

**Contributors**

Great Grimsby (England). County Borough Council.

**Publication/Creation**

1908

**Persistent URL**

<https://wellcomecollection.org/works/py7w37x7>

**License and attribution**

You have permission to make copies of this work under a Creative Commons, Attribution license.

This licence permits unrestricted use, distribution, and reproduction in any medium, provided the original author and source are credited. See the Legal Code for further information.

Image source should be attributed as specified in the full catalogue record. If no source is given the image should be attributed to Wellcome Collection.

THE  
**ANNUAL REPORT**

ON THE  
Health of the County Borough and Port  
of Grimsby.

For the Year ending 31st December, 1908,

BY  
W. BULMER SIMPSON, M.B., D.P.H.

MEDICAL OFFICER OF HEALTH FOR THE BOROUGH  
AND PORT OF GRIMSBY.

---

GRIMSBY:  
ROBERTS & JACKSON, PRINTERS, 4 VICTORIA STREET & 12A FLOTTERGATE.

# TABLE OF CONTENTS.

	PAGE
Sanitary and Building Plans Committee .. .. .	3
Officers of Health Department .. .. .	4
Summary of Vital Statistics .. .. .	5
Birth and Death Rates .. .. .	8
General and Zymotic Causes of Death .. .. .	10
Measles, Whooping Cough and Diarrhœa .. .. .	10
General Causes of Death .. .. .	12, 13
Infantile Mortality .. .. .	21
Table of Deaths Classified according to age .. .. .	—
Annual and Quarterly Death Rate .. .. .	24
Acreage, Population, Density, &c. .. .. .	25
General and Zymotic Death Chart .. .. .	—
Notification of Infectious Disease .. .. .	26
Notification and Weather Chart .. .. .	—
Scarlatina and Diphtheria .. .. .	27, 28
Enteric or Typhoid Fever .. .. .	31
Puerperal Fever, Erysipelas .. .. .	34
General Drainage, Scavenging, Cleansing, and Sewer Ventilation .. .. .	35
Water Supply .. .. .	35
Fever Hospital Report .. .. .	37
Port Sanitary Report .. .. .	50
Report <i>re</i> S.S. Ashton .. .. .	62
Sanitary Inspector's Report .. .. .	75
Results of Analysis .. .. .	78
Common Lodginghouses .. .. .	80
Workshops .. .. .	81
Bakehouses .. .. .	83
Offensive Trades .. .. .	85
Infectious Diseases .. .. .	88



# SANITARY & BUILDING PLANS COMMITTEE,

*From November 9th, 1907, to November 1st, 1908.*

---

---

CHAIRMAN :

COUNCILLOR M. ABRAHAMS.

VICE-CHAIRMAN :

COUNCILLOR J. H. TATE.

ALDERMEN :

BROCKLESBY  
MARSHALL  
SOUTHWORTH  
HEWSON

MUDD  
SUTCLIFFE  
SIR GEO. DOUGHTY  
T. C. MOSS

T. KING  
J. PICKWELL  
H. SMETHURST

COUNCILLORS.

A. J. KNOTT  
COLLINS  
F. MOSS  
HOWE  
A. KING  
CONNELL  
SHEPHARD  
BEELS  
HARRISON  
WILLOWS  
HOSKINS

WING  
BARKER  
TYSON  
RAMSEY  
JOHNSON  
HUMPHRIES  
BANNISTER  
GIBSON  
WILKIN  
LOCKING

HOGG  
H. E. KNOTT  
WINTRINGHAM  
BENNETT  
KIRK  
MILLER  
MADDISON  
ROBERTS  
BEST  
ATKINSON

AND THE MAYOR, T. G. TICKLER, *ex-officio*.

TOWN CLERK :

W. GRANGE, Esq.

DEPUTY TOWN CLERK :

E. L. GRANGE, LL.D.

BOROUGH ENGINEER :

H. G. WHYATT, A.M.I.C.E.

DEPUTY ENGINEER :

J. G. R. BAXTER.



# HEALTH DEPARTMENT.

---

## MEDICAL OFFICER OF HEALTH :

W. BULMER SIMPSON, M.B., D.P.H., FELL. BRIT. INST. PUB. HEALTH.

## CHIEF SANITARY INSPECTOR :

HENRY F. MOODY, Assoc. Royal San. Inst.\*

## ASSISTANT SANITARY INSPECTORS :

JNO. G. WATSON, Assoc. Royal San. Inst.\*

MATTHEW CHAPMAN, Mem. Royal San. Inst.\*

R. MADELEY, Assoc. Royal San. Inst.

## PORT SANITARY INSPECTOR :

F. STOKES.

## OFFICE CLERK :

H. T. HAY, Assoc. Royal San. Inst.

## JUNIOR OFFICE CLERK :

T. E. DAVIDSON.

\* Also hold Certificate of Royal San. Institute as an inspector of meat and other foods.

---

# CORPORATION SANATORIUM.

---

## MEDICAL OFFICER :

W. B. SIMPSON, M.B., D.P.H.

## MATRON :

MISS E. BOWES.

## CHARGE NURSE :

MISS WORTHINGTON.

