Widnes	...	...	...	88
Astmoor Marsh (Wigs Works)	...	...	...	47
Partington	...	...	...	14
Old Quay (Runcorn)	...	...	...	11
Acton Grange	...	...	...	7
Eccles	...	...	...	6
Davyhulme	...	...	...	4
Weston Mersey Lock	...	...	...	4
Barton	...	...	...	3
Warrington	...	...	...	2
Eastham	...	...	...	1
Flixton	...	...	...	1
Irlam	...	...	...	1
Total	...	...	...	<u>1169</u>

TABLE VII.

These tables show the number of vessels inspected, and the total number of vessels exhibiting sanitary defects to be as follows :—

Total Number.	No. Defective.	Percentage.
2510	1169	46.57

TABLE VIII. (a) TYPE.

The Figures given in the foregoing Tables would, without analysis, convey a very erroneous impression of the actual state of affairs. It is therefore necessary to classify the various units of which the total numbers are composed, and for this purpose I have compiled Tables VIII., IX. and X.

These Tables divide the shipping into three classes, viz.: Sail, Steam, and Barges.

The essential fact disclosed is, that Steamships exhibit a lower percentage of Defects than either Sail or Barges. It is clear that the type of the vessel has a considerable bearing on its liability to defect.

		No. Inspected		No. Defective		Percentage
Steamships	...	1683	...	742	..	44.08
Sailing Vessels	...	598	...	284	...	47.49
Flats and Barges		229	...	143	...	62.44

Expressed in the form of a Table, the percentage difference becomes more obvious.

TABLE VIII. (b).

Class.		Percentage of the total number of vessels inspected.		Percentage of the total number found defective.
Steamships	... ..	67.05	.....	63.47
Sailing Vessels...	... ..	23.82	... ..	24.29
Flats and Barges	... ..	9.12	.....	12.23

TABLE IX.—TONNAGE.

In the following Tables the influence of size, from the point of view of Registered Tonnage, is made the subject of enquiry.

The results show, that so far as sail is concerned, the smaller class of vessels are the worst offenders.

In respect of Steamships the influence of size is very evident. The proposition may be safely laid down that "the smaller the vessel the greater is the liability to defect."

So far as Barges are concerned the question of Tonnage practically does not apply. The incidence of defect however, approximates to that of smaller class of Sailing Vessels and Steam Ships.

SAIL.

Class of Vessels. Registered Tons.	No. of Vessels in class.	No. Defective.	Percentage.
1 to 250 ...	550 ...	264 ...	48%
250 or over ...	48 ...	20 ...	41.66

STEAM.

Class of Vessels. Registered Tons.	No. of Vessels in class.	No. Defective.	Percentage.
1 to 250 ...	609 ...	338 ...	55.50
250 to 750 ...	473 ...	149 ...	31.50
750 to 1250 ...	193 ...	83 ...	43.00
1250 to 2000 ...	131 ...	60 ...	45.80
2000 or over ...	277 ...	112 ...	40.43

BARGES.

Class of Vessels. Registered Tons.	No. of Vessels in class.	No. Defective	Percentage.
1 to 150 ...	229 ...	143 ...	62.44

In the following Table the Steamships inspected are arranged according to tonnage classification, and the number of vessels in each division is expressed in terms of percentages of the whole number of steamships inspected. The defective steamships are treated in a similar manner.

TABLE X.

Tons.	No. of Vessels in class.	No. of such. Defective.
1 to 250	609 or 33.59 per cent. of the total No. of steamships inspected ...	338 or 45.28 per cent. of the total No. of steamships defective.
250 to 750	473 or 28.10 per cent. of the total No. of steamships inspected ...	147 or 20.08 per cent. of the total No. of steamships defective.
750 to 1250	193 or 11.46 per cent. of the total No. of steamships inspected ...	83 or 11.18 per cent. of the total No. of steamships defective.

1250 to 2000	...	...	131 or 7.78 per cent.	...	60 or 8.08 per cent.
			of the total No. of	...	of the total No. of
			steamships inspected	...	steamships defective.
2000 or over	...	...	277 or 16.45 per cent.	...	112 or 15.09 per cent.
			of the total No. of	...	of the total No. of
			steamships inspected	...	steamships defective.

As regards Sailing Vessels, practically the whole number are included in the group 1-250 tons. The numbers in other groups are so small that they may be neglected.

As regards Barges, the whole number inspected were under 150 tons register.

AGE.

In the following Tables the question of the influence of Age with respect to the incidence of Defective conditions on board ship is considered.

In series *A* the various vessels inspected during the year 1905 are alone included.

In series *B* the whole of the vessels inspected during the years 1902 to 1905 inclusive, are included.

The ages of all the vessels have been verified from Lloyds Register. When it has not been possible to trace the vessel, it is included amongst those of unknown age. This latter group as one would naturally expect is largely composed of barges and small coasting craft.

With respect to Series *A* the numbers of vessels in each group are too small to base any conclusion upon.

In series *B*, however we get a sufficient number of vessels to justify a tentative opinion.

Tables I., II. and III. give merely the various numbers of vessels duly classified together with the percentage of deficiency (Table III).

In Table IV. the vessels are classified according to the Age-periods in Lloyds Register.

In the first instance we find that *age appears to exercise no appreciable influence in the case of Sail*. The percentage of defect is almost as great in those vessels under 5, as it is in the case of those over 40, whilst it is actually greater than in those grouped in the 40-20 age period. There is however the danger of drawing wrong conclusions in respect of the very small number of vessels in the under 5 age period.

With regard to Steam, the figures dealt with are sufficiently large to justify the conclusion that on the whole there is distinct evidence that *age has a favourable influence on the incidence of defect*. In consideration of the small number of vessels over 40, the figure 44% is probably slightly fallacious. In any case however, there are a sufficient number of units in each of the other age periods to render the figures of some slight value in this particular respect.

With regard to Barges, the figures are of such a nature that no conclusion can be drawn from them, except the one that at all ages the percentage of defect is too high.

The influence of age upon the Sanitary condition of ships is much overrated by those who have not taken the trouble to investigate the matter.

SERIES A. (1905)

TABLE I.—KNOWN AGE.

	No. of Vessels inspected.	No. Defective.	Percentage. Defective.
All Classes, <i>i.e.</i> , Sail, Steam, and Barges ...	2162	974	45.05

UNKNOWN AGE.

