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THE SECOND
ANNUAL REPORT

ON THE
Health of the County Borough of Wigan,

FOR THE YEAR ENDING DECEMBER 31st, 1897,

BY


WILLIAM BERRY,

F.R.C.S.I., D.P.H., F.P. & S., Glasgow,

MEDICAL OFFICER OF HEALTH AND MEDICAL SUPERIN-
TENDENT OF THE BOROUGH SANATORIUM FOR
INFECTIOUS DISEASES.



WIGAN:
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MEDICAL OFFICER OF HEALTH'S DEPARTMENT.

WILLIAM BERRY, F.R.C.S.I., D.P.H., F.P.S., Glasgow.
Fell. Royal Inst., Pub. Health and Mem. San. Inst.,
Medical Officer of Health.

JOHN SUMNER, Assoc. San. Inst.,
Chief Sanitary Inspector.

JAMES ALLEN SHORT, Assoc. San. Inst.,
Assistant Inspector.

CHARLES H. FRANCE,
Sub-Inspector.

FRED. BISHOP,
Hackney Carriage and Shop Hours Act Inspector.

FRED. MARTLEW,
Clerk.

MARCUS JEPHSON,
Disinfecter.

MICHAEL MOORE,
Master of Sanatorium,

Mrs. MOORE,
Matron of Sanatorium.

SANITARY & SEWERAGE COMMITTEE.

From November 1896 to November, 1897.

CHAIRMAN :

ALDERMAN J. PHILLIPS, J.P.

VICE-CHAIRMAN :

COUNCILLOR E. H. MONKS, Junior.

COMMITTEE :

HIS WORSHIP THE MAYOR (ALDERMAN RICHARDS).

ALDERMAN R. LAYLAND, J.P., Ex-Mayor.

„ JOHN GEE, J.P.

COUNCILLOR JOHN ALKER.

„ THOMAS ASHTON.

„ JOHN BOARDMAN.

„ LEVI BOOTH.

„ JOSEPH CLAYTON.

„ N. ff. ECKERSLEY, J.P.

„ HENRY FARRIMOND.

„ JOHN GASKELL.

„ JOSEPH T. GEE.

„ JAMES HIGHAM.

„ JOHN McQUAID.

„ ELIJAH MOLYNEUX.

„ JOHN H. PRESCOTT.

„ GEORGE SUTHERLAND, J.P.

„ PETER TRICKETT.

„ JAMES WILSON.

„ GEORGE H. WALKER.

„ JOHN WOODS, J.P.

TOWN CLERK : J. J. CHARNOCK, Esq.

CORPORATION OF WIGAN.

Officer of Health's Department,
February 1st, 1898.

To the Chairman and Members of the Sanitary Committee.

GENTLEMEN,

I have the honour to present you with my Second Annual Report on the Health of your County Borough for the year 1897.

The year has passed without a single case of Small Pox, and with only one case of Typhus Fever; Scarlet Fever, Measles, Whooping Cough, Enteric Fever, and Diarrhœa being the prevailing zymotics, but to a less extent than in the previous year. The various preventable diseases will be found in detail in the report.

I must tender my thanks to the members of the medical profession in the town and adjoining districts for their hearty co-operation and ready assistance in dealing with infectious cases, your Sanitary Inspectors, Mr. Sumner and Mr. Short, for their zeal in carrying out my instructions, and, lastly, to you gentlemen for your confidence and for carrying out any suggestion I may have made in reference to the improvement in the health of the town.

To Mr. Sumner, Chief Sanitary Inspector, I am indebted for the statistical work and the keeping of records so essential to the Sanitary Department.

The death rate for the year is 20.99 per 1,000 of the population, against 23.09 for 1896, being a decrease of 2.10.

The rate for 1897 may, therefore, be considered a favourable one.

I am, Gentlemen,

Your obedient servant,

WM. BERRY,
Medical Officer of Health.

REPORT.

STATISTICAL SUMMARY FOR 1897.

Population estimated July 1st, 1897 60423

Marriages not ascertainable for County Borough.

.. Annual rate per 1,000 of population, ditto.

Births { Males..... 1107 } Total..... 2247
 { Females 1140 }

Annual rate of births per 1,000 37·16

Ditto for England and Wales 29·7

Illegitimate births, 121, or 5·38 per cent.

Deaths { Males..... 674 } Total..... 1270
 { Females 596 }

Annual rate of mortality..... 20·99

Ditto for England and Wales 17·4

Natural increase of population, births in excess of
 deaths 977

Total deaths from zymotic diseases 190

Annual rate of mortality from zymotic diseases 3·11

Ditto for England and Wales 2·15

Total deaths from diarrhœa 73

Annual rate of mortality from diarrhœa..... 1·19

Infantile rate, deaths per 1,000 births, 1897 175

Ditto for England and Wales 156

Acreage.—With an acreage of 2,188, and a population estimated at 60,423, we have 27·61 persons per acre.

Population.—The population, estimated at the middle of 1897 (June 30th) is 60,423, and this estimate may be taken as fairly correct.

Births.—The number of births registered during 1897 was 2,247; males, 1,107; females, 1,140. The rate per 1,000 of population being 37·16. This birth rate, compared with last year, is 1·22 higher.

The illegitimate births numbered 121, or 5·38 per cent. Last year 103, or 4·80 per cent., showing an increase of ·58.

The Mortality Rate.—The deaths for 1897 number 1,270, namely, 674 males and 596 females, the excess of males over females being 78. The rate per 1,000 of population per annum is 20·99.

Last year there were 1,376 deaths (males, 714; females, 662; or a rate of 23·09, showing a decrease of deaths 106, and 2·10 in death rate.

The death rate for each quarter is as follows :—

1897.	All causes.	Zymotic.
1st Quarter.....	22·80	3·35
2nd „	18·59	1·34
3rd „	21·51	5·82
4th „	21·06	2·03

The zymotic rate shows a considerable improvement. For 1897 it is 3·11, last year it was 4·09. If it had not been for the large number of deaths from infantile diarrhœa the rate would have been much less.

TABLE I.

WEEKLY RETURNS OF BIRTHS AND DEATHS FOR 1897.

1897	Deaths from all causes.	Annual Rate per 1,000.	Deaths from Zymotics.	Births.	Annual Rate per 1,000.
Jan. 2	42	36·39	8	38	32·92
„ 9	25	21·66	4	41	35·53
„ 16	16	13·85	2	50	43·29
„ 23	22	19·04	1	42	36·45
„ 30	25	21·62	6	41	35·46
Feb. 6	34	29·41	6	49	42·35
„ 13	35	30·27	5	41	35·46
„ 20	22	19·01	3	54	46·67
„ 27	28	24·20	4	33	28·52
March 6	22	15·38	2	38	32·86
„ 13	31	26·79	5	47	40·62
„ 20	21	18·15	4	42	36·21
„ 27	24	20·72	1	41	35·40
April 3	27	23·31	1	43	37·13
„ 10	18	15·53	2	42	36·23
„ 17	29	25·06	4	42	36·32
„ 24	28	24·15	1	47	40·55
May 1	23	19·82	2	54	46·55
„ 8	24	20·68	3	45	38·79
„ 15	21	18·10	2	36	31·13
„ 22	21	18·08	3	49	42·20
„ 29	18	15·50	—	41	35·31
June 5	16	13·76	—	39	33·56
„ 12	12	10·32	—	36	30·98
„ 19	16	13·75	—	54	46·43
„ 26	24	20·63	2	43	36·93

TABLE I.—CONTINUED.

1897. WEEK ENDING.	Deaths from all causes.	Annual Rate per 1,000.	Deaths from Zymotics.	Births.	Annual Rate per 1,000.
July 3	12	10·30	—	56	48·11
„ 10	19	16·30	2	41	35·19
„ 17	19	16·30	3	44	37·66
„ 24	13	11·15	3	38	32·59
„ 31	36	30·87	4	39	34·30
Aug. 7	34	29·18	15	36	30·90
„ 14	36	30·87	17	49	42·02
„ 21	40	34·34	17	48	41·16
„ 28	21	17·99	4	41	35·30
Sept. 4	25	21·42	8	31	26·56
„ 11	16	13·71	6	25	21·42
„ 18	33	28·27	7	51	43·70
„ 25	21	17·97	2	49	41·95
Oct. 2	13	11·13	3	31	26·44
„ 9	16	13·61	—	50	42·77
„ 16	24	20·52	2	43	36·78
„ 23	26	22·22	3	54	46·15
„ 30	22	18·80	1	36	30·76
Nov. 6	24	20·51	4	39	33·33
„ 13	23	19·14	3	51	43·55
„ 20	24	20·49	2	49	46·34
„ 27	36	30·87	1	47	40·13
Dec. 4	34	29·01	5	45	38·39
„ 11	36	30·74	5	35	29·88
„ 18	24	20·47	1	54	46·07
„ 25	19	16·21	1	37	31·57

TABLE II.

TABLE SHOWING COMPARATIVE STATISTICS BETWEEN WIGAN AND OTHER TOWNS DURING 1897.

TOWN.	Population.	Birth Rate.	Death Rate.	Zymotic Rate.	Infantile Death R'te 1,000 births.	Average Death Rate last 10 years
Barrow-in-Furn.	55,570 ...	28·2 ...	14·5 ...	1·69 ...	154 ...	15·2
Birkenhead	111,001 ...	31·68 ...	18·39 ...	2·63 ...	243 ...	19·4
Blackpool.....	40,234 ...	26·25 ...	15·29 ...	2·78 ...	193·2 ...	15·35
Bristol	232,242 ...	28·05 ...	17·17 ...	1·85 ...	145·69...	18·7
Burton-on-Tr'nt	50,850 ...	28·12 ...	14·91 ...	1·78 ...	133·6 ...	17·02
Cardiff	170,063 ...	31·0 ...	14·9 ...	2·1 ...	150 ...	18·7
Carlisle.....	41,700 ...	31·7 ...	19·4 ...	1·3 ...	134 ...	19·4

TABLE II.—CONTINUED.

TOWN.	Population.	Birth Rate.	Death Rate.	Zymotic Rate.	Infantile Death R'te 1,000 births.	Average Death Rate last 10 years.
Grimsby	58,450 ...	32·42 ...	17·84 ...	3·76 ...	221 ...	17·95
Huddersfield ...	101,454 ...	23·39 ...	16·48 ...	1·47 ...	132 ...	18·10
Lancaster	35,346 ...	25·03 ...	13·91 ...	2·85 ...	151 ...	20·21
Maidstone	33,555 ...	23·91 ...	13·47 ...	2·01 ...	133 ...	14·3
Northampton ...	66,500 ...	26·3 ...	15·6 ...	2·4 ...	184·3 ...	16·2
Nottingham	232,935 ...	28·9 ...	18·8 ...	2·8 ...	206 ...	18·1
Oldham	145,845 ...	26·1 ...	19·2 ...	2·5 ...	183 ...	21·8
Plymouth	97,658 ...	28·3 ...	19·1 ...	2·20 ...	188·4 ...	20·6
Reading	68,094 ...	26·62 ...	14·22 ...	2·10 ...	148·4 ...	15·45
St. Helens	82,910 ...	38·51 ...	21·05 ...	4·24 ...	181 ...	21·91
Stockport	80,000 ...	30·9 ...	21·5 ...	4·8 ...	214 ...	23·95
Sunderland	142,107 ...	34·52 ...	19·54 ...	2·64 ...	168 ...	21·3
Warrington	61,700 ...	36·7 ...	19·5 ...	2·8 ...	175 ...	21·4
West Bromwich ...	63,000 ...	36·0 ...	19·7 ...	3·4 ...	175 ...	19·9
Wolverhampton ...	87,287 ...	31·1 ...	21·8 ...	4·6 ...	219 ...	21·15
Wigan	60,423 ...	37·16 ...	20·99 ...	3·11 ...	175 ...	22·69

TABLE III.

DEATH RATE FOR WIGAN DURING THE LAST TEN YEARS.

Year.	All causes.	Zymotics.
1888	22·1	2·76
1889	22·7	4·1
1890	26·5	4·6
1891	24·7	3·7
1892	24·4	3·89
1893	24·2	5·1
1894	18·9	3·2
1895	22·52	3·6
1896	23·09	4·09
1897	20·99	3·11

CAUSES OF DEATH.

THE ZYMOTIC DISEASES.

The mortality from the principal zymotic diseases, namely: Small-pox, scarlet fever, measles, whooping cough, typhus, enteric, diphtheria and diarrhœa is at the rate of 3·11 per 1,000 of the population, and numbered 190 deaths, but if we exclude diarrhœa the number of deaths was only 117, and which gives a rate of 2·83.

The zymotic rate of 3·11 for 1897 is made up as follows :—

	—	Deaths per 1,000.
Smallpox	—	Deaths per 1,000.
Scarlet Fever	·16	„ „
Measles	·55	„ „
Whooping Cough	·70	„ „
Typhus	—	„ „
Enteric	·16	„ „
Diphtheria	·21	„ „
Diarrhoea	1·19	„ „
Puerperal	·08	„ „
Erysipelas	·02	„ „

The zymotic rate during each of the four quarters of the year was :—

1st Quarter.....	3·35
2nd „	1·34
3rd „	5·82
4th „	2·03

SMALL POX.

I am pleased to record that not a single case has occurred during 1897.

On December 13th Mr. Sumner became aware of a suspicious case of Small Pox, and I visited the house and saw the patient, and considering the man had recently come from a district in which Small Pox had existed a few weeks previous, I deemed it advisable to have him removed to the Small Pox Ward for observation. I was pleased, however, to find next day that many of the symptoms of Small Pox had disappeared, and I was able to determine that we had no Small Pox to deal with. I was, however, justified in having the patient removed from his lodgings in the circumstances, for as Mr. Moore quaintly remarked, “ It was as well as it wasn't Small Pox, but it would have been twice as well if it had been so.” Through the returns supplied to me by the Local Government Board, we have been kept acquainted with the districts in which Small Pox has existed during the year ; for the purpose of keeping a record I have here tabulated the information.