## PORTER :

J. NORMAN.

# Summary of Vital Statistics,

*Year ending December 31st, 1908.*

---



---

Population of Borough (estimated at middle of 1908) .....	71,800
Area of Borough (in acres) .....	3,260
Density of Population ( <i>i.e.</i> number of persons per acre) .....	22·21
Births :        {    Males    1203    {    Total .....	2,302
{    Females   1099    {	
Birth rate (per thousand) .....	32·06
"      "      (England and Wales, 1908) .....	26·5
Deaths :        {    Males    577    {    Total .....	1,040
{    Females   463    {	
Death rate (per thousand) .....	Crude { 13·99
	Corrected { 14·98
"      "      (England and Wales, 1908) .....	14·7
"      "      76 Great Towns .....	15·3
Zymotic death rate (per thousand) .....	1·60
Phthisis        "      "      .....	1·21
Respiratory Diseases death rate (per thousand) .....	2·45

## INFANTILE MORTALITY.

Total number of deaths of Infants under one year of age .....	314
Equal to a death rate per thousand births of .....	136



# POPULATION.

The estimated population of the County Borough of Grimsby at the middle of 1908 was 71,800, thus showing an increase of only 580.

This small increase is due to the fact that the numbers given in last year's report were the estimated population at the end of the year. To keep in line with the Registrar-General's figures the number given is that of his estimate at the middle of 1908, based on a combination of geometrical and arithmetical progression as applied to the ascertained rate of increase in the previous intercensal period.

The natural increase in population during the 12 months ending December 31st, 1908 (*i.e.*, the excess of births over deaths) was 1,262, as compared with a similar increase during 1907 of 977.

In a town like Grimsby, with a large sea-faring population, the census enumeration of the population does not give the actual number of persons whose homes are in the town.

At the census of 1901 the number of Grimsby residents who were out at sea and whose names therefore do not appear on the list is estimated at about 3,000. At the present time that number is probably nearer 3,500, so that the actual population of the Borough would now reach a total of 75,300.

In estimating the death rate, therefore, in order to make our rate comparable with that of inland towns, we should in fairness add on this number. Our death rate then for 1908, instead of being 14·48, would appear as 13·81 per thousand. The difference is not great, but it is appreciable.

It may be argued that the same features apply to all seaport towns. This is hardly the case, however, as will be seen when we consider that in respect of populations consisting of sailors going on long voyages, while it is true they are liable to be missed out of the census returns, yet is also to be borne in mind that if taken with a fatal illness on a long voyage burial will take place at sea or in a foreign port, and the death will therefore not be registered in the port where he resides.

The following table is of interest as showing how the results arrived at by different methods may be practically uniform.

The figures given by the Registrar-General are obtained by a method of calculation based on the rate of increase in the last intercensal period.

The other column is obtained by finding the average number of persons per inhabited house at the last census, and applying that figure to the number of inhabited houses in any given year. For these latter I am indebted to the Borough Surveyor:—



## ESTIMATED POPULATION.

	Actual count at Census, April, 1901. Houses.                  Population.	At June 30th each year. Actual No. of houses.                  Estimated population.	Registrar- General's estimate at 30th June each year.
1901	13,841                  63,138 This equals 4·56 persons per house.	13,911                  63,434	63,430
1902		14,295                  65,185	64,596
1903		14,501                  66,124	65,772
1904		14,741                  67,218	66,958
1905		14,987                  68,340	68,153
1906		15,303                  69,781	69,359
1907		15,527                  70,803	70,574
1908		15,734                  71,747	71,800

## Births.

The total number of births registered during the year amounted to 2,302. Of this number 111 were illegitimate.

The birth rate for the year was 32·06. In 1907 it was 29·75, while the average for the previous ten years was 30·23.

Birth rate for each of previous ten years :—

1898 .....	30·25	1903.....	28·86
1899 .....	30·17	1904.....	29·71
1900 .....	31·06	1905.....	29·55
1901 .....	32·43	1906.....	29·82
1902 .....	30·74	1907.....	29·75

## Illegitimate Births.

The number of illegitimate births during the year was 111, or just slightly in excess of the number during 1907, which was 105.

The rate per cent. of the total births was 4·77.

Therefore, although the total number is somewhat higher, yet, owing to the higher total birth rate, the percentage of illegitimate births is a little less than in 1907, when it was 4·95 per cent. of the total births. In 1906 the percentage was 5·17, so that there has been a slight decline each year.

The births and deaths registered in each quarter with their respective rates are shown in the following table :—

	BIRTHS.	RATES.	DEATHS.	RATES.
Spring Quarter.....	587	32·70	291	16·21
Summer Quarter .....	617	34·37	220	12·25
Autumn Quarter .....	567	31·58	224	12·47
Winter Quarter .....	531	29·58	305	16·99
Annual .....	2302	32·06	1040	14·48

## The Death Rate of 1908.

Last year there were registered in the Borough a total number of deaths of 1,040, consisting of 577 males and 463 females, as compared with 638 males and 496 females in 1907.

Estimated on a population of 71,800 these give a total death rate for the year of 14·48, as compared with 15·92 in 1907, and 15·05 in 1906.

The average crude death rate for the previous ten years was 16·22.

## Deaths of Grimsby Residents outside the District.

Two are reported as having occurred in the Hull Royal Infirmary, one in the Aberdeen Royal Infirmary, and five in the Caistor Workhouse. The list is not to hand of any deaths which may have taken place in the Lincoln County Asylum, Bracebridge.

Included in the total number of deaths as given above are deaths of non-residents to the number of 43.