	No. of Vessels inspected.	No. Defective.	Percentage. Defective.
All Classes, <i>i.e.</i> , Sail, Steam, and Barges...	348	195	56.03
Total	2510	1169	46.57

The following Table shows the total number of vessels in each class, together with the number found defective.

TABLE II.

Type.	TOTAL OF KNOWN AGE.			TOTAL OF UNKNOWN AGE.		
	No. Inspected.	No. Defective.		No. Inspected.	No. Defective.	
Sail ...	462	222	...	129	62	...
Steam ...	1651	723	...	31	19	...
Barges ...	49	29	...	188	114	...
Total...	2162	974	...	348	195	...

TABLE III.

The figures of Table III., expressed in terms of percentages of defective or insanitary vessels, according as the age of the vessel is or is not known, reduce themselves to the following figures :—

	Percentage of Vessels of Known Age Defective.		Percentage of Vessels of Unknown Age Defective.	
Sail	48.05	.....	48.06
Steam	43.79	.....	61.29
Barges	59.18	.....	60.63

TABLE IV.

On the annexed Table the various vessels of *Known Age* have been classified according to the Age-Periods adopted in Lloyds' Register.

TYPE OF VESSEL.

Age.	SAIL.			STEAM.			BARGES.		
	No. Inspected.	No. Defective.	Percentage Defective.	No. Inspected.	No. Defective.	Percentage Defective.	No. Inspected.	No. Defective.	Percentage Defective.
40 or over ...	100	63	63%	14	8	57.13	5	4	80%
40-20 ...	317	137	43.21	352	160	45.45	33	20	60.60
20-10 ...	25	14	56%	411	192	46.71	9	4	44.44
10-5 ...	9	4	44.44	332	146	43.97	Nil	Nil	Nil
Under 5 ...	11	4	36.36	542	217	40.03	2	1	50%
All Ages ...	462	222	48.05	1651	723	43.79	49	29	59.18

SERIES B. (1902-3-4-5)

TABLE I.—KNOWN AGE.

Type.	No. of Vessels Inspected.		No. Defective.		Percentage Defective.
All Classes, <i>i.e.</i> , Sail, Steam, and Barges ...	7905	...	3121	...	39'48

UNKNOWN AGES.

Unknown Ages, <i>i.e.</i> , Sail, Steam, and Barges ...	1968	...	1084	...	55'08
Total ...	9873	...	4205	...	42'59

The following Table shows the total number of vessels in each class, together with the number found defective.

TABLE II.

	TOTAL OF KNOWN AGE.			TOTAL OF UNKNOWN AGE.	
	No. Inspected.	No. Defective.		No. Inspected.	No. Defective.
Sail ...	1638	869	...	690	385
Steam ...	6091	2169	...	334	137
Barges ...	176	83	...	944	562
Total ...	7905	3121	...	1968	1084

TABLE III.

The figures of Table III., expressed in terms of percentages of defective or insanitary vessels, according as the age of the vessels is or is not known, reduce themselves to the following figures:—

	Percentage of Vessels of Known Age Defective.	Percentage of Vessels of Unknown Age Defective.
Sail... ..	53'05	55'79
Steam	35'60	41'01
Barge	47'15	59'53

TABLE IV.

On the annexed Table the various vessels of *Known Age* have been classified according to the Age-Periods adopted in Lloyds' Register.

TYPE OF VESSEL.										
Ages.	SAIL.			STEAM.			BARGES.			
	No. Inspected.	No. Defective.	Percentage Defective.	No. Inspected.	No. Defective.	Percentage Defective.	No. Inspected.	No. Defective.	Percentage Defective.	
40 or over ...	268	153	59.30	50	22	44	7	6	85.71	
40-20 ...	1150	593	51.56	1328	499	39.06	114	54	47.36	
20-10 ...	155	84	54.19	1600	620	38.75	46	19	41.30	
10-5 ...	36	18	50	1061	410	38.64	6	2	33.33	
Under 5...	39	21	53.84	2052	618	30.11	3	2	66.66	
All ages...	1638	869	53.05	6091	2169	35.60	176	83	47.15	

In seeking for an explanation for the high percentage of Defect on board vessels, we have shown that the type of the vessel has a marked relation to the incidence of Defect, that the influence of age is so small as to be practically a negligible quantity and that the size of the vessel markedly influences the probability of Defect.

Making due allowance for all these factors we still find that they afford no adequate explanation of the problem.

The true causes of Insanitary conditions on board ship are:—

- (a) Faulty initial construction.
- (b) Normal results of wear and tear.
- (c) Neglect.

The larger type of steamships and sailing vessels, particularly those built within recent years, are frequently constructed in such a manner as to go beyond the requirements of the Board of Trade. It would be scarcely possible to suggest any reasonable improvement on certain of these vessels.

It is the case also that there is a considerable percentage of vessels of large size and of some age which are kept in such a manner that no complaint could be made by any reasonable Sanitary Authority.

Of course the inevitable effects of wear and tear show themselves on all vessels, good and bad, and various defects make their appearance.

In the case of this class of vessel, however, a word to one in Authority is sufficient to ensure the remedying of the condition.

I do not think that it would be possible to find more complete condemnation of the requirements of the Board of Trade in respect of Seamen's accommodation than the simple fact that the better class of shipowner now constructs his vessel (in respect of accommodation) in such a manner as to far surpass the prehistoric conceptions of the Board of Trade.

In the case of small vessels the matter is different. Small vessels are much more liable to exhibit the effects of wear and tear than the larger class and are more liable to damage from bad weather. Again in this class the crew space *must* be on the small side. By this I mean that the vessel will as a rule exhibit a fore-castle of just sufficient size to accommodate the necessary crew. Such must be the case as it is not to be expected that more space will be deducted from cargo space than can be avoided, unless indeed, as happens not infrequently the accommodation in the fore-castle is lofty and roomy in order to secure a greater tonnage deduction.

There is a class of small vessel which, sufficiently well constructed in the first instance, is so well looked after by the Owner and Master that few complaints are ever necessary on the part of the Sanitary Authority. These vessels are sufficiently numerous to prove the truth of the contention that vessels of this class can be, and are, constructed and kept in such a manner as to satisfy the sanitary requirements of the present standard.