SCARLET FEVER.

We have 192 notifications of this disease for the year 1897, against 151 in 1896 ; and 10 deaths, against 8 in 1896.

	Notifications.		Removed to Sanatorium.		Deaths.
January	6	.....	3	.....	0
February.....	9	.....	7	.....	0
March	4	.....	3	.....	0
April.....	6	.....	3	.....	0
May	9	.....	6	.....	0
June	8	.....	5	.....	0
July	7	.....	3	.....	1
August.....	19	.....	12	.....	0
September	42	.....	14	.....	3
October.....	22	.....	15	.....	1
November	36	.....	12	.....	2
December	24	.....	10	.....	3
	<hr style="width: 50%; margin: 0 auto;"/>		<hr style="width: 50%; margin: 0 auto;"/>		<hr style="width: 50%; margin: 0 auto;"/>
	192		93		10
	<hr style="width: 50%; margin: 0 auto;"/>		<hr style="width: 50%; margin: 0 auto;"/>		<hr style="width: 50%; margin: 0 auto;"/>

I have, in isolating Scarlet Fever, tried as much as possible to keep to the rule of "sufficient isolation" in their own homes, and at the same time have given a little more latitude when and where it was required. The resources of the Scarlet Fever Wards have been fully taxed during the last half of the year, and if we were to take in all the cases, or even all the cases as requested, we should require an extension of the building. The irksomeness of our restrictions as to isolation at home till desquamation has taken place, often make parents desirous of having their children treated in the Hospital Wards. The visiting of these cases outside gives your sanitary staff a considerable amount of labour.

Isolation at home, however, under proper supervision, with the co-operation of the medical attendant, and the regular visiting of the Sanitary Inspector, together with an ample supply of disinfectants, has proved fairly successful in limiting the spread of the disease.

MEASLES.

The adoption of voluntary notification of first cases of measles by the medical attendant has placed us in a much more favourable position than last year, for now we are able to ascertain in good time, the districts in which it is prevalent long before a death takes place.

Medical men generally have assisted by notifying early their first case and we, on the other hand, have aided them in their treatment by impressing on those in charge the seriousness of the disease.

Cases notified are as follows :—

Month.	By Med. Man.	By Inspector.	Total.	Deaths, 1897.	Deaths, 1896.
January	0	0	0	1	5
February	0	0	0	0	20
March	13	1	14	0	34
April	42	27	69	4	23
May	22	4	26	6	11
June	35	12	47	1	7
July	77	57	134	5	7
August	36	13	49	6	6
September	57	16	73	2	2
October	34	36	70	2	0
November	56	13	69	4	0
December	59	55	114	3	1
	431	234	665	34	116

On receipt of information of the occurrence of Measles, the Inspector has visited the house and given the same instructions as to isolation and the use of disinfectants as we give in Scarlet Fever. The isolation however, is not quite so thorough as in the case of Scarlet Fever, because in those cases of Scarlet Fever, where the isolation cannot be deemed sufficient, we have the patient removed to the Sanatorium. The head teacher of the school, which the child has attended, is served with a notice in reference to the other children who may attend school from the infected house; and here, I may say, we have had the greatest assistance from school teachers, school managers, and the School Board officers, whilst, on the other hand, we have assisted them in investigating cases in which Measles was given as an excuse for children not attending school. The number of deaths is 34, against 116 last year (1896), and if we might take the number of deaths this year as having occurred in the same proportion of cases, there must have been 2268·8 cases last year. Such, however, is scarcely a fair comparison, as the climatic influences in 1897 were much more favourable, and the cases of a milder

type than in 1896. I do claim, however, that the action of the Sanitary Authority has diminished the spread of the disease and its mortality by the systematic visits paid, isolation, the supply of disinfectants, the fumigating of the rooms occupied by the patient, and the disinfection of the bedding. This practice has severely called the attention of parents to the dire effects of the disease. It is difficult, however, to educate the people to the ill consequences of exposing children to the infection of Measles, and also to the necessity of care and isolation in its treatment. To assist the Inspector in his work I drew up the following handbill to be served on the occupiers of the houses in which the disease occurred :—

MEASLES.

As Measles is one of the infectious diseases, the Sanitary Authority desires to call parents' attention to the provisions of the Public Health Act, 1875, which enacts that :—

1. Any person who, while suffering from any dangerous infectious disorder, wilfully exposes himself, without proper precautions against spreading the said disorder in any street, public place, shop, inn, or public conveyance, or enters any public conveyance without previously notifying to the owner, conductor, or driver thereof, that he is so suffering ; or,
2. Being in charge of any person so suffering, so exposes such sufferer ; or
3. Gives, lends, sells, transmits, or exposes (without previous disinfection) any bedding, clothing, rags, or other things which have been exposed to infection from any such disorder, shall be liable to a penalty not exceeding £5.

PRECAUTIONS TO BE OBSERVED.

1. As soon as the disease is recognised, isolation should be carried out. That is, the patient should be kept in a warm room, apart from the rest of the family.
2. Disinfectants (which can be obtained at the Sanitary Office) should be used in the room.
3. Young children should not be allowed to play with the patient or enter the room.
4. If any sign of bronchitis or lung mischief appears, medical aid ought to be obtained.
5. The patient must, on no account, be taken out of doors, till he (or she) is quite well, and in mild cases not earlier than three weeks after the onset attack.
6. All children of school age must be kept from school.

7. The room in which the patient has been nursed will be disinfected by the Sanitary Authority on the patient's recovery.

N.B.—These precautions are not intended to supersede the orders of the Medical Attendant, but to assist in preventing the spread of the disease.

By Order of the Sanitary Authority.

JOHN SUMNER,
Chief Sanitary Inspector.

The increased work to your Sanitary officers will be apparent when you look over the number of cases that have been reported. It was only in cases of death that such action could be taken in previous years. Although nearly one year of trial of voluntary notification has been made, I am encouraged with the result to give the plan a further trial for the period which you were kind enough to grant. During the year we found it necessary to summon the parents of a child for removing a patient from one house to another whilst in the infective stage. This was the first case of the kind, and the action taken has been a lesson to others. We did not press for a penalty. The magistrates, however, severely admonished the defendants, and ordered costs to be paid.

WHOOPING COUGH.

The number of deaths from Whooping Cough and its complications is 43, against 37 for 1896.

The rules drawn up and printed in my first annual report may have been the means of assisting to stop the epidemic which then prevailed. The rules alluded to were drawn up at your request in December, 1896, and freely distributed in January and February, 1897.

The number of deaths from Whooping Cough for 1897 is shown as follows :—

	Deaths.
January	14
February	16
March	7
April.....	0
May	0
June	0
July	0
August.....	1
September	1
October	0
November	1
December.....	3
	43

It may be, in the near future, desirable to include Whooping Cough amongst the notifiable diseases. At present, however, we must watch the effects of our voluntary notification of Measles.

TYPHUS.

Typhus, which is a highly infectious disease, and demands prompt isolation, has only furnished us with one case, against 20, with 7 deaths, in 1896. The case occurred in February, and was at once removed to the Sanatorium, and recovered. The necessary cleansing and limewashing of the house, and the disinfecting of the bedding, was promptly effected. The action taken in 1896 in the immediate removal of the cases appears to have stamped out what might otherwise have become an epidemic.

ENTERIC FEVER.

Enteric Fever, which, like the poor, is always with us, and therefore endemic, has furnished us with fewer cases than in the preceding year. The number of cases for 1897 is 63, against 101 for 1896, being 38 cases less.

The cases notified are as follows:—

	Notifications.	Removed to Sanatorium.	Deaths.
January	6	0	1
February	8	4	0
March	9	2	1
April.....	6	4	2
May	1	1	1
June	2	0	0
July	1	0	0
August	2	2	1
September	8	4	2
October.....	5	5	1
November	8	3	1
December	7	2	0
	63	27	10

The number of deaths is 10, against 14 for 1896.

Enteric Fever is contagious from the bacillus being introduced into the body from without, either in the food, water, milk, &c. It is truly a filth disease, and the microbe is enabled to grow and multiply wherever we have insanitary surroundings, and I wish to reiterate what I said in my report for 1896 on this subject, namely:—"Defective sanitary arrange-

ments, such as imperfectly trapped and inefficiently ventilated sewers, and also the old privy middens are all breeding places for the germ of Enteric Fever should once it gain admission. Then, again, the faulty foundations of houses, such as those built in situations where refuse matter has been deposited for the purposes of filling up or levelling, and unpaved and insanitary yards, also afford a suitable subsoil for the development of this germ."

I still think that the frequent cleansing of the street gulleys and the use of persulphate of iron should be continued as well as the periodic flushing of all sewers. The calamities which have befallen Maidstone and King's Lynn, during 1897, should make us constantly on the alert as regards our water supply. We are, I believe, fortunate in having a good and pure supply, a state of matters which is due to our present Mayor (Alderman Richards) and his Committee; but unless vigilance is still used it is possible for our supply to be contaminated owing to the nature of our gathering ground.

Water and milk supplies are undoubtedly the vehicle for carrying the Typhoid germ and giving rise to Typhoid in its epidemic form, whereas in the endemic form it is due to our insanitary state, either to the previous condition of affairs or to present neglect, or probably both. The late Medical Officer of Health for St. Helens, Dr. Robertson, D.Sc., now Medical Officer of Health for Sheffield, has investigated its cause in St. Helens, which is one of the most Enteric-stricken towns in England. From the experiments he had made, with an able assistant, Dr. Maitland Gibson, he arrived at the following conclusions with regard to the Typhoid bacillus in soil:—"They prove that the typhoid organism is capable of growing very rapidly in certain soils, and that apparently, under certain conditions, the organism can survive from one summer to another. The rains of spring and autumn, or the frost and snow of winter, did not kill them off."

"So also the infected privy would appear to be admirably adapted for the preservation of the Typhoid bacillus, owing to its constantly receiving fresh additions of organic matter."

[Vide "British Medical Journal," page 71, Vol. 1, 1898.]

There is every probability that Enteric remains with us owing to our unpaved yards and soil contamination. Whilst writing this report the principal Medical Officer of the Local Government Board, Sir Richard Thorne Thorne, K.C.B., has favoured me with a copy of his "Inaugural Address on Soil and Circumstances in their Control of Pathogenic Organisms," delivered before the Midland Medical Society on October 22nd, 1897, and his observations are so important on this subject that I make no apology for here quoting extensively from them. After

peaking of the method of experiments made, he says:—"In order to give a practical aspect to this question, let me recall some of the circumstances of the soil and surroundings which we have learned by experiment to be favourable to the vitality and multiplication of the Typhoid bacillus. They are: The soil should be pervious, and it should be permeated with a sufficiency of decaying—preferably animal—organic matter, that it should possess a certain amount of moisture, and that it should be subject to a certain temperature. And then let us consider what means can be adopted to deprive the soil of one or more of these conditions which appear to favour the retention of the vitality and power of multiplication of the Typhoid bacillus, and to prevent that organism from gaining access to the soil in the neighbourhood of human dwellings. To this end I would, in the first place, advocate the paving of open spaces about dwellings where these open spaces are of small area and are liable to become contaminated with excreta. In this way fouling of, as well as penetration by a pathogenic micro-organism into, the underlying soil is practically prevented. Indeed, it is well known that the paving of yards about small cottage and tenement property in towns has, in its results, been shown to be a public health measure of first importance; but also the value of such a measure has depended largely on the use of a form of pavement which really ensures impermeability. In the next place, it will be clear that organic and decaying refuse should be so dealt with as to prevent its contaminating the soil in the neighbourhood either of dwellings or of sources of water supply." (Page VIII.)

DIPHThERIA.

Diphtheria has been more prevalent in Wigan during the past year than in the previous one. We have had 23 cases notified, against 10 for 1896. We have had only one case admitted in the Sanatorium, and this I had treated with Diphtheritic Anti-toxin Serum, with a successful result.

There were three deaths from this disease in one house, and 13 deaths in all, or a percentage of 56.52.

The following table shows the number of cases notified and the deaths:—

	Notified.	Deaths ¹
January	1	4
February	0	1
March.....	2	1
April	0	1
May.....	2	0
June	0	0
July.....	1	0
August	1	1
September.....	1	0
October	7	3
November	4	1
December	4	1
	23	13

The propagation of Diphtheria is due to sewer gas containing the bacillus of Diphtheria, and to direct infection from one person to another.

DIARRHŒA.

The deaths from Diarrhœa have been chiefly in children, and number 73, against 48 in 1896, and occurred in the following months :—

	Deaths.	0-1 Year.	1-5 Years.	Over 5 Years.
January	1	0	1	0
February	1	1	0	0
March.....	0	0	0	0
April	1	1	0	0
May.....	3	3	0	0
June	0	0	0	0
July	6	5	1	0
August	42	27	12	3
September.....	16	10	4	2
October	2	0	1	1
November	1	1	0	0
December	0	0	0	0
	73	48	19	6

The average Diarrhœa rate for 1897 is 1.19, against .79 per thousand in 1896.

As I noted in my last report, the greatest number of cases occur in children under one year of age, and these chiefly bottle-fed; the smallest number occurring in children over five years. From seasonal influences the greatest number occurred in August. The great heat and absence of rain in the months of July, August, and September no doubt contributed largely to the increased mortality

One case of Cholera was reported. This probably was a case of neglected diarrhoea in the early stage, which assumed afterwards severe symptoms and collapse, and may be considered as a case of English Cholera or Choleraic Diarrhoea.