If we deduct this number from the total deaths and add on the deaths of Grimsby residents which took place outside the district we have a nett total of 1,005, giving a nett death rate of 13·99, which is the lowest death rate on record for this Borough.



## Corrected for Age and Sex Distribution.

In order that returns from various parts of the country may be compared it is necessary that the age and sex-distribution of each particular district shall be ascertained, and the crude death rates multiplied by an ascertained factor which shall so alter the ascertained death rate as to bring it to the figure which it would have been had the constitution of the population of this Borough been exactly the same as to age and sex constitution as the total population of England and Wales.

Assuming that the conditions prevailing now are the same as at the last census the multiplying factor is 1.0709.

Therefore  $13.99 \times 1.0709 = 14.98$ , the corrected death rate for the Borough.

For England and Wales during 1908 the death rate was 14.7, while that of the average of the 76 great towns (exclusive of London) was 15.3, and of the 142 smaller towns 14.7.

## Annual Death Rate in Various Districts.

Owing to the recent re-arrangement of the Ward boundaries, a comparison of the vital statistics for the respective districts over a series of years is not practicable. For the years available—namely, 1907 and 1908, the death rate from all causes of the different Wards is as follows:—

	H.	Wln.	Weels.	Wlw.	S.	Alex.	S.W.	Cen.	Clee	Vict.	N.E.	Hain.
1907	17.08	16.6	9.4	12.18	8.7	14.9	13.2	16.7	9.38	16.25	17.24	10.18
1908	15.69	13.65	8.73	10.3	9.01	12.81	9.55	15.01	10.14	13.17	15.06	9.61



# CAUSES OF DEATH.

## ZYMOTIC DISEASES.

115 deaths were registered from these causes, as compared with 161 in 1907.

The general Zymotic rate is 1·60 per thousand living, as compared with 2·26 the year previous, and an average for the last nine years of 2·67 per thousand living.

The deaths from Zymotic diseases were made up of Scarlatina 5, Diphtheria 11, Enteric Fever 14, Measles 10, Whooping Cough 5, Diarrhoea 69, Rheumatic Fever 1.

The death rate from the 7 principal Zymotics was 1·58, as against 2·20 last year, and an average for the last nine years of 2·59 per thousand living. The corresponding rate for England and Wales was 1·29, and for the 76 great towns 1·59.

There is again this year a very favourable decline in the number of deaths from Zymotic diseases, notwithstanding that, owing to climatic conditions chiefly, the number ascribed to Diarrhoea is considerably more than in the year 1907.

### Measles

Was not markedly prevalent during 1908, and the number of deaths from this cause was much below the average, namely, 10. The number of deaths in 1907 from this cause was 50 and in 1906 46.

### Whooping Cough.

This disease also was but little prevalent in 1908. The 5 deaths registered as due to this cause is much below the average. The numbers in 1907 and 1906 were respectively 38 and 34.

These two diseases, which are largely spread through the medium of the elementary schools, are, of course, not on the list of notifiable diseases, and hence no comparison can be drawn between the number of cases and the deaths, and hence of the comparative fatality in different years.

### Diarrhoea.

The deaths from this disease in 1908 numbered 69, or rather more than double the number recorded in 1907, which in that year was 31. In 1906, however (an unusually hot summer), the number was 152.

Of the 69 deaths registered during 1908 as due to Diarrhoea, 60 were in infants under one year of age, 7 were under 5 years, and only 2 adults.