With regard to the defects found on small vessels many are due to faulty initial construction. Many closets, for example, with the usual official legend inscribed over the door-way "Certified for the accom-

modation of ——," would, if found on shore, entitle the Owner to an immediate summons and a salutary penalty. Yet this Sanitary atrocity is officially sanctioned. I ask how can the Sanitary Authority step in and remedy this state of affairs without creating natural and justifiable irritation? The vessel is built to satisfy the requirements of the Board of Trade, and it is hard on the Owner of the vessel that the ignorance of the Board of Trade Surveyor on the subject of Health should entail additional cost upon him. Yet it is equally the duty of the Sanitary Authority to carry out the provisions of the Nuisances Section of the Public Health Act of 1875.

I mention this as one instance of the never ending controversy between the requirements of Health and the requirements of the Board of Trade. At the present time the Regulations of the Board of Trade are superior to the natural birthright of every man, that he shall carry on his work and *live* under such conditions as shall, at the very least, not be prejudicial to his health.

Many seamen, at this present moment, are living under conditions which are absolutely injurious to health. Those conditions have received the official sanction of the Board of Trade as evidenced by the official lie "fit for the Accommodation of Seamen."

In previous Annual Reports I have pointed out that the Seamen's Accommodation is under the control of two Authorities who are mutually irresponsible.

The Board of Trade are supposed to carry out the provisions of the Merchants Shipping Act, whilst the Port Sanitary Authority are required to administer certain sections of the Public Health Act of 1875.

The terms of the Merchant Shipping Act and the conception of Sanitary Accommodation embodied in the Public Health Act of 1875 are two absolutely irreconcilable points of view.

The Merchant Shipping Act sanctions a minimum which the provisions of the Public Health Act condemn at once as a "Nuisance and Injurious to Health." From the point of view of the Public Health

Act, that is to say, the Act which is the basis of all Sanitary Legislation on shore, the seaman is condemned to live under conditions which would be a "nuisance and injurious to health," to a shore labourer.

Strictly speaking the legal position is an impasse.

The Port Sanitary Authority, in actual practice, endeavours to secure the best possible and practicable solution of the difficulty by insisting that Accommodation shall be kept, clean, dry, weather-proof, properly ventilated, sufficiently lighted (the latter is a hopeless task except in the case of Deck houses) and generally so kept, as to be, if not actually favourable to health, at least as little injurious to health as can be under the conditions.

This I repeat is the only practical solution of the difficulty.

What a pitiful ideal in this the 6th year of the 20th century ?

On every side the necessity for healthy conditions of life is discussed with eagerness. It is no longer a question of a miserable minimum of accommodation for the shore labourer, but a question of how much, within reasonable limits, can be provided.

On every side the inestimable benefits to health of a plentiful allowance of sunlight, in destroying the germs of disease and rendering the horres of the people healthy, is recognised. Compare this with the miserable allowance prescribed by the Board of Trade which is "that it shall be possible to read the print of an ordinary newspaper in any part of the space when the vessel is new and the paint clean and one-third of the lighting area is closed over." In actual practise this allowance is frequently not reached. In many boats it would be impossible to read a newspaper in any part of the space save close to a portlight. I have seen many vessels where on a bright morning a lamp has to be kept burning in the fore-castle so that the men may find their way about. It is, from the Medical point of view scarcely ever possible to get a good view of a seaman in his bunk, even if an upper one. As for recognising a "Rash" it is practically an impossibility.

It is needless to point out that 12 square feet and an allowance of 72 cubic feet per head are minima which, at the present day, are inadequate in the extreme. It must be remembered that the period of maximum atmospheric pollution is of course at the time when the greatest number of men are in the place, that is to say at night. Not all the seamen are in the fore-castle at night, but a sufficient number to render the atmosphere absolutely pestilential to any one entering the place from the outside. Let anyone enter a fore-castle certified for 20 men and occupied by say 16 men at 4 a.m. That man will never willingly perform the operation again.

It has been my misfortune to have had to do this frequently during an Epidemic of Malarial Fever in Java some years ago. I have experimented since on vessels, where the crew were all well, and therefore merely write what I know. The atmosphere in such a place is "a nuisance and injurious to health" absolutely.

It is a satisfaction to know that the question of Seamen's Accommodation is attracting attention and that there are hopes of improvement. Many shipowners, to whom all honour, have recognised that the accommodation is insufficient and have provided much improved accommodation, accommodation which condemns absolutely the ridiculous limits laid down by the Board of Trade, limits which no one, other than an interested person (from a monetary point of view) would defend for one moment.

The Board of Trade Regulations legalise the adoption of a minimum which the merest tyro in Sanitary Science and every layman of plain common sense *knows* to be a nuisance and injurious to health.

TABLE XI.

CLASSIFICATION OF SANITARY CONDITIONS.

The following are the Insanitary conditions found on vessels within the Port, classified under various headings :—

(1) STEAMSHIPS.

(1) Defective or Insanitary conditions occurring in connection with with the accommodation provided for the Crew.

(a) Defects in connection with the Lighting of the Crew's Quarters.

Insufficient amount of light, owing to insufficiency in the means of lighting provided	...	...	9
Broken and leaky portlights, decklights, &c.	...	...	135
Insufficient amount of light, owing to the Ports being covered with deck cargo, iron plates, &c.	...	...	24
Hinged deadlights not provided to portlights	...	...	28
„ „ broken and defective	...	...	21
Insufficient amount of light owing to the decklights being covered, or requiring cleansing...	...	...	2
Total	...	...	<u>219</u>

(b) Defects in connection with the Ventilation of the Crew's Quarters.

Ventilation insufficient owing to insufficiency in the apparatus provided	...	...	...	41
Defective ventilators	...	...	...	103
Defective ventilation owing to the ventilators being covered with deck cargo	...	...	...	11
Air-pipe of ballast tank terminating in Crew's Quarters	...	...	...	4
Total	...	...	...	<u>159</u>

(c) Defects in connection with the Heating Apparatus provided.

Defective stoves causing smoky forecastle...	...	...	22
Defective stove-pipe causing smoky forecastles	...	...	19
No stove provided to quarters	...	...	3
No stove-pipe to quarters	...	...	1
Steam heaters defective	...	...	1
Total	...	...	<u>46</u>

(d) Defects in the construction of the Sides, Floor, Deck, Bulkheads, and of the various apparatus connected therewith, giving rise to, leakage into, accumulations of water in, and dampness generally of the Crew's Quarters.