The saturation of the sub-soil with water and micro-organisms has a great influence on the production of Diarrhoeal complaints.

Our unpaved yards and saturated sub-soil, especially where we have had privy middens, foster the production of Diarrhoea as well as Enteric Fever. To emphasize this I wish here to quote again from Sir R. Thorne Thorne's address. He says (pp. 10, 11, and 12): " My reference to the question of soil temperature leads me to make a few remarks on another disease which is periodically very prevalent in some of our large urban centres. I refer to epidemic summer Diarrhoea, so fatal to infant life. There is strong presumption, since the late Dr. Edward Ballard's researches, that the question of 'soil' is, in this disease, a most important factor, and that the essential cause of it is bound up with the life processes of a micro-organism—not yet definitely differentiated—which exhibits its vital manifestations in the superficial layers of the earth. But here, again, the differing circumstances of the soil would seem to have a most important influence in determining whether the organism is to live and multiply, or whether it is to be deprived of its power for mischief. When it gains access to a soil that is sufficiently loose to be permeable to air and water, and which contains a sufficiency of that organic matter which prevails so largely about the densely-peopled areas of our large cities and towns, then the maintenance of its vegetative vitality is likely to be ensured; and when, in addition to this, it finds itself in the presence of a suitable temperature and moisture combined, then its power of rapid multiplication and its full pathogenic properties seem to be ensured. Dr. Ballard, as you are aware, has propounded the thesis that these requisites are pre-eminently present, when the sub-soil water stands sufficiently near the surface to maintain by capillary attraction a slight amount of dampness in the surface soil; and when the temperature of the earth, at a depth of four feet, reaches 56° Fahrenheit. Then it is, in his view, that the organism can undergo most rapid multiplication, and becoming airborne, as the result of physical actions, such as the rise and fall of sub-soil water, it can gain access to food supplies, and, above all, to the milk which is so commonly stored for infants in miserable pantries opening out on to small confined areas and yard spaces, where emanations from filth accumulations blend with those forced out from the soil itself. In this way the organism finds, according to Dr. Ballard, an appropriate medium for undergoing those life processes which end in the production of a virulent chemical poison. Milk thus infected may be

deemed to constitute a common vehicle for conveying to the infant this poison, the results of which are so terribly fatal in some of our large towns.

As consistent with the view that the influence of soil is a prime factor in this disease, I may say that there are instances of towns standing almost side by side which, in density of population, in trade and occupation, in climate and other like conditions, exhibit no appreciable difference, and yet whilst one town is notorious for its ever-recurring autumnal diarrhœa mortality, the other stands out with equal prominence by reason of its maintained comparative freedom from this fatal diarrhœa. The circumstances of soil in one place are to be thought of as responding to the requirements of the micro-organism; in the other, as failing to respond to them. Let us again seek some practical application of the results of this research. First and foremost stands the need of a soil that shall be maintained as free as practicable from organic contamination, and in the narrow and restricted open spaces about our city dwellings this means such disposal of excreta as shall be free from nuisance, such means of storage of all domestic refuse, in receptacles of limited capacity, as shall prevent contamination of soil and air, and shall necessitate frequent, even daily removal; and once more, it means the provision of an impervious paving for yards and courts, so as to protect the soil not only from contamination, but also from exposure to that heat which, in combination with moisture, can serve as an incubating chamber for this virulent organism. There is a further practical application. It is this. Feed no infants artificially on milk that has not been quite recently boiled. I say "boiled," because in the houses of the poor, sterilisation, apart from boiling, cannot be expected. But I would add, there is no sterilising apparatus that can give results comparable with those provided by nature in the healthy female breast, and I would venture, further, to maintain that no milk from the mammary gland of its mother ever caused the death of an infant from this specific summer diarrhœa.

ERYSIPELAS.

Erysipelas is not notifiable with us, as this infectious disease was not included in our Local Act of 1888, but it is notifiable under the Infectious Diseases Act. 1889.

It is one of the minor zymotic diseases.

For the year 1897 we had one death from this cause, against 4 in 1896.

It is not a very fatal disease, so it would be difficult to estimate the number of cases that have occurred. It is communicable from one to another, and is due to insanitary conditions and surroundings.

PUERPERAL FEVER.

Puerperal Fever is the fever of lying-in women, and is notifiable under our Local Act, and we have had seven cases notified and five deaths, against seven cases and two deaths in 1896.

In all the cases we were unable to find its cause.

DISINFECTION.

In a case of infectious disease it is essential that some form of disinfection of the clothing, bedding, and rooms should take place. In the case of Measles we have been satisfied to fumigate the room in which the patient had been nursed, and to disinfect the clothing and bedding in the steam disinfector. For the fumigating of rooms I am prejudiced in favour of common sulphur, which, when burned in presence of water, gives rise to sulphurous acid in fine spray, which permeates all the crevices of the room. It is sufficient, in my opinion, to destroy the germ of Measles or Scarlet Fever. What it is short of, however, in germicidal properties, it has the compensating power of causing all the windows and doors to be opened, thus allowing free admission of fresh air. It has also another important recommendation, that is, it is not expensive, and this is a consideration with many Sanitary Authorities. When we consider that the cost of disinfecting a room with some disinfectants is about 4s. 6d., and with sulphur only a few pence, and if the disinfection is sufficient to prevent further spread, it is all that a Sanitary Authority requires.

SANATORIUM.

In my first annual report I stated that the Sanatorium was highly appreciated, and that it places your Medical Officer of Health in a position of preventing, to a considerable extent, the spread of infectious diseases, by enabling him to isolate the sufferers.

During the year I have worked on the same lines as in the previous year, namely, to take in cases where it was deemed there was not "proper lodging and accommodation," relaxing the rule somewhat in reference to Scarlet Fever. There is still no difficulty in getting patients to enter the wards, rather the reverse happens, and we get applications from parents to remove their children even when "sufficient isolation" can, with a little trouble, be carried out. This is owing, no doubt, to the attention in nursing given to the patients, and also, I am afraid, a growing disposition on the part of the people that the authorities should take charge of such cases, not so much to prevent the spread of infection, as to save them the trouble of nursing and isolating at home.

The number of cases of infectious diseases notified is 287.

The number of cases removed to Sanatorium 131, a percentage of 45.64, against 38.88 last year, and from Aspull and Haigh 3 cases have been admitted.

The notifications were as follows :—

		Removed to Sanatorium.	Died.
Smallpox	0	0	0
Typhus	1	1	0
Scarlet	191	95	2
Enteric	64	30	3
Diphtheria.....	23	1	0
Puerperal	7	0	0
Cholera	1	0	0
Others	0	4	2
	<u>287</u>	<u>131</u>	<u>7</u>

In Hospital, December 31st, 1897, 26, namely :—Scarlet, 20 ; Enteric, 4 ; Diphtheria, 1 ; other 1. The stay of each patient in Hospital averaged 33·25.

The number of deaths in the Sanatorium was 7, of these 5 only from zymotic diseases. This gives us a favourable percentage of 3·81, against a percentage of 17·18 for 1896, absence of Small Pox and Typhus contributing to this result, and also the Enteric rate has been over one-half less. The other deaths were in cases that were admitted as infectious, but proved to be some other disease, and the deaths were caused by Pneumonia.

Number of notifications compared with other years :—

Disease.	1891.	1892.	1893.	1894.	1895.	1896.	1897.
Smallpox	0	12	13	2	91	33	0
Typhus	71	18	20	34	33	20	1
Scarlet	381	219	335	359	161	151	191
Enteric	95	85	264	68	64	101	64
Continued	77	29	71	32	29	2	0
Diphtheria.....	18	20	16	10	13	10	23
Puerperal	0	12	10	7	5	7	7
Cholera	0	0	0	0	0	0	1
	<u>642</u>	<u>395</u>	<u>729</u>	<u>512</u>	<u>396</u>	<u>324</u>	<u>287</u>

Analysis of notifications :—

1897.	Jan.	Feb.	Mar.	Apl.	May.	June.	July.	Aug.	Sep.	Oct.	Nov.	Dec.	Total.
Smallpox	0	0	0	0	0	0	0	0	0	0	0	0	0
Typhus	0	1	0	0	0	0	0	0	0	0	0	0	1
Scarlet	6	9	4	6	9	8	7	19	42	22	35	24	191
Enteric	6	8	9	6	1	2	1	2	8	5	9	7	64
Continued	0	0	0	0	0	0	0	0	0	0	0	0	0
Diphtheria.....	1	0	2	0	2	0	1	1	1	7	4	4	23
Puerperal	1	0	1	0	0	1	0	0	0	0	3	1	7
Cholera	0	0	0	0	0	0	0	1	0	0	0	0	1
	<u>14</u>	<u>18</u>	<u>16</u>	<u>12</u>	<u>12</u>	<u>11</u>	<u>9</u>	<u>23</u>	<u>51</u>	<u>34</u>	<u>51</u>	<u>36</u>	<u>287</u>

TABLE OF ADMISSIONS AND DISCHARGES FOR 1897.

1897.	ADMITTED.				DISCHARGED.				DIED.								
	Small-pox.	Scarlet Fever.	En-teric, plus, Ty-	Others, Total.	Small-pox.	Scarlet Fever.	En-teric, plus, Ty-	Others, Total.	Small-pox.	Scarlet Fever.	En-teric, plus, Ty-	Others, Total.					
January	0	3	0	1	4	0	8	2	0	0	10	0	0	0	0	0	0
February	0	7	4	1	12	0	4	0	1	1	6	0	0	0	0	0	0
March	0	3	3	0	6	0	4	2	0	0	6	0	0	0	0	1	1
April	0	4	4	0	8	0	6	4	0	0	10	0	0	0	0	0	0
May	0	5	1	0	6	0	4	3	0	0	7	0	0	1	0	0	1
June	0	5	0	0	5	0	3	1	0	0	4	0	0	0	0	0	0
July	0	4	0	0	4	0	4	0	0	0	4	0	0	0	0	0	0
August	0	11	4	0	15	0	2	0	0	0	2	0	0	1	0	0	1
September	0	14	4	0	18	0	8	4	0	0	12	0	0	0	0	0	0
October	0	15	5	0	21	0	13	1	0	0	14	0	0	1	0	0	1
November	0	14	3	0	17	0	13	3	0	1	17	0	2	0	0	1	3
December	0	10	2	1	15	0	11	3	0	0	14	0	0	0	0	0	0
	0	95	30	1&1	131	0	80	23	1	2	106	0	2	3	0	2	7

Dip.

During the year there were 106 patients discharged from the Sanatorium, 7 died, making a total of 113.

The number of days they were in was 4,250, or 37.61 days for each.

The cost of maintenance was as follows :—

1897.	Food.			Stimulants.		
	£	s.	d.	£	s.	d.
January	13	2	7	2	10	6
February	7	5	4	1	15	11
March	5	13	7	3	7	10
April.....	7	15	10	0	0	0
May	19	19	9	1	19	3
June	9	18	8	1	2	8
July	7	4	0	0	13	9
August.....	3	18	1	0	13	10
September	7	13	1	1	8	8
October	22	2	2	1	17	4
November	31	18	0	4	13	9
December.....	27	4	3	4	2	2
	<u>£163 15 4</u>			<u>£24 5 8</u>		
Cost per Patient...	£1	5	0	£0	3	8½
„ 1896...	£1	12	4½	£0	3	9¼

The Administrative Department cost :—

1897.	Wages.			Board.			Porter, Repairs, and Sundries.			Total.		
	£	s.	d.	£	s.	d.	£	s.	d.	£	s.	d.
January	24	3	4	23	16	8	63	0	2	111	0	2
February	24	5	0	23	16	8	25	7	0	73	8	8
March	22	18	4	21	13	4	28	9	9	73	1	5
April	24	19	5	24	16	8	85	15	8	135	11	9
May	24	10	0	22	14	0	20	9	8	67	13	8
June	24	10	0	22	16	0	33	2	3	80	8	3
July	24	10	0	21	2	6	46	2	8	91	15	2
August	22	13	4	20	0	10	25	12	0	68	6	2
September	24	1	8	22	4	2	6	3	2	52	9	0
October	24	1	8	23	16	8	80	8	1	128	6	5
November	24	1	8	23	16	8	15	7	3	63	5	7
December.....	22	13	4	21	13	4	51	10	8	95	17	4
	<u>£287 7 9</u>			<u>272 7 6</u>			<u>481 8 4</u>			<u>1041 3 7</u>		
Ditto 1896	£322	19	7	317	1	1	624	6	8	1264	7	4

The total cost of Sanatorium for 1897 is as follows:—

	£	s.	d.	Average per Patient.	£	s.	d.
Master, Matron, and Nurses....	559	15	3	.....	4	5	5½
Porter, Repairs, etc.....	481	8	4	.....	3	13	5¼
Patients' keep	163	15	4	.....	1	5	0
Stimulants	24	5	8	.....	0	3	8¼
Med. Superintendent & Services	150	0	0	.....	1	2	10¾
Clerk	10	0	0	.....	0	1	9¼
	<hr/>				<hr/>		
	£1389	4	7	.....	10	12	3½
	<hr/>				<hr/>		
Ditto 1896.....	£1653	10	11	.....	11	6	6½
	<hr/>				<hr/>		

The Sanatorium Staff consists of:—

Master, Matron.
 Assistant Matron.
 Six Nurses.
 Cook.
 Laundry Maid.
 House Maid.
 Porter.
 Medical Superintendent.

CONSTITUTIONAL DISEASES.

TUBERCULAR DISEASES.

Under this heading we include the Consumptive diseases, such as Phthisis, Tabes Mesenterica, Tubercular Meningitis, Wasting Diseases of Infants, and other Tubercular affections.

The number of deaths from Phthisis is 69, against 66 in 1896, or an average rate of 1·14 per 1,000.