## ANNUAL REPORT, 1909.

## Zymotic Diseases

### All other Diseases.

LOCALITY.	At all Ages.	Under 1 Year.	1 and under 5	5 and under 15	15 and under 25	25 and under 65	65 and upwards.		Small-pox.	Scarlatina.	Diphtheria.	Membranous Croup.	Typhus Fever.	Typhoid Fever.	Continued Fever.	Relapsing Fever.	Puerperal Fever.	Cholera.	Erysipelas.	Measles.	Whooping Cough.	Diarrhea	Rheumatic Fever	Heart Disease.	Cerebral Disease.	Diseases of the Abdominal Organs.	Phthisis and other forms of Tubercular Disease	Diseases of the Respiratory Organs	Atrophy and Premature Birth.	Convulsions.	Cancer.	Senile Decay	Injuries.	Other Causes	TOTALS	ALL AGES TOTALS.
Humber Ward.	116	44	6	5	6	30	25	Under 5			1									2	1	14			1	1	4	10	7	7			2	2	50	116
								5 upwards	1														1	8	9	7	9	10			8	9	2	2	66	
Wellington Ward.	109	44	10	5	6	26	18	Under 5												3	1	11				1	6			3			1	2	54	109
								5 upwards														1			9	4	4	13	11			8	2	3	55	
Weelsby Ward.	47	14	3	2	2	15	11	Under 5			2											1					1	6	5	2					17	47
								5 upwards	1		1													5	2	2	4	4			4	3		4	30	
Willow Ward.	50	12	1	5	3	14	15	Under 5														4						1	3	3		2		13	50	
								5 upwards					2											7	1	4	7	6			6	4			37	
South Ward.	32	7	2	1		8	14	Under 5			1													1	1		1		2	2			1	9	32	
								5 upwards																2	1	5	3	2			8		2	26		
Alexandra Ward.	91	38	6	3	5	25	14	Under 5											2		6			1	5	5	2	4	14	2		1	2	44	91	
								5 upwards					1											10	5	3	8	5			5	1	6	3	47	
South-West Ward.	30	7	3	4	1	7	8	Under 5														2					1	1	2	3	1				10	30
								5 upwards																3	3	3	2	5			4				20	
Central Ward	109	44	12	4	3	26	20	Under 5	1	1										1	1	10			3	1		15	12	7			4	56	109	
								5 upwards		1														11	4	6	6	14			5	3		3	53	
Clee Ward	50	23	7		4	10	6	Under 5			1										1	5			1	1	1	6	12	1			1	30	50	
								5 upwards																2	4	3	3	3			1		4	20		
Victoria Ward.	88	25	8	3	6	31	15	Under 5											1	1	3				3	2	2	4	12	4			1	33	88	
								5 upwards	1															9	7	5	9	11			6	4	1	2	55	
North-East Ward.	99	32	8	4	9	36	10	Under 5		1												8			3	1	2	10	10	3				2	40	99
								5 upwards					1									1		9	2	10	7	8			1	2	16	2	59	
Hainton Ward	67	11	6	3	5	21	21	Under 5														2			1	2	2	2	3	3	1			1	17	67
								5 upwards																8	7	7	5	9			5	3	1	5	50	
General District Hospital.	56	10	12	6	5	18	5	Under 5														1			1	1	2	1	7	1	1		7		22	56
								5 upwards																1	2	9	1	4			4		8	5	34	
Corporation Isolation Hospital.	13	1	3	1	2	6		Under 5	1	2										1															4	13
								5 upwards	1				7												1										9	
Workhouse.	83	2			3	52	26	Under 5																		1			1						2	83
								5 upwards					2											9	7	8	16	11			7	14		7	81	
Total under 5.	401	314	87					Under 5	2	9										10	5	67		2	20	22	18	73	105	39	2		12	15	401	
Total 5 upwards.	639			46	60	325	208	5 upwards	3	2			14									2	1	93	59	76	93	103			55	60	36	42	639	1040
Total at all ages.	1040							At all ages	5	11			14							10	6	69	1	95	79	98	111	176	105	39	57	60	48	57	1040	
Deaths occurring within, but not belonging to the District.	43	2	1	2	9	26	3	Under 5														1							2					3	43	
								5 upwards																3	2	2	3	4			6	2	16	2	40	





In 1907 28 were under one year of age, 2 under 5 years, and one adult.

In 1906 127 were under one year, 20 under five years, and 5 adults.

In the month of August last year handbills were circulated in the town, calling attention to the seriousness of Diarrhœa (more particularly in infants and young children), and the necessity for seeking medical aid in such, at an early period. Directions also were given as to the storage of milk and food generally during the hot weather, so as to avoid, as far as possible, access of flies and dust to any articles of food.

The supreme importance of cleanliness in and about the house, the necessity of free ventilation of the houses was also insisted upon, as also the use of buckets of water for flushing the sinks.

The danger of eating any tainted meat or fruit was also pointed out, and particular attention was drawn to the necessity, during the hot weather, of keeping milk in a cool place and in the case of a bottle-fed baby, the keeping of bottle clean and sweet, and the dangers of using long-tubed feeding bottles.

The Sanitary Committee, recognising the dangers of accumulations of refuse in the vicinity of dwellings, arranged to have a bi-weekly collection of house refuse, thus minimising the anticipated dangers from this source.

## GENERAL CAUSES.

Of the general causes of death (*i.e.* other than those ascribed to Zymotic diseases), diseases of the respiratory organs, of various forms, gave rise to 176 deaths. Diseases of the heart and arteries caused 95 deaths, while all forms of Tubercular disease, of which Phthisis Pulmonalis and general Tuberculosis forms the largest group (a total of 87), caused 111 deaths.

79 are attributed to diseases of the brain and spinal cord, and 98 to diseases of the abdominal organs.

Atrophy and Premature Birth, and Convulsions, both essentially infantile groups, account for 105 and 39 respectively.

57 deaths are attributed to Cancer, and 60 to Senile Decay, while Injuries, Suicides, &c., accounted for 48, and other unclassified causes 57.

## Old Age Death Rate.

152 deaths occurred during the year of persons 70 years of age and upwards, as follows :—

Between	70 and 75 years	..	..	..	..	..	..	56
„	75 and 80	„	..	..	..	..	..	43
„	80 and 85	„	..	..	..	..	..	30
„	85 and 90	„	..	..	..	..	..	18
„	90 and 95	„	..	..	..	..	..	5

This being equal to a rate of 2·11 per thousand living, and 146·15 per thousand of the total deaths.