Defective and insufficient drainage of the quarters	4
„ Ballast Tank causing leakage into Q'ters	6
„ Bulkhead „ „ „	3
„ Decks „ „ „	34
„ Hawse Pipes „ „ „	7
„ Portlights „ „ „	8
„ Rivets and Bolts „ „ „	5
„ Stove-pipe „ „ „	4
„ Steam-pipe „ „ „	1
„ Ship's Side „ „ „	4
Accumulations of stagnant water in or under Q'ters	22
Condensed moisture forming on the iron decks and beams over the bunks, causing damp bedding	10
Generally damp conditions	1
No pump provided to remove stagnant water, or pumps defective... ..	1
Uncapped holes on top of ballast tank opening into fore-castle... ..	3
Fore-castle unfit for habitation, result of vessel been in collision	1
Total	<u>119</u>

(e) Defects arising from want of attention to the crew's accommodation and neglect of cleanliness.

Painting and limewashing required... ..	97
Dirty fore-castles, cabins, &c.	154
Accumulations of dirt, rubbish, food refuse, in quarters	29

Fittings in quarters in a state of dilapidation and requiring repairs	...	...	...	...	22
Total	...	...	...	...	<u>302</u>

(f) Defective construction of bulkheads.

Defects allowing a water closet to be in direct communication with crew's quarters	4
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(g) Defective drainage of the forecastle, allowing communication with other parts of the vessel.

Communication between forecastle and water closet	22
" " " paint, lamp, and oil lockers	... ... ... ... ... 21
Total	... ... ... <u>43</u>

(h) Defects in connection with chain locker and chains.

Chain lockers open and unprotected in forecastle	15
" " casing broken and defective	... 12
Total.....	<u>27</u>

(i) Insanitary conditions associated with the keeping of ship's gear, lamps, paints, oils, etc.

Ship's gear, ropes, paints, lamps, oil, etc., kept openly in forecastle	... ... ... 33
Ship's gear, ropes, etc., kept so as to be in direct communication with forecastle	... ... 2
Bow-locker, etc., doors absent, allowing lockers to be in communication with quarters	... ... 5
Total.....	<u>40</u>

(j) Defects in connection with the storage and keeping of food.

Food lockers without door or fastenings	41
Food lockers requiring cleansing, limewashing, or painting	6
Food lockers not provided	2
Food lockers requiring repairs	2
Total	<u>51</u>

(k) Uncertified accommodation occupied.

Uncertified accommodation under forecastle head	1
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(l) Overcrowding	6
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The total number of defective and insanitary conditions found in connection with the accommodation of the crew thus amounts to 1017

2 Defects or insanitary conditions in connection with the Water Closets provided for the use of the crews.

Water closet in a generally filthy condition ...	50
Water closet pans and pails broken and defective, or in a foul condition	22
Water closets requiring limewashing or painting ..	2
Soil pipes broken and defective	3
Flushing apparatus broken and defective ..	67
Water closet seats absent, broken, or defective ...	6
Water closet doors absent, broken, or defective ...	8
Water closets deficient in ventilation	7
Water closets deficient in lighting	15
No efficient water closet provided	5
Urinals in a choked and foul condition	11
No pan or soil pipe provided to water closet ...	2
Total.....	<u>198</u>

3 Defects or insanitary conditions connected with the storage of water.

Water tanks requiring cleansing	36
Water tanks requiring cementing	3
Water tanks kept in a position liable to contamination	2
Water tanks inaccessible for cleansing	2
Water tank liable to contamination owing to defective discharge pipe	1
Water cask in a decayed condition and unfit for further use	1
Total.....	<u>45</u>

4 Accumulations of filth and dirt about the decks ... 21

The total number of defective or insanitary conditions found on board Steamships during 1905 thus amounted to 1260

(2) SAILING VESSELS.

(1) Defective or insanitary conditions occurring in connection with the accommodation provided for the crew.

(a) Defects in connection with the lighting of the crew's quarters.

Insufficient amount of light, owing to insufficiency in the means of lighting provided	10
Broken and leaky decklights	17
Broken and leaky glass top to ventilators... ..	3
Insufficient amount of light, owing to the dead-lights being covered or requiring cleansing and scraping	10
Total.....	<u>40</u>

(b) Defects in connection with the ventilation of the crew's quarters.

Ventilation deficient owing to insufficiency in the apparatus provided	...	...	...	...	19
Defective ventilators...	...	...	...	...	85
Total.....					<u>104</u>

(c) Defects in connection with the heating apparatus provided.

Defective stoves causing smoky forecastles	...	14
Defective stove-pipe causing smoky forecastles	...	10
No stove-pipe provided	...	2
Total.....		<u>26</u>

(d) Defects in the construction of the sides, floor, deck, bulkheads, and of the various apparatus connected therewith, giving rise to leakage into, accumulations of water in, and dampness generally of the crew's quarters.

Defective decks causing leakage into quarters	...	38
Defective stove	„ „ „	1
Accumulation of stagnant water under forecastle floor	...	1
Forecastle sheets broken and defective	...	22
Iron over bunks unsheathed	...	1
Total.....		<u>63</u>

(e) Defects arising from want of attention to the crew's accommodation and neglect of cleanliness.

Painting and limewashing required	...	54
Dirty forecastles, etc.	...	16
Fittings in quarters in a state of dilapidation, and requiring repairs	...	6
Floor and sides of forecastle covered with capsized tar	...	1
Total.....		<u>77</u>

(f) Defective construction of bulkheads.

Defects allowing a hold to be in direct communication with quarters	2
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(g) Defects in connection with chain lockers and chains.

Chain lockers open and unprotected in forecastle...	7
Chain locker casing broken and defective ...	3
Total.....	10

(h) Insanitary conditions associated with the keeping of ship's gear, lamps, paints, oils, etc.

Ship's gear, lamps, paints, oils, etc., kept openly in forecastle, etc.	...	...	...	...	41
Ship's gear, etc., kept so as to be in direct communication with forecastle, etc.	...	...	...	...	14
Lamp, etc., lockers open to forecastles, owing to doors being broken off hinges, etc	...	...	...	...	24
Total ....	...	...	...	...	79

(i) Defects in connection with the keeping and storage of food.

Food lockers without doors or fastenings ...	...	5
Food lockers requiring cleansing and painting ...	...	1
Food locker not provided ...	...	1
Total.....	...	7

(j) Defective drainage of forecastle, allowing communication with other parts of vessel.