The number from Wasting Diseases of Infants is 56, against 71 in 1896, or a rate of 0·92 per 1,000, and the number from other Tubercular Diseases is 11, against 38 in 1896, or a rate of ·18 per 1,000.

If taken together as Tubercular affections we have 136 cases, or a rate of 2·24, against 175, or a rate of 2·89 for 1896. Improved hygienic conditions in the house, in factories and workshops, with an improvement in the sanitary condition of the town, will no doubt lower the death rate from Tubercular Diseases. The removal of our insanitary dwellings, the pavement of back yards and their surroundings, are preventive measures

RHEUMATISM.

Rheumatism numbers 8 deaths, as against 4 in 1896, whilst we have 61 deaths from heart affections, against 63. Dampness of the soil contributes much to the development of Rheumatism.

LOCAL DISEASES.

RESPIRATORY DISEASES.

Respiratory Diseases, such as Pneumonia and Bronchitis, caused 326 deaths, namely, Pneumonia, 149; Bronchitis, 177. Together they give us a death rate of 5.39, against 389 deaths in 1896, or a rate of 6.45 per 1,000 of the population.

Many causes contribute to a fluctuating death rate from Respiratory Diseases, such as severity of the weather, inattention to its changeableness, which is frequent in our climate, and insufficient clothing. Personal and general hygienic improvements will help to diminish these diseases.

INQUESTS AND UNCERTIFIED DEATHS.

The number of Inquests for 1897 is 85, and the following verdicts have been recorded:—

1.—Natural Causes.....	14
2.—Accidental Causes:—	
" Burned	6
" Poisoned	1
" Run over	4
" Scalded	4
" Colliery Accidents	21
" Railway Accidents	6
" Fall Downstairs	8
" Found Drowned	4
" Found Dead	2
" Fall in Street	4
" Blood Poisoning	2
" Choked	1
" Others	5
3.—Suicides:—	
" Drowning	1
" Hanging	2

85

The uncertified deaths number 26, and are as follows :—

Convulsions	13
Heart Disease	5
Hæmorrhage.....	2
Whooping Cough	1
Premature Birth.....	4
Debility	1

26

The Coroner has discretionary power as to the holding of inquests, but for statistical health purposes it is desirable that the cause of death should be ascertained, and if some evidence cannot be given as to the nature of the disease, then it is essential a *post mortem* should be made so as to clear up any doubt. Then, again, in some of the accidental cases, a *post mortem* would clear up whether the death was due to accident," or in cases such as " Fall downstairs," " Found drowned," " Found dead," and " Fall in the street " would give us an accurate record. In the case of those fallen downstairs, &c., it may have been that hæmorrhage on the brain had previously taken place, and caused the person to fall, and therefore would be the primary cause of death, or it may have been a case of cardiac failure which had come on previous to the person falling.

It may be enough for the Coroner that he has discovered from his enquiries that no one is blameable for the death, but it is not enough for health authorities, who have the health of the people to look after, and are concerned with the true causes of death.

PROPERTY UNFIT FOR HUMAN HABITATION.

The following list of Insanitary Dwellings has been reported on during 1897 to the Sanitary Committee, and referred by them to the Insanitary Houses Committee, under the Housing of the Working Classes Act, 1890, and condemned :—

- Nos. 11, 9, 7, 5, and 3, Birkett Bank.
- „ 25, Birkett Bank Terrace.
- „ 17, 15, and 13, Birkett Bank.
- „ 24, 23, and 22, Birkett Bank Terrace.
- „ 23, 21, and 19, Birkett Bank.
- „ 21, 20, and 19, Birkett Bank Terrace.
- „ 25, Birkett Bank.
- „ 18, Birkett Bank Terrace.
- „ 112, 114, and 116, Standishgate.
- „ 32, 31, 30, 29, 28, 27, 26, 25, 24, 23, 22, 21, 20, 19, 18, 17, 16, 15, 14, 13, 12, 11, and 10, Little London, Standishgate.
- „ 1, 2, 3, 4, 5, 6, 7, and 8, Lea's Court, Market Place.

- Nos. 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 16, 17, 18, and 19, Market Court, Market Place.
- „ 1, 2, 3, 4, and 5, Hawarden's Yard, Standishgate.
- „ 27 and 25, Warrington Lane.
- „ 1, 1a, 2, 3, 4, 5, 5a, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 16, 17, 18, and 19, Danson's Square, Warrington Lane.
- „ 29 and 23, Warrington Lane.
- „ 1, 2, 3, and 4, Powell's Yard.
- „ 62 and 64, Hallgate.
- „ 2, Halliwell's Yard, Hallgate.
- „ 64a and 66, Hallgate.
- „ 5, 6, 7, and 8, Powell's Yard, Hallgate.
- „ 68, 70, and 72, Hallgate.
- „ 1, Bridgeman's Yard, Hallgate.
- „ 5, 6, 7, 8, 9, 10, 13, 14, 15, 16, 37, 38, 39, 40, 41, 42, 43, and 44, Top Croft, Hallgate.
- „ 1, 2, 10, 11, 12, 17, 18, 19, 20, 21, and 22, Hayes' Yard, Hallgate.
- „ 31, 32, 33, 34, 35, and, 36, Top Croft, Hallgate.
- „ 45, 46, 47, 48, and 49, Roper's Yard, Hallgate.
- „ 51, 52, 53, 54, and 55, Marsden's Yard, Hallgate.
- „ 23, 24, 25, 26, 27, 28, 29, 30, and 50, Top Croft, Hallgate.
- „ 1, 2, 3, and 4, Top Croft, Hallgate.
- „ 11, 12, 13, 14, 15, 16, 17, 18, 19, 20, 21, 22, 23a, and 24a, Bottom Croft, Hallgate.
- „ 1, 2, 3, 4, 5, 6, 7, 8, 10, 23, 24, 25, 26, 27, 28, 29, 30, 31, 32, 33, 34, 35, 36, 37, 38, and 39, Bottom Croft, Hallgate.

The Committee have still kept to the years 1892, 1894, and 1895 as a basis for the calculation of the compensation.

On February 11th, 1897, an owner of new property appeared before the magistrates charged with (1) allowing three houses to be occupied before obtaining the necessary certificate of fitness; (2) not complying with the bye-laws as to the houses being ready for inspection. 20s. and costs and 2s. per house per day (for allowing occupation) until premises are cleared, and 5s. and costs for not complying with the bye-laws was the penalty inflicted.

BAKEHOUSES.

The Bakehouses have been visited regularly by the Sanitary Inspectors. I have also visited them, but have nothing special to add to my report on the same made December 30th, 1897.

We had, however, a very important prosecution in regard to the re-opening of a cellar bakehouse. Cellar bakehouses are expressly forbidden by the Factory and Workshops Act of 1895. It provides that no cellar bakehouse shall be permitted after January 1st, 1896.

Our case was this. A cellar bakehouse which had been in use for some time was not in use on the 1st of January, 1896, and had not been so from May, 1895; it was reopened on December 2nd, 1896. Information was laid against owner and occupier, and came before the Magistrates on February 1st, 1897. The owner was summoned for "he being the owner of an underground workshop, did allow the same to be used as a bakehouse, contrary to the Workshops Act, 1895, on the 2nd of December, 1896," and the occupier "for using the underground bakehouse contrary to the same Act." Mr. J. J. Charnock (Town Clerk) prosecuted, and Mr. Horridge (Barrister, of Liverpool) defended. The Magistrates decided that the cellar in question was in use as a bakehouse, and that the cases would be dismissed. They, however, did not grant costs, as they thought it a proper case to bring forward. It appears, consequently, that once a bakehouse, always a bakehouse, if the baking apparatus has not been disturbed, and the cellar not used for any other purpose.

Section 27, Clause 5, of the Factory and Workshops Act, 1895, however, says:—"A place underground shall not be used as a bakehouse unless it is so used at the commencement of this Act, and if any place is so used shall be deemed to be a workshop not kept in conformity with the principal Act."

FACTORY AND WORKSHOPS ACT.

During the past year I have had several conferences with Mr. Tinker, H. M. Inspector under the above Acts, and have made one or two inspections at his request. I append herewith Mr. Bishop's report under the Shop Hours Act, 1892-1895.

17, Rodney Street,

January 25th, 1898.

SHOP HOURS ACT, 1892-5.

During 1897, under the above Act, I made 395 visits to shops.

Thirty-five shops were without abstracts. I have watched shops for a week at a time to obtain the number of hours young persons were employed. In these cases I had cause to believe the hours were exceeded. I found it necessary to caution in three cases.

The persons concerned have generally evinced readiness to comply with the Act.

Workshops.—I have made 189 visits to workshops. Thirty were domestic workshops. Several have been measured for cubic space, and one was found overcrowded.

Twenty-four have been ordered to be limewashed, and with one exception the work has been done.

F. G. BISHOP,

Inspector.

MEAT INSPECTION AND SLAUGHTER HOUSES.

During the year the slaughter houses have been frequently visited by the Sanitary Inspectors, and I have myself made a personal inspection of all the known slaughter houses in the borough, and presented you with the following report :—

Officer of Health's Department,

September 6th, 1897.

To the Chairman and Members of the Sanitary Committee.

GENTLEMEN,

I have completed my inspection of the registered slaughter houses in your County Borough, and beg to present you with my report thereon.

The number of registered slaughter houses is 17, two of these being for pigs only. In classifying these I have adopted the requirements of the Local Government Board, viz. :—

1. To be at least 100 feet from any dwelling-house, and admitting external air on at least two sides.
2. Lairs or pens sufficient to hold animals about to be killed, to be at a like distance from dwelling-houses, apart from the slaughter house and properly drained.
3. No rooms to be built over slaughter house, nor any direct communication between it and any stable or water closet, privy, &c.
4. The slaughter house to be cross-ventilated and well lighted, the floor of concrete, or asphalt sloped to gutter leading to a trapped gully outside, with bars of grid not more than $\frac{3}{4}$ inch apart. The walls to be coated with hard impervious cement or glazed tiles to 7 feet from the ground, above that height to be, with the ceiling, limewashed at least once in every three months.
5. There must be an ample water supply with a galvanised tank at least six inches above, and unconnected with the floor.
6. Galvanised iron buckets only to be used, and all blood, offal, and garbage to be removed within 24 hours, not passed into the drains.
7. Public slaughter houses must be well lighted by gas or electricity, since much killing is done at night. There must also be separate lairs and slaughter house for suspected and condemned cattle.

I have divided the present slaughter houses into three classes, taking these regulations as a type for the first class.

1st class.....	None.
In the 2nd class.....	9
In the 3rd class.....	6
Unfit for use as slaughter houses.....	2
	<hr/>
	17

Although we have only comparatively few slaughter houses in the Borough, we have *not one* that meets the requirements of the Local Government Board, this being due to the fact that with two or three exceptions the existing slaughter houses have been made by the conversion of some unused building into a slaughter house, and which could not be made to comply with such regulations.

Recommendations :—

1. That there should be no new licences granted on any condition whatever.

2. That there should be no renewal of licences to present buildings in the case of any licence lapsing ; and

3. That the County Borough Council should erect a public abattoir for the following reasons :—

1. The providing of wholesome food for man is a most important sanitary requirement.
2. It is impossible to maintain an efficient inspection of meat and cattle in private slaughter houses.
3. It would be impossible to pass diseased meat through a public slaughter house.
4. The butchers themselves would soon find that the convenience offered them would be a great advantage, and the public would soon learn to recognise those butchers who made use of it.
5. It would be self-supporting, but, if not so, it would be for the benefit of the community, just as the baths are of such benefit.

In making this inspection and report I am indebted to the Chief Sanitary Inspector (Mr. Sumner) for valuable assistance.

I am, Gentlemen,

Your obedient servant,

WM. BERRY,

Medical Officer of Health ;
Fell. of Incorp. Soc. of M.O.H.,
Fell. Royal Inst. of Public Health.

The Chief Sanitary Inspector's report will give in detail the number of inspections made. There was only one case of prosecution for having unsound meat dressed ready for sale. A fine of £5 and costs or a month's imprisonment was inflicted by the magistrates.

BLACK SMOKE NUISANCES.

During the past year something has been done to diminish the nuisance caused by black smoke. Your Committee empowered Mr. Sumner, the Chief Sanitary Inspector, to visit Leeds and Bolton so as to ascertain what action was taken in these towns for its prevention.

A report on the visits was presented, and I wrote the following introduction to his report :—

THE SMOKE NUISANCE AND ITS ABATEMENT.

Corporation of Wigan,

Officer of Health's Department,

27th May, 1897.

To the Chairman and Members of the Sewerage and Sanitary Committee.
GENTLEMEN,

The importance of the above subject from a sanitary point of view cannot be denied, and the subject has engaged the attention of the Legislature and various other bodies since 1819, when a Select Committee was appointed "To inquire how it may be practicable to compel persons using steam engines and furnaces in their different works to erect them in a manner less prejudicial to public health and public comfort, and to report their observations thereon to the House."

In 1845 a Committee reported: "That opaque smoke issuing from steam-engine chimneys must be so abated as no longer to be a public nuisance." More recently the Committee for Testing Smoke Preventing Appliances has arrived at the following conclusion: "A manufacturing district may be free from manufacturing smoke, at least from steam-boilers," so we may conclude the smoke nuisance is preventable. The Chief Sanitary Inspector's Report gives in detail the action taken by the Sanitary Authorities in Bolton and Leeds.

In some towns private individuals have proceeded against the owners of works, and have been successful with their prosecutions, but in my opinion such work ought to be done by the Sanitary Authority, whose duty it is to look after the welfare and wellbeing of the public. In our own town the Sanitary Committee is the authority indicated. The Sanitary Authority can proceed against offenders under the Public Health Act of 1875, so that we have no need of a special Act.