# General Causes of Death.

## I. PHTHISIS.

Locality.	Humbr.	Welln.	Weelsby	Wellow	South.	Alex.	S.W.	Cent.	Clee.	Vict.	N.E.	Hainton	D.H.	Work-house.	Total.
Deaths under 5 ..	1	—	1	—	1	1	1	—	1	—	1	—	1	—	8
5 upwards .....	8	12	4	6	2	5	1	5	3	8	4	4	1	16	79
Total .....	9	12	5	6	3	6	2	5	4	8	5	4	2	16	87
Rate per 1,000 ..	1·21	1·50	·92	1·23	·84	·84	·63	·68	·81	1·19	·76	·57	—	—	1·21

## II. INFLAMMATORY DISEASES OF THE RESPIRATORY ORGANS.

Locality.	Humbr.	Welln.	Weelsby	Wellow.	South.	Alex	S. W.	Central.	Clee.	Vict.	N.E.	Hainton	D.H.	Work-house.	Total.
Deaths under 5 ..	10	12	6	1	—	4	2	15	6	4	10	2	1	—	73
5 upwards .....	10	11	4	6	2	5	5	14	3	11	8	9	4	11	103
Total .....	20	23	10	7	2	9	7	29	9	15	18	11	5	11	176
Rate per 1,000 ..	2·70	2·88	1·85	1·44	·56	1·26	2·22	3·99	1·82	2·24	2·73	1·57	—	—	245



### III. HEART DISEASE.

Locality.	Humber	Welln.	Weelsby	Wellow	South.	Alex.	S.W.	Cent.	Clee.	Vict.	N.E.	Hainton	D.H.	Work-house.	Total.
Deaths under 5 ..	—	—	—	—	1	1	—	—	—	—	—	—	—	—	2
5 upwards .....	8	9	5	7	2	10	3	11	2	9	9	8	1	9	93
Total .....	8	9	5	7	3	11	3	11	2	9	9	8	1	9	95
Rate per 1,000 ..	1'08	1'12	'93	1'44	'84	1'54	'95	1'51	'40	1'34	1'36	1'14	—	—	1'32

### IV. DISEASES OF THE ABDOMINAL ORGANS.

Locality.	Humber	Welln.	Weelsby	Wellow.	South.	Alex.	S.W.	Cent.	Clee.	Vict.	N.E.	Hainton	D.H.	Work-house.	Total.
Deaths under 5 ..	1	6	—	—	—	5	1	1	1	2	1	2	1	1	22
5 upwards .....	7	4	2	4	5	3	3	6	3	5	10	7	9	8	76
Total .....	8	10	2	4	5	8	4	7	4	7	11	9	10	9	98
Rate per 1,000 ..	1'08	1'25	'37	'82	1'40	1'12	1'27	'96	'81	1'04	1'67	1'29	—	—	1'36

### V. CEREBRAL DISEASES

Locality.	Humber	Welln	Weelsby	Wellow.	South.	Alex.	S.W.	Cent.	Clee.	Vict.	N.E.	Hainton	D.H.	Sanatm.	Work-house.	Total.
Deaths under 5 ..	1	1	—	—	1	5	—	3	1	3	3	1	1	—	..	20
5 upwards .....	9	4	2	1	1	5	3	4	4	7	2	7	2	1	7	59
Total ..	10	5	2	1	2	10	3	7	5	10	5	8	3	1	7	79
Rate per 1,000 ..	1'35	'62	'37	'20	'56	'140	'95	'96	1'01	1'49	'76	1'14	—	—	—	1'10



## Pulmonary Tuberculosis.

From all forms of Tubercular disease 111 deaths have to be recorded during the year 1908. Of this number 87 are attributed to Tubercular disease of the respiratory organs. Of the remainder Tubercular Meningitis, chiefly a disease of childhood, is responsible for the greatest number, namely, 18, while Tubercular disease of the intestines and of the bones make up the remainder.

Tubercular disease of the lungs, commonly known as Phthisis, or Consumption, being the form of Tubercular disease, which is most readily communicated from one person to another, has formed the subject of legislative attention during the year.

Commencing in January of the present year all cases of this disease coming under the care of Poor Law Medical Officers, either as inmates of a Union Infirmary or as residents in the district of a Poor Law Authority, require to be notified to the Sanitary Authority. A short abstract of the regulations in respect of these cases is appended.

---

---

## The Public Health (Tuberculosis) Regulations 1908.

---

### Notification of Tuberculosis.

New regulations regarding the control of the spread of Tuberculosis, and especially the Pulmonary form of the disease, have been issued by the Local Government Board, and came into operation on the 1st of January. They have reference solely to cases coming under the Poor Law, *i.e.*, patients in the Union Infirmary or under the care of the District Medical Officers of the Guardians.

Article IV. of the regulations requires that the Medical Officer of a Poor Law Institution within the period of forty-eight hours after his first recognition of the symptoms of Pulmonary Tuberculosis in the case of a poor person who is an inmate of the Poor Law Institution, and who resided immediately before his admission to the Poor Law Institution at a place in the area in which the Poor Law Institution is situate, shall, in relation to the case, enter in a printed copy of Form A the particulars therein required to be set forth in the notification, shall sign the notification, and shall address and, after prepaying the postage, shall post the notification to the Medical Officer of Health for the area in which the Poor Law Institution is situate.



(2). Requires that where the person before admission to the Poor Law Institution resided in a place elsewhere than in the area in which the Poor Law Institution is situated shall forward a similar notification to the Medical Officer of Health for the area in which the place is situated.

## Notification by District Medical Officers.

Article V. requires that a District Medical Officer within a period of forty-eight hours after his first recognition of the symptoms of Pulmonary Tuberculosis in the case of a poor person upon whom he is in medical attendance according to his agreement with the Board of Guardians, shall in relation to the case, enter in a printed copy of Form B the particulars therein required to be set forth in the notification, shall sign the notification, and shall address and, after prepaying the postage, shall post the notification to the Medical Officer of Health for the area in which the residence of the poor person is situate.