Communication between forecastle and oil and paint locker	1
---	-----	-----	-----	-----	-----	---

(k) Overcrowding

...	1
-----	-----	-----	-----	-----	---

(l) Miscellaneous.

Bed-berth deficient in length	...	...	...	1
Bed-berth infested with vermin	...	...	...	1
Communication between water closet and store room, owing to broken window	...	...	...	1
Cooking done in fore-castle, causing place to be over-heated and filled with smoke	...	...	...	3
Total.....				<u>6</u>

The total number of defective or insanitary conditions found in connection with the accommodation of the crew thus amounts to 416.

2 Defective or insanitary conditions in connection with the water closets provided for the use of the crews.

Water closets in a generally filthy condition	...	2
„ requiring limewashing or painting	..	2
Water closet pans and pails broken and defective, or in a foul condition	... ..	11
Soil pipe defective	... ..	1
Water closet door absent, or broken and defective		2
„ deficient in ventilation	... ..	16
„ deficient in lighting	... ..	16
No efficient water closet provided	... ..	2
No properly fixed pan provided to water closet	... ..	9
Water closet all open (house required to ensure privacy)	... ..	1
Total.....		<u>62</u>

3 Defective or insanitary conditions connected with the storage of water.

Water tanks requiring cleansing, ...	...	7
„ „ defective, allowing access to filth ...	...	1
„ „ inaccessible for cleansing purposes ..	3	

„ „ requiring cementing ...	...	...	2
Water casks in a filthy condition inside ...	...	...	4
„ „ in a decayed condition and unfit for further use ...	...	...	14
Total.....			<u>31</u>

The total number of defective or insanitary conditions found on board sailing vessels during 1905 thus amounts to 509.

NUMBERS AND NATIONALITIES OF CREWS ON VESSELS INSPECTED DURING 1905.

				Total No.	No. on Defective Vessels.
British	...	...	...	29,721	12,571
Norwegian	...	...	...	2,345	1,004
Lascars	...	...	...	1,697	264
German	...	...	...	925	349
Swedish	...	...	...	712	256
Belgian	...	...	...	363	124
Danish	...	...	...	244	42
Spanish	...	...	...	162	68
Greek...	...	...	...	70	70
Russian	...	...	...	63	40
French	...	...	...	56	30
Arabs...	...	...	...	52	13
Chinese	...	...	...	31	—
Austrian	...	...	...	23	—
Dutch	...	...	...	15	15
Italian	...	...	...	15	15
Portuguese	...	...	...	14	—
Totals				<u>36,508</u>	<u>14,861</u>

FLATS AND BARGES.

The number of flats and barges registered under the Merchant Shipping Act, inspected during the year was 237. Of these, 143, or 60·33 per cent, showed defective or insanitary conditions.

The corresponding figures for the three previous years are as follows:—

Year.	No. Inspected.	No. Defective.	Percentage.
1902	149	90	62·4
1903	195	125	64·1
1904	309	187	60·51
1905	237	143	60·33

There is thus no improvement in the condition of these boats.

The number of defects found on the 143 defective vessels was 302, an average of rather more than two conditions per boat.

Several of the boats were in a bad state. In other cases the defects were minor ones.

I do not think that such boats, trading as they do constantly under the very eyes of both the Board of Trade and the Sanitary Authority, should show such a high percentage of defects.

It is not impossible to keep these boats in good condition. There are plenty in constant use which are as satisfactory as such boats can be. Still the number of defective barges shows the necessity of supervision.

The Board of Trade labours under the same difficulties with respect to flats and barges as it does in the case of the larger type of shipping, viz.: lack of staff, and lack of power, to deal with defects, save under certain conditions. The only Authority which can exercise any control over the condition of barges is the Sanitary Authority.

As suggested in previous Reports, barges, flats, &c., should be registered under the Canal Boats Acts, not under the Merchant Shipping Act.

The result of this change would be that these boats would be required to fulfil a definite standard of requirement in the first instance, and it would be incumbent on the owner to satisfy a Sanitary Authority that the boat fulfilled the necessary conditions before he could obtain a certificate of Registration. In this way the boat would be under the control of a Sanitary Authority during the whole period of its existence, and the owner would be responsible for the proper carrying out of one definite series of requirements, enforced by one type of Authority. At present, he is in precisely the same position as the owner of a larger steamship, who, as I have already pointed out, is in the unfortunate position of being between two Authorities whose duties clash, but who are mutually irresponsible.

The Canal Boats Acts lay down a very definite standard of requirement, the adoption of which is incumbent on all Authorities, and thereby the danger of a different standard of requirement being set up by different Authorities is obviated.

The Canal Boats Acts have been of great value in the case of canal boats, and there is no reason why they should not confer equally great advantages on the boats under consideration.

It is wrong that 60 per cent of these boats should show insanitary conditions. The existence of such a state of affairs is solely due to the failure of the Board of Trade to discharge the duties of a Sanitary Authority, duties which can only be efficiently performed by a properly equipped Sanitary Authority, carrying out their work by means of thoroughly trained Inspectors.

FLATS AND BARGES.

Defective or insanitary conditions found on board Flats and Barges in connection with the accommodation provided for the crew.

(a) Defects in connection with the Lighting of the Quarters.

Insufficiency in the amount of lighting apparatus

provided	26
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Insufficiency in the amount of lighting owing to decklight being broken and covered, or requiring cleansing	3
Broken and leaky glass tops to ventilators ...	3
	<hr/>
Total.....	<u>32</u>

(b) Defects in connection with the Ventilation of the Crew's quarters.

Ventilation inefficient owing to insufficiency in the apparatus provided	10
Ventilators defective	20
	<hr/>
Total.....	<u>30</u>

(c) Defects in connection with the Heating Apparatus.

Defective stoves causing smoky berths	4
„ stove-pipe „ „ „	10
	<hr/>
Total.....	<u>14</u>

(d) Defects in the construction and maintenance of the decks, floors, sides, bulkheads, and the apparatus connected therewith, causing dampness of the crew's quarters.

Defective and leaky decks over quarters... ..	8
„ decklights allowing water to penetrate	19
Generally damp conditions of quarters	1
Forecastle sheets broken and defective	1
Iron over bunks unsheathed	3
	<hr/>
Total... ..	<u>32</u>

(e) Defects arising from want of attention to the crew's quarters and neglect of cleanliness.