That the emission of large volumes of dense black smoke consisting of unconsumed carbon and opaque smoke containing some carbon and other injurious gases, such as carbonic acid, sulphur, and compounds of chlorine, must contaminate the air, and thus prove injurious to the health of the people.

Dr. Littlejohn, of Sheffield, has classified the manner in which these products of combustion interfere with the welfare of a community as follows :—

- (1) By conducing to the formation of fogs and rain.
- (2) By shutting out sunlight and depriving us of certain qualities of light of great importance in regard to changes in organic matter.

- (3) By depositing smuts and rendering houses dirty, thus causing an otherwise unnecessary expenditure of labour and soap in cleaning.

In Wigan much improvement could be effected without putting our manufacturers to great expense.

Professor Ripper, of Sheffield, states that "The most successful methods of preventing smoke consist of those which consume the smoke in or near the boiler furnace, and for this purpose the following essential conditions for smokeless combustion must be fulfilled :—

- (1) The presence of a high furnace temperature.
- (2) A sufficient supply of air to the furnace, or, in other words, a good draught.
- (3) A judicious application of the air supply.

I do not think it is the duty of your Committee to indicate the means to be adopted for the prevention of dense black smoke, but it is important that the Committee should fix the maximum time allowed for its emission, and I would suggest that eight minutes in one hour be the maximum fixed, and that the time for observation be one hour. This is above the average of many places, and I am convinced not an unreasonable limit.

I am, Gentlemen,

Your obedient Servant,

WILLIAM BERRY,
Medical Officer of Health.

This report was adopted by the Committee and confirmed by the Council at a subsequent meeting, so that now we have a fixed maximum of time for the emission of black smoke, namely, 8 *minutes* per hour, and the time for observation to be one hour.

Some improvement has already taken place in the abatement of the nuisance.

WATER SUPPLY.

We have been fortunate in the past year in having a sufficient supply of wholesome water, and when the arrangements have been completed and the connections made with the Thirlmere supply, we shall have no need to fear an insufficient or an intermittent supply in the future. The Corporation is fortunate in having this undertaking in its own hands, and also with having at the present time an efficient Water Committee, with an enthusiastic Chairman, our present Mayor, Mr. Alderman Richards, at its head. The importance of a pure supply of water has been fearfully illustrated during the past year by the calamity which has overtaken Maidstone and King's Lynn in severe epidemics of Enteric Fever, clearly traceable, in my opinion, to a polluted water supply.

I am pleased your Committee has the analyst's report on the condition of the water, monthly submitted for inspection, and I here append Mr. Orsman's remarks for each month during the year :—

January.—There seems to be no change between the quality of last month's water and this.

February.—The sample of water taken in this month shows improvement on previous sample. The principal alteration is in the hardness, which is much lower than usual. This may be due to water coming from the melting snow not being able to penetrate the frozen ground. The albuminoids are about the same as last month.

March.—The sample of Wigan main supply for this month shows that the character of the water has not materially changed since the last sample taken. The degree of hardness remains low, and the albuminoids are at the normal figure. The water is clear and well filtered.

April.—The water has become slightly harder than last month, the figures being 13° against 11°. The albuminoids, however, have decreased, which is a very satisfactory sign.

May.—The quality of the water supplied to Wigan has deteriorated since last month. The hardness has increased 2°, and the albuminoids are also more. This may be due to the continuance of the cold weather, which prevents the active oxidisation of organic matter which ought to take place at this time of the year.

June.—The water has greatly improved since last month, both in the matter of hardness and organic matter. The albuminoids have been much lower.

July.—The character of the water has been maintained since last month, and the degree of hardness and amount of organic matter are as low as one can reasonably expect.

August.—The water is good, and has hardly changed in character at all since last month.

September.—The water has nearly the same composition as last month. It is a trace softer. The water is clear and well filtered.

October.—The water has not differed much from the sample taken last month, and it still contains evidence of good aeration and filtration. The hardness remains at the low figure noted last month, and the albuminoids are as low.

November.—The water is slightly harder, and contains rather more organic matter than last month. The increase, however, is very slight, and is probably due to less active oxidisation in the absence of the influence of the sun and other causes.

December.—The hardness has slightly decreased this last month owing probably to an increase in the amount of surface water due to the rain. It is satisfactory to find that the albuminoids have not increased, and that the water is fully aerated. The water is clear and well filtered.

UNPAVED YARDS AND PASSAGES.

In concluding this report I wish to remind the Committee of the many unpaved yards and passages in the Borough, and to give a further list of the same. I am afraid very few of those mentioned in my last report have been paved during the year.

I have mentioned in other parts of this report the importance of this matter in regard to Enteric Fever and Diarrhoea, quoting in support of this the opinion of the Principal Medical Officer of the Local Government Board.

LIST OF YARDS PAVED DURING 1897.

SITUATION.

33 to 45, Anderton Street.	83, 85, 87, and 89, Caunce Street
6 to 18, Higham Street.	88, 90a, 92a, and 94a, Schofield Lane
32, 34, and 36, Duke Street.	2 and 4, Catherine Street.
3, 5, 7, 9, and 11, Caunce Street.	16, 18, 20, and 22, Stanley Street.
13, 15, 17, 19, 21, and 23, Caunce Street.	8, 10, and 12, Stanley Street.

UNPAVED YARDS.

ST. GEORGE WARD.—(No. 1).

SITUATION OF PROPERTY.

1, 2, and 3, Altham's Yard, Standishgate.	64, 66, and 68, School Street.
5, 6, 7, 8, 9, 10, 11, and 12, Altham's Yard, Standishgate.	1, 2, and 3, Barlow's Court.
3, 5, 6, 7, and 8, Harvey's Court.	26, 28, and 30, Lime Street.
2, 3, and 4, McEwen's Yard, Millgate.	5, 7, 9, 11, 13, 15, and 17, Lime Street.
5, 5a, Latham's Yard, Millgate.	81 and 83, Lime Street.
17, Marsh Lane.	1, 2, 3, 4, 5, and 6, Walmsley's Yard.
18, 19, and 21, Marsh Lane.	21, 23, 25, 27, 29, 31, and 33, Lime Street.
3, 4, 7, and 8, Harrison's Square, Orchard Street.	35, 37, 39, 41, 43, 45, and 47, Lime Street.
9, 10, and 11, Harrison's Square, Orchard Street.	49, 51, 53, 55, 57, 59, 61, 63, 65, and 67, Lime Street.
35, Orchard Street.	6, 7, 8, 9, 10, 11, 12, and 13, Wood's Square.
3, 4, 5, 6, and 7, Greenough's Gardens.	38, 40, 42, 44, and 46, Upper Morris Street.
36, Orchard Street	53 and 55, Upper Morris Street.
1, Schofield Place.	80, 82, and 84, Upper Morris Street.
6 and 8, Foundry Street.	1, 3, 5, 7, 9, 11, 13, 15, and 17, Boyswell Lane.
10 and 14, Russell Street.	19, 21, 23, 25, 27, 29, 31, and 33, Boyswell Lane.
24 and 26	61, 63, and 65, Boyswell Lane.
19 and 21	1, 2, and 3, Holcroft's Yard.
69 and 71, Lower Morris Street.	64, 66, and 68, Boyswell Lane.
1, Howard's Yard.	32 and 34, Boyswell Lane.
40, 42, 44, 46, and 48, Lower Morris Street.	1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, and 13, Shaw's Yard.
20, Kay Street	1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, and 12, Hardy's Court.
53, 55, 57, and 59, School Street.	94a, Scholes.
2, 4, 6, and 8	1, Green's Yard, Scholes Bridge.
74, 76, and 78	
1, 2, 3, and 4, Wolfendale's Yard.	
47, School Street.	

LINDSAY WARD.—(No. 2).

SITUATION OF PROPERTY.

65, 71, 73, 75, and 79 Greenough Street.	1, 2, 3, 4, 5, 6, 7, 8, and 9, Mint Court.
57 and 59, Greenough Street.	202, Scholes.
2a, 2, 4, 6, and 8, Turner Street.	33 and 39, Coop Street.
8 and 12, Portland Street.	43 and 45 "
14, 16, and 18 "	1a, 3, 5, 7, 9, 11, and 13, Longshoot.
1, 3, 5, 7, and 9 "	4, 6, 8, 10, 12, 14, 16, 18, 20, and 22, Longshoot.
1, 3, 5, 7, and 9, Westminster Street,	2, 4, 6, 8, 10, 12, 14, 16, and 18, Howard Street.
10, 12, and 14 "	20, 22, 24, and 26, Howard Street.
26 and 28, Turner Street.	1, 3, 5, 7, 9, 11, 13, and 15 "
30 "	17, 19, 21, 23, and 25 "
2, 4, 6, 8, 10, Burlington Street.	12 and 14, Whelley.
1, 3, 5, and 7 "	34, 36, 38, and 40, Whelley.
9, 11, 13, 15, 17, 19 "	50 and 52 "
1, 2, and 3, Foundry Yard	60 and 62 "
8 and 14, Windsor Street.	64, 66, and 68 "
20, 24, 26, and 28 "	72 "
30 "	1, Thompson Street.
10, 12, 16, and 18 "	5, 6, 8, and 9, Yates' Yard, Wallace Lane.
1, 3, 5, 7, 9, 11, 13, 15, 17, and 19, Windsor Street.	1, 2, 3, 4, and 7, Yates' Yard, Wallace Lane
35, Vaughan Street.	114, 116, 118, and 120, Whelley.
1, Vaughan Street.	3 and 5, Wallace Lane.
1, 3, and 5, Tichborne Street.	15, 17, and 19 "
4 and 6, Oxford Street.	2, 4, 6, 8, and 10, Lamb Street.
12, Oxford Street	13, 15, 17, 19, 21, and 23, Derby Street.
22 "	1, 3, 5, 7, 9, and 11, Derby Street.
11, 13, 15, and 17, Oxford Street.	2, 4, 6, and 8 "
20, 22, 24, 26, 28, and 30, Regent Street.	146, Whelley.
27, 29, 31, 33, 35, and 37, Regent Street.	206 and 208, Whelley.
17, 19, 21, 23, and 25, Regent Street.	210 and 212 "
1, Bank Terrace, Longshoot.	214 "
2, 4, 6, 8, 10, 12, and 14, Ardern Street.	216 and 218 "
1 and 3, Ardern Street.	220, 222, 224, 226, 228, and 230, Whelley.
3, 5, 7, 9, and 11, Regent Street	254, 256, 258, and 260, Whelley.
1, 2, 3, 4, 5, 6, 7, 8, and 9, Crawford Terrace.	262, 264, 266, and 268 "
9, 10, 11, 12, 13, and 14, Mint Street.	322, 324, 326, and 328 "
3, 4, and 5, Mint Street.	330 "

ST. THOMAS WARD.—(No. 5).

SITUATION OF PROPERTY.

- 3, 5, 7, 9, and 11, Bridge Street.
 1, 2, 3, and 4, Pearce's Yard.
 1, Litherland's Yard.
 13, 15, 17, 19, and 21, Bridge Street.
 23, 25, and 27 " "
 12 and 14 " "
 24, 26, and 28 " "
 30, 32, and 34 " "
 1 and 2, Hill's Yard.
 18 and 22, Bridge Street.
 82, 86, 88, 94, 98, 100, Caroline street.
 29 and 31, Caroline Street.
 49, 51, 53, 55, 57, and 59, Caroline Street.
 69, Caroline Street.
 55 and 57, Hodson Street.
 51 and 53 " "
 39 and 41 " "
 19, 29, and 31 " "
 7, St. Thomas Street.
 1 and 12, Cross Street.
 31 and 33 " "
 2, 4, 6, and 8 " "
 1, France's Yard.
 2, 4, 6, 8, 10, 12, 14, 16, 18, and 20, Woods Street.
 1, 3, 5, 7, 9, 11, 13, 15, and 17, Woods Street.
 5 and 6, Wood's Yard.
 27 and 29, Driving Lane.
 7, 9, 11, 13, 15, 17, 19, 21, and 23, Driving Lane.
 1, 3, and 5, Driving Lane.
 1 and 3, James Street.
 41, 45, and 47, James Street.
 1, 2, 3, 4, 5, and 6, Wood's Yard, James Street.
 5, 7, 9, 11, 13, 15, 17, 19, and 21, Princess Street.
 1, 2, 3, 4, 5, 6, 7, 8, and 9, Potter's Square.
 37 and 39, Princess Street.
 1, 2, 3, 4, 5, 6, 7, 8, Ashton's Yard.
 45, 47, 49, 51, 53, and 55, Princess Street.
 46 and 48, Princess Street.
 1, 2, 3, and 4, Dobson's Yard.
 30, 32, 34, 36, and 38, Princess Street.
 40, 42, and 44, Princess Street.
- 3, 4, and 5, German's Yard.
 4, 6, 8, 10, 12, and 14, Princess Street.
 27, and 29, Chapel Street.
 19, 21, and 23 " "
 5, 7, 9, 11, and 13 " "
 91, 93, and 95, Queen Street.
 4, Hilton's Yard.
 69, 71, 73, 75, 77, and 89, Queen Street.
 81, 83, 85, 87, and 89, Queen Street.
 2, 4, 6, 8, 10a, 12a, and 14, Ironmonger Lane.
 16, 18, and 20, Ironmonger Lane.
 1, 3, 5, 7, 9, and 11 " "
 13, 15, 17, 19, and 21 " "
 55, Queen Street.
 1, 2, and 3, Riley's Yard.
 25, 27, 29, and 31, Queen Street.
 1, 2, 3, and 4, Brown's Yard.
 10, 12, 14, 16, 18, 20, 22, 24, and 26, Queen Street.
 1, 2, 3, and 8, Ashcroft's Yard.
 38, 40, 42, and 44, Queen Street.
 48, 50, 52, 54, 56, 58, and 60, Queen Street.
 1, 2, 3, 4, 5, and 6, Wiggan's Yard.
 62, 64, 66, and 68, Queen Street.
 78 and 80 " "
 11, 12, and 13, Faggy Lane.
 1, 2, and 3, Gore's Yard.
 1, 2, and 3, Lyon's Yard.
 1, 2, and 3, Hardy's Yard.
 11, 13, 15, 17, 19, 21, and 23, Bradford Place.
 24, Bradford Street.
 1 and 3, Ann Street.
 8, 10, and 12, Wood Street.
 7, 9, 11, 13, 15, 17, and 19, Wood Street.
 6, Acton's Walk.
 3, 4, 5, 6, 7, 8, 9, 10, and 11a, Farrimond's Row.
 11, 12, 13, 14, 15, and 16, Farrimond's Row.
 17, 18, and 19a, Farrimond's Row.
 10, 12, 14, and 16, Victoria Street.
 53, Hopwood Street.
 1, 2, 3, and 4, Benson's Yard.
 21, 23, 25, and 27, Adelaide Street.
 13, 15, and 17, Adelaide Street.