Article VI. has reference to notification of the departure of a case, which has been certified as suffering from Pulmonary Tuberculosis, from the Poor Law Institution. It is to the effect that the Superintending Officer within the period of forty-eight hours after the departure of an inmate of a Poor Law Institution, and in relation to whose case the Medical Officer has at some prior date posted a notification to the Medical Officer of Health, shall according to the best information in the possession of, or readily accessible by the Superintending Officer with respect to the actual or intended place of destination of the poor person and his intended address at the place, enter in a printed copy of Form C the particulars required to be set forth in the notification, shall sign the notification, and shall address and, after prepaying the postage, shall post the notification to the Medical Officer of Health for the area in which the place is situate.

## Notification of Change of Address by Relieving Officers.

Article VII. In order that a case under the medical care of a District Medical Officer may not be lost sight of it is enacted by Article VII. that a Relieving Officer within the period of forty-eight hours after he has obtained accurate information respecting a change of residence (other than a change of residence by admission to a Poor Law Institution) by a poor person who resides or has resided within the relief district assigned to the Relieving Officer and in relation to whose case a District Medical Officer has, in pursuance of Article V., posted a notification to the Medical Officer of Health shall in relation to the case enter in a printed copy of Form D the particulars therein required to be set forth in the notification, and shall address, &c., the notification to the Medical Officer of Health for the area in which the changed residence of the poor person is situate.



Article IX provides "That nothing in these regulations shall have effect  
 "so as to apply or so as to authorise or require a Medical Officer of Health or  
 "a Council, or any other person, or authority, directly or indirectly to put in  
 "force with respect to any poor person, in relation to whom a notification in pur-  
 "suance of these regulations has been posted to a Medical Officer of Health, any  
 "enactment which renders the poor person, or a person in charge of the poor  
 "person, or any other person, liable to a penalty or subjects the poor person to any  
 "restriction, prohibition, or disability affecting himself or his employment, occu-  
 "pation, means of livelihood, or residence on the ground of his suffering from  
 "Pulmonary Tuberculosis."

This in short means that the ordinary restrictions applied in a case, say, of Scarlet Fever or Small-pox do not apply in respect of a person notified as suffering from Pulmonary Tuberculosis.

That the Regulations shall not, however, be entirely a matter of form, and in order that some practical good effect may accrue it is provided (subject as aforesaid) :—

(2). A council may on the advice of their Medical Officer of Health :—

(a). Take all such measures, and do all such things as are authorised in any case of infectious disease, by any enactment relating to public health, and as have reference to the destruction and disinfection of infected articles, or the cleansing or disinfecting of premises.

(b). Take all such measures or do all such things as are appropriate and necessary for the safe disposal or destruction of infectious material, produced and discharged as a result of Pulmonary Tuberculosis ; and otherwise for the prevention of the spread of infection from any such material ;

(c). Afford or supply all such assistance, facilities, or articles as, within such reasonable limits as the circumstances of the case require and allow, will obviate, or remove, or diminish the risk of infection arising from the conditions affecting the use or occupation of any room or occupied by the poor person as a sleeping apartment ; and

(d). Furnish for the use of the poor person, on loan or otherwise, any appliance, apparatus, or utensil which will be of assistance for the purpose of any precaution against the spread of infection.

(3). A Council, on the advice of their Medical Officer of Health, may provide and publish or distribute in the form of placards, handbills, or leaflets, suitable summaries of information and instruction respecting Pulmonary Tuberculosis, and the precautions to be taken against the spread of infection from that disease.



So far the notification of Pulmonary Tuberculosis (or Phthisis) is confined entirely to Poor Law cases. The Local Government Board, however, favour the adoption by Local Authorities of a system of voluntary notification of cases by other medical practitioners. Indeed, certain towns, by virtue of Local Acts of Parliament, have secured compulsory powers (notably Sheffield, where trade Phthisis is unusually prevalent) whereby all cases of Pulmonary Tuberculosis require to be notified to the Sanitary Authorities.

Once the communicability of Phthisis became generally recognised and the special Bacillus concerned in its causation recognised, preventive measures against its spread assumed an important and at the same time an encouraging and hopeful aspect.

There are two principal methods of preventing Tuberculosis, namely :—

- (1). By increasing resistance.
- (2). By diminishing risk of infection.

In the first case attention has to be directed towards improving the surroundings of the individual, doing away with overcrowding, improving ventilation, and providing a more liberal supply of fresh air and sunshine without which the powers of resistance to infection become reduced to a minimum.

Observation of plant life readily furnishes us with striking illustrations of the baneful effects of lack of fresh air and light. Notice the difference in appearance of a plant which has been confined in an ill-lighted, indifferently ventilated room with the same plant after revelling for a few weeks or months in sunshine and air. In its out-of-health condition it is an easy prey to its many enemies.

While it is of the utmost importance to improve the social condition of the individual it cannot be doubted that Phthisis tends to attack certain families with particular virulence, seeming as it were that the Tubercle Bacillus found in the tissues of those individuals a congenial soil for its growth and multiplication.

This applies to other infectious diseases, many a family has been decimated by an attack of Diphtheria, while the disease would attack another family, the whole of whom would recover. Hence it is of more than average importance for those who happen to belong to a family whose history is associated with the occurrence to Tubercular disease to take especial care to avoid exposure to infection while at the same time using every possible means to render the organism immune by improving the powers of resistance.