Crew's quarters dilapidated and requiring repairs	7
Cleansing and painting of quarters required ...	60
Defective bulkhead allowing access to dirt and filth from hold to crew's quarters	6
Total	<u>73</u>

(f) Insanitary conditions associated with the keeping of ship's gear, lamps, oils, paints, etc.

Ship's gear, paints, oils, lamps, kept openly in quarters	14
Ship's gear, etc., kept so as to be in direct com- munication with quarters	3
Bow, &c., lockers open to forecandle, owing to doors being broken off hinges	2
Total.....	<u>19</u>

(g) Defects in connection with the storage and keeping of food.

Food lockers requiring cleansing and limewashing or painting	9
--	---

(h) Defects in connection with chain locker and chains.

Unprotected chain passing through forecandle ...	1
--	---

(i) Overcrowding 4 |

(j) Uncertified accommodation occupied.

Cabin occupied by 3 adults, same not being certified	1
--	---

(k) Miscellaneous.

Bed-berths deficient in length	4
Cabin infested with vermin	1
Cooking done in forecandle, causing place to be excessively overheated	1
Total.....	<u>6</u>

(2) Defective or insanitary conditions connected with the storage of water.

Water casks in a decayed condition	...	...	6
„ „ requiring cleansing	...	...	1
„ „ kept in a position liable to contamination...	...	...	3
„ „ inaccessible for cleansing	...	...	1
Water tanks requiring cleansing	...	...	11
„ „ „ cementing	...	...	3
„ „ inaccessible for cleansing	...	...	11
„ „ defective, allowing access to filth	...	...	20
No efficient water vessel on board	...	...	2
Total.....			<u>58</u>

(3) Defects or insanitary conditions in connection with the water closets provided for the use of the crew.

Water closets deficient in lighting...	...	...	3
„ „ „ „ ventilation	...	...	3
Door of water closet broken off hinges	...	...	1
Pans broken and defective and in foul condition	...	...	2
No proper fixed pan provided to water closet	...	...	13
Total.....			<u>22</u>

The total number of insanitary conditions discovered during 1905, in connection with flats and barges thus amounts to 301.

CATTLE BOATS.

The following are the particulars respecting the Cattle Trade of the Port during the year.

The cleansing of the boats continues to be carried out in a rapid and efficient manner.

STEAMERS.	CATTLE			SHEEP		
	LANDED ALIVE	LANDED DEAD	LOST AT SEA	LANDED ALIVE	LANDED DEAD	LOST AT SEA
BOSTONIAN	4779	3	7			
CALEDONIAN	4023	1	13			
IBERIAN	3336	2	10			
MANCHESTER CORPORTION ..	2659		2			
.. IMPORTER ..	2647	1	4	890	1	24
.. TRADER ...	2197	2	9	942	2	8
.. COMMERCE ..	1970	1	1			
.. CITY	1940	1	6	504	1	7
TINTORETTO	1240					
MANCHESTER SHIPPER ...	1191	2	4	418	1	2
TITIAN... ..	923		1			
THESPIS... ..	620					
TERENCE	608					
MANCHESTER MERCHANT ...	536					
Total	28,669	13	57	2,754	5	41

In addition to the above the "MANCHESTER IMPORTER" landed alive 150 Pigs.

NOTICES UNDER THE PUBLIC HEALTH ACT, 1875,
SERVED DURING THE YEAR.

The number of notices served during the year was 19. Of these, 7 were served on steamships, 11 upon schooners, and 1 upon a ketch.

In 11 cases the notices were found to be complied with.

In 4 of the remaining 8 cases, the notices have been partly complied with. The remaining 4 have not again been inspected, so that it is impossible to say whether the notices have been complied with or not.

FOOD INSPECTION.

During the year action has been taken by the Authority with respect to the question of the Inspection by the Officers of the Authority of food stuffs imported into this country and intended for the food of man.

On several occasions I have brought this matter forward and have urged the Authority to move in the matter. It was not until this year, however, that the Authority considered that the time was favourable for the acquirement of the powers contained in Sections 116-119 of the Public Health Act of 1875, and Sections 28 of the Public Health Amendment Act of 1890.

The whole of the Riparian Authorities of the Port of Manchester, have been consulted, and with two unimportant exceptions have declared themselves in favour of the Authority being invested with such powers.

The Authority have approached the Local Government Board on the question, and negotiations are in progress.

In view of the enormous quantities of food stuffs imported into this Port some such control as that which will be exercised by the Port Sanitary Authority is essential in the interests of the Public Health. The experience of the Port of London clearly shows the necessity for action on the part of Port Sanitary Authorities, with reference to this matter.

STEAM LAUNCH.

I have pleasure in again reporting that the Launch has worked satisfactorily during the year.

The hull of the vessel is in excellent condition.

The engines are also in excellent condition.

Some minor repairs will be required in the boiler.

The men employed on the Launch have discharged their duties in a satisfactory manner.

REPORT on the Administration of the Canal Boats Acts, 1877 and 1884, for the year ending 31st December, 1905.

1. Two Inspectors have been appointed by the Authority to carry out the provisions of the Canal Boats Acts.

Their names and addresses are as follows:—

H. ATKINSON, 584, Chester Road, Old Trafford, Manchester.

W. RICHMOND, 131, Church Street, Runcorn.

Both Inspectors have the Certificate of the Sanitary Institute.

Neither Inspector is required to devote his whole time to the duties of Inspections under the Canal Boats Acts. Their primary duty is the supervision of Shipping registered under the Merchant Shipping Act, and they are only required to inspect Canal Boats at such times as they can spare from their other duties.

For purposes of Administration, the Port is divided into two sections, viz.: from Eastham to Latchford, including Widnes and Warrington, with headquarters at Runcorn, and from Latchford to Manchester, with headquarters at Manchester. Each section is under the control of one of the Inspectors who is directly and solely responsible to the Port Medical Officer for the proper supervision of his district.

In order to facilitate inspection, the Authority's Steam Launch is in constant use, so that Canal Boats may be inspected at any time or place within the Port.

These arrangements are found to work smoothly and in every way satisfactorily.

(2) The work done during the past year shows a slight falling off, as compared with the previous year. In part, this is due to an unfortunate accident to one of the Inspectors whereby the Authority were deprived of his services for a considerable time.