BOROUGH SURVEYOR'S DEPARTMENT.

The Borough Surveyor has kindly furnished me with the following information :—

	Tons.	Cwt.	Qrs.
House refuse collected in the Borough from January 1st to December 31st, 1897	15,169	10	2
Pail excreta removed same date.....	7,208	18	2
Nightsoil removed same date	633	3	0
No. of pail closets in Borough.....	8,400		
No. of pails collected in 1897.....	466,812		
No. of pails collected in 1896.....	471,619		
Cost (including washing and distribution) in 1897.....	£1,960	14	8½
Cost (including washing and distribution) in 1896.....	£2,082	9	1½
Cost of collecting ashes during the same period was ...	£1,516	16	9¼
or 1s. 10½d. per ton.			
Cost of collecting ashes during 1896, was	£1,576	3	5
or 1s. 10½d. per ton.			
No. of privy middens in Borough	62		
No. of privy middens emptied (1897)	462		
No. of privy middens emptied (1896)	494		
No. of new houses erected in 1897.....	190		
No. of slop closets put in ,,	193		
No. of water closets in Borough, 1897	1403		

WM. BOLTON,
Borough Engineer.

TABLE OF DEATHS during the Year 1897, in the Wigan Urban Sanitary District, classified according to Diseases, Ages, and Localities.

Names of Localities adapted for the purpose of these Statistics.	Mortality from all causes, at subjoined Ages.								Mortality from subjoined causes, distinguishing Deaths of Children under Five Years of Age.																		
	At all Ages.	Under 1 Year.	1 and under 2.	5 and under 3.	under 5.	15 and under 15.	25 and under 25.	65 and upwards.	Under 5.	5 upwards.	Under 5.	5 upwards.	Under 5.	5 upwards.	5 upwards.	Whoo'g Cough.	Diphtheria.	Dysentery and Cholera.	Rheumatic Fever.	Phtisic.	Pneumonia and Pleurisy.	Heart Disease.	Convulsions and Wasting.	Injuries.	All other Diseases.	Total.	
WIGAN	1270	395	235	50	48	407	135	5 upwards.	5	4	9	10	5	1	1	34	43	68	5	8	9	125	61	132	8	193	630
Deaths occurring within the District among persons not belonging thereto.												1			1				2				2	1	4	9	

TABLE OF POPULATION, BIRTHS, AND NEW CASES OF INFECTIOUS SICKNESS, coming to the knowledge of the Medical Officer of Health, during the year 1897, in the Wigan Urban Sanitary District; classified according to Diseases, Ages, and Localities.

New Cases of sickness in each locality, coming to the knowledge of the Medical Officer of Health.

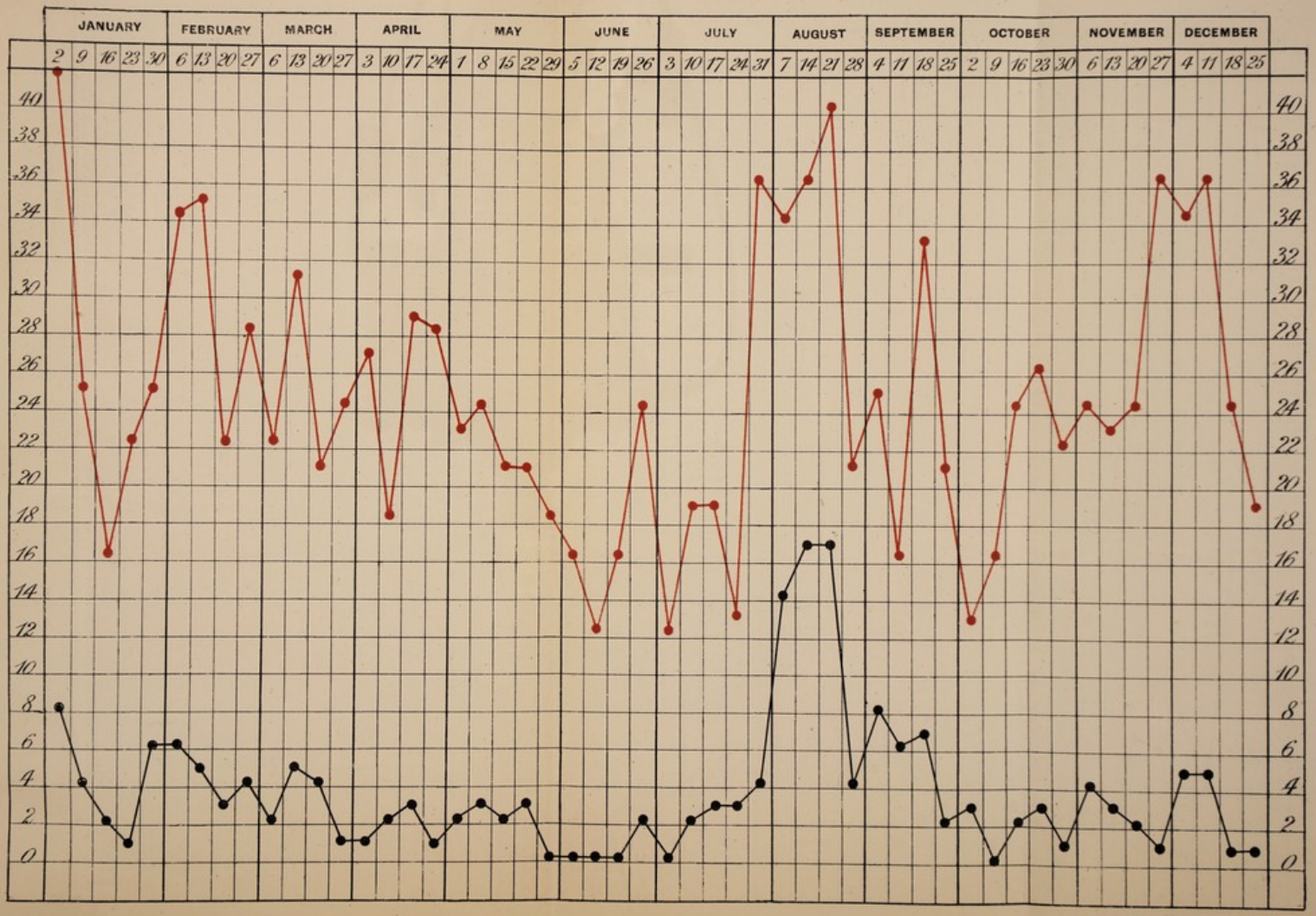
Number of such cases removed from their homes in the several localities for treatment in Isolation Hospital.

Name of Localities.	Last Census.	Registered Births.	Typhus.			Enteric or Typhoid.			Cholera.			Scarlatina.	Diphtheria.			Enteric or Typhoid.
			Under 5.	5 upw.	130 upwards.	Under 5.	5 upw.	130 upwards.	Under 5.	5 upw.	130 upwards.		Under 5.	5 upw.	130 upwards.	
WIGAN	55013	2247	8	15	1	4	59	0	1	1	30	1	1	1	1	24
INFIRMARY											3					
HAIGH.....											1					1
ASPULL											1					1

DEATH RETURNS CHART 1

1897.

All Causes. (Red)
Zymotics. (Black)



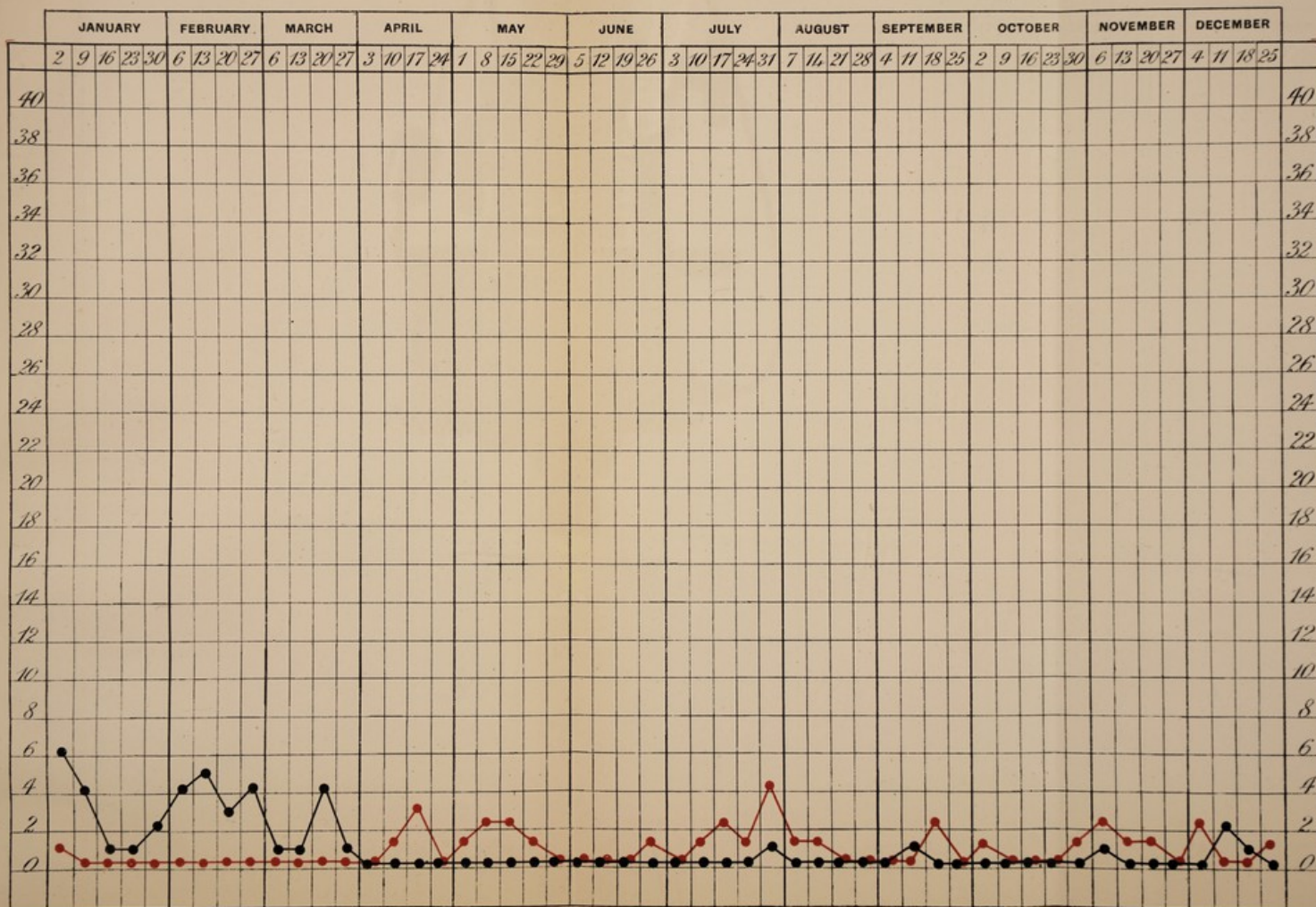


DEATH RETURNS CHART 2

: 1897. :

Measles. (Red)

Whooping Cough. (Black)





COUNTY BOROUGH OF WIGAN.



ANNUAL REPORT

OF THE

CHIEF SANITARY INSPECTOR.

JOHN SUMNER, Assoc. San. Inst.

WIGAN :

THOS. WALL AND SONS, PRINTERS, "OBSERVER" OFFICE, WALLGATE.

1898.

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Annual Report of the Chief Sanitary Inspector.

SANITARY DEPARTMENT,

17, RODNEY STREET,

1st FEBRUARY, 1898.

To the Chairman and Members of the Sanitary and Sewerage Committee.

GENTLEMEN,

I have the honour to submit to you my Seventh Annual Report of the work done by the staff of the Sanitary Department during the year ending December 31st, 1897.

The following tables will explain fully the detailed work done.

Owing to the epidemic of measles and the constant supervision of the different infected houses, there has not been much house to house inspection done.

The smoke nuisance has received considerable attention, and I think with beneficial effect.

The factories and workshops have received every attention from the Inspector (Mr. Bishop).

SUMMARY OF NUISANCES DEALT WITH DURING 1897.

Houses and Premises Inspected	4653
Nuisances Discovered	1054
" Abated	
Notices Issued (Preliminary)	573
" (Formal)	132
Circular letters sent out	87
Re-inspection made (about)	4820
Summonses taken out	Nil
Convictions or Orders to Abate	Nil
Dismissed or Withdrawn	Nil
Amount of Penalties	Nil
" Costs	Nil
Nuisances on the book December, 1896... ..	120
" " December, 1897... ..	

NUISANCES DEALT WITH.