(2). By diminishing the possible sources of infection we reduce to a minimum the danger of the susceptible one contracting the disease.

As pointed out by the Medical Officer to the Local Government Board in a recent Memorandum, the sources of infection are practically reduced to one only,



viz., the lungs, either as discharged in the form of sputum or a "cough spray." Thus it differs widely from the ordinary specific fevers where it is necessary to isolate a person for several weeks to avoid spread of the contagion.

On the other hand the prolonged duration of the disease, which may extend to many years, is altogether against the endeavours made to prevent its being handed on from one individual to another.

Our efforts, therefore, in the direction of preventive measures, have to be directed towards educating the individual affected and his immediate associates in the nature and characters of Tuberculosis, its infectious qualities, the methods by which the causative germs tend to gain access to the system, and in particular the dangerous properties of the material discharged from the lungs and the ease with which this danger is averted. We have then to put before the patient the position in which he stands in relation to his immediate associates, and by appealing to his higher nature and to his honour to endeavour to enlist his hearty co-operation in the crusade against this deplorable disease, more than ever to be deplored because it attacks so many in the prime of life, and by reducing or entirely annulling their earning powers, causes much poverty and distress.

Dr. Newsholme lays great stress on the educational value of a short residence in a well-conducted Sanatorium, inasmuch as by even a short period of treatment only, the patient is trained in the methods of disposal of sputum, and in the general hygienic regulation of his life. He is thus in a better position to carry out in an intelligent manner the preventive measures necessary to avoid his being a danger to his immediate neighbours.

Thus it comes about that institutional treatment may be undertaken with a twofold object—the cure of suitable (*i.e.* early) cases, and the training in preventive measures of the more advanced and chronic cases

## Measures adopted in the carrying out of the Tuberculosis Regulations.

So far as the cases notified as being resident in the Workhouse is concerned, the house in which they resided prior to admission to the Workhouse is visited by an Inspector and instructions given regarding the cleansing of the room recently occupied by the patient, and an offer made to disinfect if desired.

(2). Resident in one of the districts of the Poor Law Medical Officers. These cases are visited as far as possible by the Lady Health Visitor, and warnings given as to the dangers of infection, by the sputum, of these in immediate contact with the patients.



Advice is also given on how best to dispose of the expectorated material, and the offer is made to provide a suitable pocket flask where the patient is able to go out of doors. There is always a certain amount of objection on the part of patients to use anything which might call attention to the nature of their illness, a state of mind for which it is easy to make allowance. The provision of separate sleeping accommodation for the patient is also advised as well as the free ventilation of rooms.

## Cases of Tuberculosis other than those coming under Poor Law Medical Officers.

In all cases where application is made for such, either by the friends of the patient or the medical man attending, disinfection of premises is undertaken by the sanitary officials on the death or removal of a patient affected with Tubercular Phthisis. The routine adoption of this practice is essentially desirable, and as medical men must of necessity be the prime movers in the matter, their attention is drawn to the facilities offered by the department.

The adoption of a system of voluntary notification of cases of Phthisis other than those coming under the Poor Law Officers is advisable, inasmuch as it would be the means of bringing more cases to the cognisance of the Health Department, and disinfection of premises would more frequently be carried out.

---

---

## Cancer.

57 deaths are attributed to this cause during 1908, as compared with 60 in the previous year, and 45 in 1906. Although the year's total is somewhat below that of 1907, yet when we compare the returns over a number of years, the steady increase in this disease is apparent. There is reason for supposing that the disease is in some way infective, though exactly how the infection is conveyed from one individual to another is uncertain. Where an intimation is received at the Sanitary Office disinfection of premises is carried out by an official of the department.

Below is appended a table showing the number of fatal cases and the rate per thousand over a series of years. Taking the two years 1898 and 1908 the incidence rate per thousand is just a little over double in the latter year.

	No. of Deaths.	Rate per 1,000 living.		No. of Deaths.	Rate per 1,000 living.
1897	28	·47	1903	40	·61
1898	22	·35	1904	47	·71
1899	22	·34	1905	33	·49
1900	40	·60	1906	45	·64
1901	46	·72	1907	60	·84
1902	44	·68	1908	57	·79



## Infantile Mortality.

There were in 1908 a total number of deaths of infants under one year of 314, equal to a rate per thousand births of 136.

In 1907 the corresponding death rate was 153, while in 1906 it reached the high rate of 176.

There is, therefore, a slight improvement in the mortality occurring in infants, which it is to be hoped will not only be maintained, but that a much lower rate will have to be recorded in future years.

This matter of the high infantile mortality which has formed such a marked feature of our vital statistics in Grimsby for many years was made the subject of a special report by your Medical Officer, which report was presented to a Sub-Committee appointed to deal with the whole question, in the month of January of last year. The report was ordered to be printed, and a copy sent to each Member of the Council.

This report dealt fully with the various causes which contributed to the high rate of mortality in infants and showed how two groups of causes, namely, those included under the head of Atrophy and Premature Birth, and those due to the various Diarrhœal diseases, were in the main responsible for the unsatisfactory returns which have to be made annually in respect of Infantile Mortality.

Stated shortly the conclusions arrived at in the report were :—

1.—That a high infantile mortality is a feature common to the majority of our large provincial towns.

2.—That those towns having a large proportion of women working in factories generally suffer most severely in this respect.

3.—That infantile mortality in this Borough is excessively high, although we do not labour under this disadvantage to any appreciable extent.