The number of boats inspected together with those discovered infringing the terms of the Canal Boats Acts, since the Authority undertook this duty, are as follows:—

Year.		No. Inspected.		No. Defective.
1902	...	73	...	31
1903	...	191	...	77
1904	...	230	...	105
1905	...	209	...	132

The number of boats infringing the Acts is thus, this year, 63.15 per cent. of the whole as compared with 45.65 per cent. last year.

The explanation of this seemingly undue proportion of defects is that, since the Inspectors do not devote their whole time to the work, they are required to direct their attention to the boats most requiring inspection.

It has been possible, in the few years that inspection has been in progress, to pick out the boats belonging to firms who keep their boats properly, and those belonging to those who do not. It is the latter class which form the large proportion of the boats inspected by the Inspectors of this Authority.

The number of boats inspected at the Manchester end of the canal was 88. Of these, 45, or 51.14 per cent showed infringements. The number of infringements discovered was 81, an average of 1.8 infringements per defective boat. A large proportion of these vessels belong to one owner whose boats were kept in a disgraceful state. I am pleased to report that this company has lately put their house in order and that most of the boats complained of have been remedied.

At the Runcorn end of the canal the number of boats inspected was 121. Of these, 89 showed infringements or 73.55 per cent of the number inspected. The reason for this large percentage of defects is partly the one already given, viz.: that those boats only are inspected which are known to belong to unsatisfactory owners, and also in part to the fact that the canal boats at the Runcorn end of the canal never have

been kept in the same way that they have been in Manchester. It may be further asserted that the way in which a boat is kept is a measure of the way in which riparian authorities carry out the provisions of the Canal Boats Acts.

The number of infringements discovered at Runcorn, was 213, an average of 2.4 infringements per boat.

Comparing these results we find that 42 per cent of the boats inspected were inspected at Manchester, and that these boats yielded 34 per cent of the number defective. In other words, whilst the number of boats inspected at Manchester approaches half of the total number inspected, the infringing boats are only one-third of the total number of boats which contravene the Acts.

These figures precisely bear out the figures of previous years. The boats at the Runcorn end of the canal have always been kept in a generally worse state than those at the Manchester end, and have always shown a greater percentage of infringing boats.

The explanation of the discrepancy between the results of the work done at Runcorn and that at Manchester, does *not* lie in any difference in the standard of requirement at the two places, as the duties of the Inspectors are clearly and precisely laid down, and are identical for each end of the canal. It seems to me that the explanation lies in the difference in the degree of enforcement of the Canal Boats Acts by the Riparian Authorities. There can be no question but that the terms of the Canal Boats Acts have been more fully enforced by the Authorities at the Manchester end of the Port than by the Riparian Authorities at the other end of the Port.

I can affirm, without fear of contradiction, that the only way whereby Canal Boats can be kept in a condition at all approaching sanitary efficiency, is by *frequent, sufficient, and efficient* inspection by thoroughly trained and competent Inspectors. If the inspection be in any way lax or insufficient these boats will be found to fall far short of the attainment of sanitary efficiency. Cursory or inefficient inspection simply invites carelessness and indifference on the part of the crews of such boats, who belong to a class of people so sunk in ignorance and indiffer-

ence that they cannot be entrusted with any matter bearing on the question even of their own health. The difficulty in carrying out the provisions of the Acts, lies neither in the terms of the Acts, which are reasonable and proper in the extreme, so far as they go, nor in the lack of will on the part of the *majority* of Owners to carry out their obligations, but in the stupefying ignorance of the crews of the boats, and the culpable indifference of Local Authorities in the execution of their duties under the Acts.

It must be recollected that the accommodation allotted by the Acts is, and must be, a minimum. For this reason alone it is essential that this minimum shall be the best possible in the first instance, and *must be kept* in the best possible condition in the interests of the crews, the owners, and the public.

Local Authorities have the matter in their own hands, if they choose to exercise their powers.

3 The following is a summary of the conditions found during the year, and arranged according to the classification recommended by the Local Government Board :—

(a) Registration.							
Not registered	...	...	...	...	...	...	1
Registration incorrect	...	...	...	...	...	...	9
(b) Notification of change of master							
...	...	...	...	...	...	...	0
(c) Certificates.							
Not identifying owner with boat	...	...	...	...	...	...	5
Registration certificate absent	...	...	...	...	...	...	18
Registration certificate so dilapidated as to be illegible	...	...	...	...	...	...	11
(d) Marking.							
No marks	...	...	...	...	...	...	11
Marking very indistinct	...	...	...	...	...	...	11

(e)	Overcrowding...	...	...	...	...	5
(f)	Separation of the sexes	...	...	...	..	9
(g)	Cleansing.					
	Cabin requiring cleansing	...	...	...	...	30
	Cabin dilapidated and requiring repairs	...	...	...	...	14
	Defective deck, or sides, or both, causing leakage into cabin	...	...	...	...	34
	Bulkhead defective, allowing dust and dirt to penetrate from hold	...	...	..	...	5
(h)	Ventilation.					
	Ventilation inefficient	...	...	...	...	10
(i)	Painting.					
	Cabin requiring painting	...	...	...	...	52
(j)	Provision of water cask.					
	No water cask on board	...	...	...	...	2
	No efficient water vessel on board	...	...	...	...	23
	Water cask decayed and unfit for further use	..	...	...	...	19
(k)	Removal of bilge water.					
	Bilge pump absent	...	...	...	...	20
	Bilge pump broken and defective	...	...	...	...	5
(l)	Notification of infectious disease	...	...	...	...	0
(m)	Admittance of inspector	...	...	...	...	0
Total.....						294
(n)	Other conditions					
	Defective stove, causing smoky cabin	..	...	...	...	4
	Defective stove-pipe, causing smoky cabin	...	...	...	...	24
	No stove provided	...	...	...	...	1
Total.....						323

4. The only steps taken to secure compliance with the Acts have been the issue of complaint notes where required.

The number of complaint notes issued in respect of defective boats at the Manchester end of the Canal was 35; 29 of which were duly returned, leaving 6 not accounted for.

Of the 6 thus not accounted for, 5 boats belong to T. G. Statter & Co. Of these 4 are tied up, and not in use. The remaining boat is on the stock undergoing repairs.

At the Runcorn end of the Canal 88 complaint notes were issued; 72 returned, leaving 16 not accounted for.

With regard to these not accounted for, letters have been received from the owners in all cases stating that the matters complained of have been remedied.