Defective Drains	44
Choked Drains	110
Defective Trapped Gullies... ..	1
„ Sink Wastepipes	27
Sinkpipes connected to Drains	8
Bath and Lavatory Wastepipes connected to Soilpipes or Drains	4
Soilpipes Defective	3
„ Unventilated	14
„ Inside Premises	2
Defective W.C.'s	14
„ Pail Closets	61
„ Waste Water Closets	6
„ Ash Places	23
„ Privies	4
W.C.'s without proper Water Supply	3
Defective W.C. Cisterns	2
„ Urinals	2
„ Spouts	99
„ Roofs	33
„ Unpaved Yards and Passages	186
Houses without proper Drainage	4
„ Overcrowded	28
„ Filthy	1
„ with Filthy Closets	65
„ with Filthy Yards... ..	4
„ Damp and Defective Walls	17
Defective Middenstead	2
Accumulation of Manure	33
Keeping of Animals	148
Dirty Workshops	1
„ Bakehouses	0
„ Slaughterhouses	1
Miscellaneous	103
Smoke	1

COMMON LODGING HOUSES.

There are now 16 Common Lodging Houses in the Borough, one having been given up during the year. There have not been any prosecutions, but in several instances caution has been necessary to keep the lodging house keepers alive to their responsibilities.

No. of Common Lodging Houses Registered in Borough...	16
No. of Lodgers registered for	561
No. of Visits by day	1106
No. of Visits by night	487
No. of Lodgers reported as being received	145921
No. of Summonses	Nil
No. of Convictions	Nil

SLAUGHTER-HOUSES, &c.

There are now 20 slaughter-houses, 2 fellmongering establishments and 2 gut-scraping premises registered in the Borough, and these have been regularly visited and inspected during the year.

The Markets have been regularly visited, and generally found satisfactory.

The following shows the unwholesome food seized :—

No. of Seizures.	Articles.	
7	Beef	3884lbs.
8	Flat Fish	6930lbs.
3	Shell Fish	1574lbs.
9	Rabbits	783
1	Pigs' Bellies	251lbs.
No. of Prosecutions		1
„ Convictions		1
Amount of Fine		£5 0s. 0d.
„ Costs		£1 7s. 0d.

The undermentioned were destroyed at Miry Lane Depôt, where they had been taken by the tradesmen of the town, after having been inspected and declared unfit for food :—

	Tons.	Cwts.	Qrs.
Flat and Shell Fish	11	10	1
Pork	0	4	3
Sundries	3	7	1

CANAL BOATS ACTS, 1877-1884.

During this year there has not been so much work done in this department as in previous years, which is accounted for by the extra work entailed by infectious diseases.

No. of Canal Boats Registered at Wigan	144
„ Applications for Registration	3
„ „ Granted	3
„ Inspections made	160
„ Contravention of Regulations... ..	14
„ Notices Issued	8
„ „ Complied with... ..	0
„ Boats Re-registered	0

INFECTIOUS DISEASE PREVENTION ACT, 1890.

No. of Houses Disinfected...	...	...	...	704
„ Rooms	„	...	...	1089
„ Beds	„	...	...	449
„ Mattresses	„	...	...	206
„ Sheets and Quilts Disinfected	...	...	...	1618
„ Articles of Clothing	„	...	...	2221
Houses Cleansed and Limewashed	...	...	...	520

FOOD AND DRUGS ACTS, 1877 AND 1879.
MARGARINE ACT, 1887.

No. of Samples obtained	...	...	...	...	58
„ genuine	...	...	...	...	53
„ adulterated	...	...	...	...	5
Milk	...	...	...	...	32
Butter	...	...	...	...	8
Tea	...	...	...	...	2
Coffee	...	...	...	...	2
Brandy	...	...	...	...	2
Whiskey	...	...	...	...	12
Prosecution	...	...	...	...	1
Conviction	...	...	...	...	1
Fine	...	...	...	...	£1 0s. 0d.
Costs	...	...	...	...	£1 12s. 0d.

(Four Cautioned and paid Costs.)

SLAUGHTER-HOUSES.

No. on Register.				
1	Behind 8, Darlington Street	...	...	W. Moore
2	60 „	...	...	J. H. Green
4	Watmough's Yard, Scholes	...	...	W. McAvoy
6	Upper Morris Street	...	...	W. Walsh
7	Rigby's Buildings, Scholes	...	...	H. Smith
8	Behind 124, Scholes	...	...	J. Watts
11	Wiend	...	...	H. Sawbridge
12	Water Street	...	...	J.H.&W.Cordeaux
14	Behind 75, Wigan Lane	...	...	J. Jackson
18	Bottom Croft	...	...	R. Johnson
19	Shaw's Yard, Hallgate...	...	...	J. Smirk
24	Clayton Street	...	...	C. Sawbridge
28	Hilton's Yard, Scholes...	...	...	J. Hilton

SLAUGHTER-HOUSES.—CONTINUED.

No. on Register.					
29	Mill Yard, Scholes	...	...	...	E. Hamill
30	Behind 53, Birkett Bank	...	...	...	W. Hasleden
32	Altham's Yard, Standishgate...	...	...	...	J. H. Fearnley
35	New Square	„	...	...	F. Knorzer
36	Silver Street	...	...	...	E. McAvoy
39	Behind 133, Standishgate	...	...	...	Jos. Hill
41	Behind 122, Scholes	...	...	...	J. Lowe

FELLMONGERS.

Millgate	...	...	...	...	T. E. Dix
Water Street	...	...	...	...	Exors. of W. Brayshay

GUT SCRAPERS.

Shaw's Yard, Hallgate	...	...	...	...	Christopher Eckman
Robin Hood Yard	...	...	...	...	Carl Harder

COMMON LODGING HOUSES.

No. on Register.					No. Registered for.
5	1, 3, and 5 Union Street	...	...	...	48
7	87, 89, and 91, Millgate	...	...	...	44
8	1, Hardybutts	...	...	...	24
10	31, Scholes	...	...	...	15
12	1, Swift's Yard, Millgate...	...	...	...	38
14	7, Hardybutts	...	...	...	11
18	21, Rylance Row	...	...	...	9
19	22, Rylance Row	...	...	...	7
24	28, Wiend	...	...	...	41
26	30, Hallgate	...	...	...	16
34	27, Hallgate	...	...	...	85
35	19, Warrington Lane	...	...	...	29
37	7 and 9, Union Street	...	...	...	52
38	36 and 38, Hardybutts	...	...	...	88
39	21, Hardybutts	...	...	...	17
40	5, 7, and 9, Scholes	...	...	...	37

OFFENSIVE TRADES.

The places of business coming under this head have been regularly visited and found generally satisfactory. The usual complaints during warm weather have been received and attended to.

THE SMOKE NUISANCE.

Since you instructed me in April to visit other towns of a like character to Wigan, and the issue of my report in May, there has been a better state of affairs in our town with regard to smoke nuisances.

The following letter was sent to all the firms in the town who possess large boilers and chimney stacks.

Sanitary Department,
17, Rodney Street.

DEAR SIR,

I have had occasion to draw the attention of the Sanitary Committee to the serious nuisance caused by the emission of dense black smoke from the chimneys of the different mills and works in the Borough.

The Committee do not desire to institute proceedings needlessly, nor are they desirous of harassing the owners ; they rely upon the cordial co-operation of the manufacturers to reduce as far as practicable the emission of black smoke.

I feel certain I have only to remind you of the consequence which must follow the continuance of the nuisance to induce you to make such alterations as will prevent the nuisance continuing on your premises.

Unless this is done the Local Authority will be compelled to put in force the powers for dealing with nuisances of this kind.

I shall be glad to hear that you have decided to adopt such measures as will render unnecessary any further steps on the part of the Sanitary Authority.

I remain,

Yours faithfully,

JOHN SUMNER,

Chief Sanitary Inspector

The following is my report on the subject :—

Corporation of Wigan,
Sanitary Department,
17, Rodney Street,

14th May, 1897.

To the Chairman and Members of the Sanitary and Sewerage Committee
SIR AND GENTLEMEN,

As instructed by you, I have the honour to report to you on the smoke nuisance which exists in the Borough, and one or two recommendations thereon.

The Medical Officer of Health for the Borough and I have given the matter very serious attention for some considerable time past, and we sincerely hope that immediate steps will be taken by you and the Council as will give a little more brightness and a healthier atmosphere than that existing in the town at the present.

The Public Health Act, 1875, section 91, states :—(1) Any fireplace or furnace which does not as far as practicable consume the smoke arising from the combustible used therein, and which is used for working engines by steam, or in any mill, factory, dyehouse, brewery, bakehouse, or gasworks, or in any manufacturing or trade process whatsoever, and (2) Any chimney (not being the chimney of a private dwelling-house) sending forth black smoke in such quantity as to be a nuisance shall be deemed to be a nuisance, and liable to be dealt with summarily in manner provided by this Act.

The emission of dense smoke from boiler furnaces *can* be avoided, or, if not wholly so, can be so materially abated as to do away with the nuisance, either by fixing a suitable apparatus, or by careful attention on the part of the person charged with the firing of the said boiler furnace.

Many manufacturers assert that the consumption of black smoke causes more injurious (though less visible) gases to escape into the atmosphere, but chemical experts assure us that such is not the case, and that the lightest smoke consists of the same substances as the darkest, but the proportion of the mixture differs. The bulk of all furnace smoke is a colourless carbonic acid gas, and in this float the particles of soot or unconsumed carbon which alone constitutes the visible part of the ordinary smoke. The production of smoke is no economy to the manufacturer, but is a great waste of money in the shape of unconsumed fuel. Besides being wasteful, black smoke is injurious, and Professor Roberts (School of Mines) states that the smoke cloud which daily covers the Metropolis is of 300 tons weight, and contains fifty tons of solid carbon, and gives it as his opinion that the yearly value of this cloud of smoke cannot be valued at less than £2,100,000. Dr. Littlejohn, reporting at Sheffield, states : " Nothing will bring the truth of this home to many of us better than a statement of the annual consumption of coal in the town. Roughly calculated, but sufficiently accurate for the purpose, the amount of coal consumed annually in Sheffield is about 1,250,000 tons, and this, too, within an area of 30 square miles. Excluding, however the rural and thickly populated portion of the city, the area in which this enormous consumption takes place cannot be more than 20 square miles, while the great bulk is consumed in the districts of Attercliffe and Brightside, which have a combined area of about seven square miles. In a paper published in 1892 by Mr. A. E. Fletcher, it was estimated that the coal consumption of London was the same as in Sheffield, spread, however, over an area of no less than 225 square miles. Such a fact as this brings home vividly one of the causes why the town has often a somewhat gloomy and depressing aspect, and at the same time draws attention to one of the obstacles in the way of attaining, notwithstanding the efforts which have been made, any striking and distinct purification of the atmosphere."

Mr. A. E. Fletcher (late Chief Inspector of Alkali Works) says the public are largely interested in the question of the abatement of the smoke nuisance, because they have to breathe the discharge from foul chimneys.

In this report I do not intend to advocate the use of any particular form of apparatus, because there are so many different forms of such on the market, all of which seem to possess some good qualities. I leave this matter entirely to the firms interested.

The majority of those in use are either "Sprinklers" or else "Coking" machines.

The first-named are said to give a greater rate of combustion by throwing the fuel in a continuous, or nearly continuous, shower on to the bars, and thereby causing quick ignition.

The coking machines introduce the coal into the furnace slowly and in an unbroken stream, and an arch of firebrick is sometimes used to ignite the upper surface of this stream of radiation, and by contact with its sides, and in other case, by using a step grate by which some incandescent fuel is retained at the front of the furnace over which the fresh fuel is caused to pass, thus extending the igniting surface.

Mr. A. E. Fletcher (a great authority on the subject) says that :—

- (1) For regular work, and where several boilers are used, a mechanical stoker is certainly to be recommended. It is then a source of economy in that
 - (a) A cheaper coal may be used than where "hand firing" is relied on ; also in that
 - (b) A stoker may attend to one more boiler than when he has all the work of firing to do ; and again, in that
 - (c) The wear of the boiler is less destructive than with hand firing. Manufacturers should be urged to take every precaution against the discharge of smoke, not on account of economy, but as a duty to their neighbours.

Of machine stokers the cokers are to be preferred to sprinklers, for the latter, by throwing some coal very far on the fire, keep up a bright smoke constantly. Also when the draught is good small particles of coke are thrown off through the chimney.

On the other hand, the sprinklers are said to raise more steam than the others.

Of coking stokers, that is, of machine stokers where the coal is all admitted in the front of the fire, where it cokes, and is gradually worked on towards the bridge, there are a good many patterns.

Hand firing may be smokeless by the exercise of skill, and by the proper admission of air. Hollow bars and the split bridge are very useful in this respect.

In furtherance of the object of this report I was instructed to visit both Bolton and Leeds and examine the different methods used, and ascertain the steps taken in those towns to suppress the nuisance. At Bolton I saw both of the methods I have mentioned, and was very much struck with the small amount of smoke emitted from the chimneys of the town during our observations, and I was informed by the inspector (Mr. Thompson) that only on rare occasions was *four minutes* in the hour exceeded by any firm. There is a wonderful difference between them and our own town, where the time is never less than 12, and often reaches 25 minutes in the hour.

The following statistics relating to several places were collected by our late Chief Sanitary Inspector (Mr. Albert Taylor), and will be found very interesting :—

TOWN.	Length of Observation.	Maximum Allowance in hour.	
Bath	2 or 3 hours	5 min. in hour	
Blackburn	1 hour	7 "	
Brighton	Varies	2 "	
Bolton	$\frac{1}{2}$ hour	5 "	
Birmingham	1 "	15 "	
Birkenhead	Varies	4 "	
Bury	1 hour	10 "	
Croydon	Varies	10 "	
Glasgow	1 hour	Not fixed.	Proceedings frequently taken for two or three minutes' black smoke. Police take the observations.
Huddersfield	1 "	7 minutes	
Halifax	1 "	5 "	Smoke Inspector is provided with $\frac{1}{2}$ plate snap-shot camera
Hull	1 "	Not fixed	
Leeds	1 "	5 minutes	Three Smoke Inspectors.
Liverpool	Varies	4 "	
London County C'ncil	"	1 to 5 minutes	Five minutes are allowed when furnaces are lighted, but only 1 minute afterwards
Manchester	$\frac{1}{2}$ hour	5 "	
Nottingham	10 minutes	3 to 5 "	Four Smoke Inspectors. Police take observations.
Norwich	1 hour	10 "	
Oldham	$\frac{1}{2}$ "	4 "	
St. George's, Hanover Square	$\frac{1}{2}$ "	5 "	
Salford	1 "	5 "	
St. Helens	1 "	5 "	
Sheffield	1 "	6 "	Allowance varies with number of boilers in use.
Rochdale	1 "	8 "	
Middleton	$\frac{1}{2}$ "	12 "	
Warrington	$\frac{1}{2}$ "	6 "	

In Bolton they do not work under the 1875 Act with regard to smoke. A Provisional Order was granted in 1893, which provides :—

1. (a) " If any fireplace or furnace for the time being employed within the Borough in the working of engines by steam (not being a locomotive engine used on the railway of any company incorporated by Act of Parliament), or used for the purpose of trade or manufacture, or baths, or wash-houses (although a steam engine is not used or employed therein), is not so constructed as to consume or burn the smoke arising from such fireplace or furnace, the owner or occupier of the building or land in or on which such fireplace or furnace is situate shall be liable to a penalty not exceeding ten pounds.
- (b) If any such owner or occupier uses any such fireplace or furnace not so constructed as aforesaid, or if any such owner or occupier, or any engineer, fireman, stoker, foreman, or other person employed by such owner or occupier, negligently uses any fireplace or furnace so constructed as aforesaid, in such manner that the smoke arising therefrom is not effectually consumed or burnt, he shall be liable to a penalty not exceeding ten pounds, and to a further penalty not exceeding forty shillings for every day during any part of which such fireplace or furnace is so continued to be used after one month's notice, in writing, given by the Corporation to the owner or occupier to remedy or discontinue the same.
- (c) If any such owner or occupier refuses to allow such building or land to be inspected by a person authorised by the Corporation, then any person so authorised may, by warrant under the hand of a justice (which warrant any justice is authorised to grant), enter into and upon such building or land, and examine any such fireplace or furnace.

Provided that these provisions shall not be held in all cases to mean that it shall be necessary to consume or burn all the smoke, but the court hearing an information or complaint against a person shall dismiss the information or complaint if of opinion that such person has so constructed his fireplace or furnace, or fireplaces or furnaces, as to consume or burn, as far as practicable all the smoke arising from such fireplaces or furnaces, and has carefully attended to the same, and consumed or burned as far as possible, the smoke arising from such fireplace or furnace, or fireplaces or furnaces.

2. (a) If from any chimney, not being the chimney of a private dwelling house, black smoke is emitted either in such quantity as

to be a nuisance, or where the best practical means for preventing such emission are not in use, the Corporation may, and, on complaint by any person aggrieved, or by two inhabitant householders of the borough, shall cause notice to be given to the owner or occupier of the land on which such chimney is situate, or to the owner or occupier of the furnace or fireplace in connection with which such chimney is used, to discontinue such emission, and, if after such notice the emission is repeated, such owner or occupier shall for each such offence be liable to a penalty not exceeding five pounds, and on each subsequent conviction to a penalty not exceeding twenty pounds.

- (b) Where more fireplaces or furnaces than one communicate with a single chimney, or a chimney is used in connection with more fireplaces or furnaces than one, the names of the several owners or occupiers of the buildings or land on which such fireplaces, or furnaces, or chimney are situate may be included in one summons, and the justice or justices before whom the case is brought may, in his or their discretion, apportion the penalty between the several owners or occupiers, as the case may be, or impose a penalty on one or more such owners or occupiers to the exclusion of the others."

At Leeds the results were also very satisfactory. I met the Smoke Inspector by appointment, and, in company with him, made some observations and inspections, the result of which were very satisfactory indeed. At one place which we visited (a dye works), where the furnaces were hand-fired, and where we had two men continually firing, there was no dense smoke given off at all during our observations, which extended over half-an-hour.

At Leeds they work under the following :—

SMOKE PREVENTION.

Sections Extracted from "The Leeds Improvement Act, 1866."
(29 and 30 Vict.)

LXX. And whereas by the twenty-fifth section of the said Act of 1856, it is enacted that, from and after the first day of March, 1857, every furnace employed in the Borough of Leeds for the purposes in the said Section mentioned, shall, in all cases, be constructed or altered so as to consume the smoke arising from such furnace, but the said enactment is so limited by various subsequent provisions as to be practically nugatory, and the nuisance arising from the smoke in the said borough not only continues, but increases to the great injury of the health of the inhabitants of the borough, and also of the vegetation and property within and in the neighbourhood of the borough : Be it enacted, that the twenty-

fifth, the twenty-sixth, the twenty-seventh, the twenty-eighth, the twenty-ninth, and the thirtieth Sections of the said Act are hereby repealed, and in the stead thereof the following provisions shall be in force, as follows :—

(A.) From and after the passing of this Act, every furnace employed or to be employed in the Borough of Leeds, in the working of engines by steam, and every furnace employed or to be employed in any mill, factory, printing house, dye house, iron foundry, glass house, distillery, brew house, sugar refinery, bakery, gasworks, waterworks, or other buildings used for the purpose of trade or manufacture within the said borough (although a steam engine be not used or employed therein) shall in all cases be constructed or altered so as to consume or burn the smoke arising from such furnace ; and if any person shall hereafter within the said borough use any such furnace which shall not be constructed so as to consume or burn its own smoke, or shall so negligently use any such furnace as that the smoke arising therefrom shall not be effectually consumed or burnt, or shall carry on any trade or business which shall occasion any obnoxious or offensive effluvia, or otherwise annoy the neighbourhood or inhabitants, without using the best practicable means for preventing or counteracting such annoyance, every person so offending, being the owner or occupier of the premises, or being a foreman or other person employed by such owner or occupier shall, upon a summary conviction for such offence before any justice or justices, forfeit and pay a sum not more than Five pounds nor less than Forty shillings, and upon a second conviction for such offence the sum of Ten pounds, and for every subsequent conviction the sum of Twenty pounds ;

(B.) Provided always, that the words “ consume or burn the smoke ” shall not be held in all cases to mean “ consume or burn all the smoke,” but that the justice or justices before whom any person shall be summoned shall not impose the penalties enacted by this Act if he or they shall be of opinion that so far as, in the judgment of the said justice or justices, is practicable, without damaging the article manufactured or operated upon, or rendering necessary any expenditure or inconvenience which in the opinion of the said justice or justices shall be unreasonable, such person has so constructed or altered his furnace as to consume or burn, as far as possible, all the smoke arising from such furnace, and has carefully attended to the same, and consumed or burned the smoke arising from such furnace ;

(C.) No means for the prevention or consumption of smoke shall be deemed practicable within the meaning of this Act, as regards the application to any dye pan, dye vat, or dye vessel, used for the dyeing of wool, woollens, or worsted stuffs, or as regards the smelting of

iron ores, or the refining, puddling, shingling, and rolling of iron or other metals, or the melting and casting of iron into castings, or as regards the coking of coal, or the calcining of ironstone or limestone, or the making or burning of bricks, quarries, tiles, or pipes, unless it shall be proved to the satisfaction of the justice or justices, or, in case of appeal, to the satisfaction of the court of quarter sessions, that the same have been successfully applied in similar processes, and are in actual operation, and have been used for Twelve months in similar processes or in similar trades, under like circumstances ;

(D.) All persons whatsoever making use of any buildings within the borough or of fires casting up large quantities of smoke or flame shall alter all the chimneys and furnaces which are now made, and shall construct all chimneys and furnaces which shall at any time or times hereafter be made in or in connection with any such buildings of such respective heights, not exceeding Ninety feet, as the council shall order or direct, for the purpose of preventing as much as may be the same from being a nuisance, and every person who shall neglect or refuse to alter or construct his chimney or furnace according to such order or direction, for the space of Three months after notice in writing for that purpose, signed by the town clerk, or any officer appointed by the council shall have been given to him or left at his dwelling-house, or at the building in which such chimney or furnace is placed, or to which the same belongs, shall forfeit and pay any sum not exceeding Ten shillings for every day during which after the expiration of such Three months he shall use any such chimney or furnace, which shall not have been altered or constructed according to such order and direction : Provided always, That no penalty shall be imposed on any person for any alleged offence against any such order or direction as aforesaid, unless it shall be proved to the satisfaction of the justice or justices before whom the case shall be heard, or, in case of appeal, to the satisfaction of the court of quarter sessions, that the alteration or construction of the chimney or furnace of such person required by such order or direction may be made or affected without damaging the article manufactured or operated upon, or rendering necessary any expenditure or inconvenience which, in the opinion of such justice or justices, or of such court of quarter sessions (as the case may be) shall be unreasonable ;

(E.) If the owner or occupier of any premises to which this Act shall apply shall refuse to allow his premises to be inspected by the inspector of smoke, or if any person complaining of the issue therefrom of an excessive quantity of smoke, shall lay an information on oath before a justice of the peace, it shall be lawful for any constable or constables, authorised by warrant under the hands of two of Her

Majesty's justices of the peace for the said borough, to enter, with the inspector of smoke, who shall be bound to act under such warrant, into and upon any building or premises in the said borough in which any furnace may be or in which such noxious trade or business may be carried on, and to examine into the construction of and manner of using such furnace; and any person obstructing any such constable, or his assistants, in the execution of any such warrant or order shall, upon a summary conviction for such offence before any justice or justices, forfeit and pay any sum not exceeding Twenty pounds;

(F.) The council of the borough shall within three months after the passing of this Act appoint a fit person to be an inspector of smoke in the said borough, and shall pay to the said inspector such salary as they may from time to time determine; and may at their pleasure remove any person so appointed, and shall appoint from time to time some other fit person in the room of any inspector who shall be so removed, or who shall die or resign his office, and the salary so fixed shall be paid by the Corporation out of the improvement rates to be levied in and throughout the borough;

(G.) It shall be lawful for the said inspector, and he is hereby required to commence and prosecute at his discretion information or legal proceedings against any person for the recovery of any penalty or forfeiture to be incurred under or by virtue of the enactments hereinbefore contained with respect to the prevention or consumption of smoke, and that without any authority from, or reference to, the council of the borough, or any committee thereof; and the expenses reasonably incurred by the inspector in the performance of his duty shall be from time to time paid by the Corporation out of the improvement rates to be levied in and throughout the borough, and it shall also be lawful for any other person to commence and prosecute at his own cost and risk any such information or proceeding, provided that such person is an inhabitant of the borough.

LIX. The Corporation from time to time may regulate the height of the chimneys of all buildings, on or at any time after the passing of this Act, used for the purposes of trade or manufacture, or for baths and wash-houses, and may by order in writing direct that any chimney shall be altered or built so that the same shall be of the height specified in such order; and any person who shall not comply with such order, or who, in the case of any new chimney, shall neglect to give Seven days' notice in writing to the Corporation, or their surveyor, of his intention to build the same, shall for every such offence forfeit not exceeding Twenty pounds.

Besides making personal inspections and enquiries at the two mentioned places, I wrote several other districts of a light character to Wigan for their ideas and plans of procedure on the subject, with the following result :—In Leeds, Liverpool, Manchester, Birmingham, and some other large provincial towns the work is carried on by inspectors, who are practical men, but in the others the work falls on the sanitary staff, and they have forms and notices provided which they serve on the owners or firemen, according to the Inspector's idea as to who is at fault.

I append a form and notice, which I think would suit our purpose, and ask that you would make some arrangement by which we can serve the notice and take action (on the Town Clerk's advice) without further troubling the Committee.

Might I suggest that a letter be drafted and sent to each firm in the town pointing out the nuisance, and if they afterwards create a breach of the Act that we institute proceedings against them.

I would recommend that any time over eight minutes per hour of dense smoke be reckoned a breach of the Act, and that the person or persons offending be prosecuted, and that after twelve months the time be further reduced to five minutes, and that the period of time be fixed as suggested by Mr. Fletcher (late Chief Inspector of Alkali Works, viz., three minutes of continuous moderate to be counted as one of dense.

Since visiting Leeds I have had forwarded to me by the Town Clerk of Sheffield a report on this subject by their late Medical Officer of Health (Dr. Littlejohn, M.A., M.B., &c.), which I think conclusively proves that the smoke nuisance can be done away with to a very great extent, and is well worth everybody's perusal.

In conclusion, gentlemen, may I be allowed to impress on you the urgent need there is for some radical change from the present state of affairs, and, as your Medical Officer will tell you, a stimulus be given to reduce the death rate from bronchial affections.

I remain, Gentlemen,

Your obedient Servant,

JOHN SUMNER,
Chief Sanitary Inspector.

The above report was adopted by the Committee, and a time limit of 8 minutes was fixed as a maximum for dense smoke, and with beneficial results.

In concluding my report, gentlemen, allow me to cordially thank you for the support you have given this department in any steps that have had to be taken.

My thanks are also due to Mr. Short, Mr. France, and the others of my staff for their attention and zeal during the past year.

I remain, Gentlemen,

Your obedient Servant,

JOHN SUMNER,

Assoc. San. Inst.,
Chief Sanitary Inspector.