5. No cases of infectious disease have required to be dealt with.

6. No legal proceedings have been taken during the year.

A difficulty, however, has arisen in connection with contemplated legal proceedings against T. G. Statter & Co., with regard to certain repairs which were necessary on some of their boats.

I made application to the Clerk of my Authority to issue a summons on Messrs Statter, with the object of compelling the company to repair certain dilapidations upon a number of boats specified. He informed me that he could not find we had any power under the Canal Boats Acts to compel *an owner to keep* his boat in repair. So far as the Acts go, they require a boat to possess certain characters before registration. If the boat possesses these characters she is registered as fit for human habitation. There is no statement in the Acts that the boat, after registration, shall continue to satisfy the requirements of the Registration Authority in all respects. No doubt the master of the boat must keep the cabin "clean and habitable," and I believe some Authorities commit the monstrous injustice of prosecuting the master of the boat in cases where structural repairs are required. To such an iniquitous course of procedure I would be no party. The owner of the

boat is the only one who ought to be responsible for keeping *his boat in repair*. Under the Canal Boats Acts, as read by the Clerk to this Authority and myself, the owner is *not* compelled to *keep* his boat in repair.

So far as the Acts are concerned, the owner is only compelled to cause the cabin to be painted at least every three years.

The master is made responsible, and rightly, for the daily removal of bilge water, and for the keeping of the cabin in a cleanly and habitable condition.

I presume that it is by some distortion of the meaning of the word "habitable," that various ingenious Local Authorities have taken proceedings against the master in respect of structural defects with which he has absolutely nothing to do, but which are bound to arise from the inevitable effects of wear and tear.

ANALYSIS OF WORK DONE FROM 1897 TO 1905.

The following comparative statement of the amount of work done by your Authority, from 1897 down to the end of 1905, may be of interest—

Year.	No. of Vessels.		Tonnage.	
1897	1028	.....	722,897 Foreign
	4297	.. ...	554,536 Coasting
1898	1014	.....	764,005 Foreign
	5956	.....	696,882 Coasting
1899	962	.....	828,666 Foreign
	4336	.....	651,159 Coasting
1900	1002	.....	923,800 Foreign
	4443	.....	636,058 Coasting
1901	986	.....	896,512 Foreign
	4102	.....	631,020 Coasting
1902	1150	.....	1,131,121 Foreign
	4539	.....	704,663 Coasting
1903	1191	.....	1,292,214 Foreign
	4260	.....	696,454 Coasting
1904	1245	.. ...	1,308,757 Foreign
	4729	.....	689,248 Coasting
1905	1337	.....	1,432,602 Foreign
	4971	.....	746,906 Coasting

The expansion of trade may be further exemplified by comparing the total of shipping inwards, along with tonnage, for the nine years :—

Year.	Total Shipping Inwards.		Total Tonnage Inwards.	
1897	5325	.....	1,277,433
1898	5970	.....	1,460,887
1899	5298	.....	1,479,825
1900	5445	... ..	1,559,856
1901	5088	.. ...	1,527,532
1902	5699	.....	1,836,784
1903	5451	.....	1,988,668
1904	5974	.....	1,998,005
1905	6308	.....	2,179,508

The total number of vessels inspected within the port, together with the total number and percentages of defective vessels ;—

Year.		No. Inspected.		No. Defective.		Percentage.
1897	.....	790	.....	86	.....	10·8
1898	.....	1346	... ..	263	.....	19·5
1899	.....	1294	.....	251	.....	19·4*
1900	... ..	1610	.....	231	.....	14·4*
1901	.....	1344	... ..	263	.....	19·5
1902	...	2477	... ..	870	.....	35·1
1903	.....	2385	... ..	916	... ..	38·4
1904	.....	2621	.. ...	1241	.....	47·35
1905	.....	2510	.. ...	1169	. ...	46·57

Comparison as to the number of vessels inspected at various point within the Port :—

Year.	Manchester and Salford.		Runcorn.		Ellesmere Port.		Widnes.		Other Ports.	
1897	...	543	...	158	...	39	...	28	...	22
1898	...	762	...	386	...	111	...	60	...	27
1899	...	667	...	308	...	108	...	43	...	168*
1900	...	619	...	331	...	80	...	63	...	517*
1901	...	861	...	313	..	70	...	66	...	34
1902	...	1194	...	862	...	137	...	174	...	110
1903	...	1087	..	737	...	192	...	206	...	163
1904	...	1186	...	968	...	175	...	155	...	137
1905	...	1157	...	863	.	164	...	135	..	191

* Extra Inspector at Eastham.

The positions on the Port where the insanitary conditions were discovered were as follows :

Year.	Manchester. and Salford.		Runcorn.		Ellesmere Port.		Widnes.		Other Ports.	
1897	...	56	...	21	...	4	...	5	...	0
1898	...	138	...	96	...	17	...	11	...	1
1899	...	148	...	70	...	18	...	10	...	5
1900	...	144	...	67	...	9	...	11	...	0
1901	...	172	...	63	...	15	...	13	...	0
1902	...	263	...	437	...	72	...	83	...	15
1903	...	324	...	340	...	105	...	108	...	39
1904	...	401	...	602	...	110	...	94	...	34
1905	...	446	...	445	...	100	...	88	...	90

SHIPPING INWARDS TO THE PORT OF MANCHESTER.

FROM JANUARY 1ST TO DECEMBER 31ST, 1905.

	MANCHESTER		RUNCORN		ELLESMERE PORT.		WIDNES		WARRINGTON.		TOTALS.	
	No.	Tonnage	No.	Tonnage	No.	Tonnage	No.	Tonnage	No.	Tonnage	No.	Tonnage
Foreign... {	1,085	1,282,563	98	52,648	50	31,503	—	—	46	29,371	1,279	1,396,085
	1	474	44	28,011	13	8,032	—	—	—	—	58	36,517
Total Foreign...	1,086	1,283, 37	142	80,659	63	39,535	—	—	46	29,371	1,337	1,432,602
Coastwise {	1,951	444,959	871	112,601	446	54,292	663	44,018	40	2,901	3,971	658,771
	56	3,611	702	62,071	89	11,909	135	9,345	18	1,199	1,000	88,135
Total Coastwise	2,007	448,570	1,573	174,672	535	66,201	798	53,363	58	4,100	4,971	746,906

W. H. BIGNOLD,
Collector.

Custom House,
Manchester, 12th January, 1906.