4.—That the total infantile mortality in Grimsby is largely augmented by the excessive prevalence of Diarrhœal diseases.

5.—That Diarrhœa is a "filth" disease, is infective, and is associated with decomposing organic material, and its incidence coincides with the "Swarming" of the house-fly.

6.—That dust particles and house-flies probably act as "carriers" of infective material.

7.—That accumulations of decomposing organic refuse in the vicinity of dwellings is at all times a menace to health and especially so in the case of infants, and during the hot weather.



8.—That our system of dealing with excremental material in this Borough is defective and lends itself to the ready conveyance of infective material into the food of infants.

## Measures proposed for the reduction of Infantile Mortality.

The report then goes on to review the various steps which have been taken in other towns for the purpose of ameliorating the condition of the town-reared infant. It is readily granted that educational measures must take first and foremost place.

The advantages to the infant of having its natural food supply is pointed out, and the mortality amongst breast-fed and bottle-fed children compared, showing how, especially from Diarrhoeal diseases, the mortality is enormously higher amongst the latter. As stated in the report :—

“ We may, I think, assume that the great majority of mothers do intend to “ do their best for their offspring. But what a large number of women and of “ comparatively young girls enter upon the duties of motherhood possessed of but “ a supreme ignorance of all that she ought to know regarding the upbringing “ of her children ! If it happens then that the infant is deprived of its natural “ food supply the condition of affairs at once assumes a critical aspect.”

The necessity for some effort being made to meet this emergency is thus apparent. The subject is now receiving much more attention in our elementary schools, and in the near future this activity on the part of educational authorities will undoubtedly bear fruit. Meantime, however, it seems necessary to do something for those who have passed their school life, and who are entering upon the duties connected with the upbringing of infants.

Briefly the measures suggested for adoption were :—

- 1.—The adoption of the Notification of Births Act, 1907.
- 2.—The appointment of a Lady Health Visitor.
- 3.—The training of all elder girls in domestic hygiene, and the “ mothering ” of the infant.
- 4.—The improvement of our methods of refuse disposal by the replacement of box closets by w.c.’s.
- 5.—The more frequent removal of all refuse from the vicinity of dwellings, especially during the hot weather.



The Sub-Committee, after a careful consideration of the matter in all its bearings, decided to recommend the appointment of a Lady Health Visitor, and in order to facilitate her work the adoption of the " Notification of Births Act, 1907 " came as a natural corollary. The recommendations being confirmed by the Council, Miss Chase was appointed to the new office, and commenced her duties in the month of December.

Meantime the Scavenging Committee had under taken the removal of house refuse at bi-weekly intervals during the autumn months.

## Infantile Mortality in Wards.

WARDS.....	H.	Welln.	Weels	Well'w	South	Alex.	S.W.	Gen.	Clee.	Vict.	N.E.	Hain.	Total.
<b>COMMON INFECTIOUS DISEASES.</b>													
Whooping Cough .....	I	..	..	..	..	..	..	I	..	I	..	..	3
Measles .....	I	I	..	..	..	2	..	..	..	I	..	..	5
Diphtheria .....	..	..	..	..	..	I	..	..	..	..	I	..	2
<b>DIARRHOEAL DISEASES.</b>													
Diarrhoea .....	I2	8	..	2	..	5	3	4	5	I	5	2	47
Enteritis .....	I	2	I	..	..	3	..	3	..	2	4	..	I6
Gastritis .....	..	I	..	..	..	2	..	I	..	I	..	2	7
Gastro-Enteritis .....	I	I	..	I	2	I	..	2	I	I	..	..	IO
<b>WASTING DISEASES.</b>													
Atrophy .....	5	6	3	I	I	I2	3	5	7	5	4	I	53
Debility .....	..	..	..	..	..	..	..	..	..	..	..	..	..
Marasmus .....	..	..	..	..	..	..	..	..	..	..	..	..	..
Premature Birth .....	2	5	2	2	2	6	..	6	5	4	5	2	4I
Congenital Defects .....	I	2	..	..	..	3	..	I	..	I	..	..	8
<b>TUBERCULOUS DISEASES.</b>													
Tubercular Meningitis .....	..	I	..	..	..	2	..	I	..	I	..	..	5
Peritonitis .....	I	..	..	..	..	..	..	..	..	..	I	..	2
Other Tubercular Diseases .....	I	..	I	..	I	..	..	..	I	..	I	..	5
Erysipelas .....	..	..	..	..	..	..	..	..	..	..	..	..	..
Convulsions .....	6	3	2	3	2	I	I	6	2	4	3	3	36
Bronchitis .....	2	5	3	I	..	I	..	5	3	3	5	I	29
Pneumonia .....	6	4	I	I	..	2	..	5	..	..	2	..	2I
Meningitis (not Tubercular) .....	I	..	..	..	..	2	..	I	..	..	..	..	4
Syphilis .....	..	..	..	..	..	..	..	..	..	..	..	..	..
Other Causes .....	2	4	I	2	I	6	..	2	I	..	I	..	20
<b>Totals .....</b>	<b>43</b>	<b>43</b>	<b>I4</b>	<b>I3</b>	<b>9</b>	<b>49</b>	<b>7</b>	<b>43</b>	<b>25</b>	<b>25</b>	<b>32</b>	<b>II</b>	<b>3I4</b>



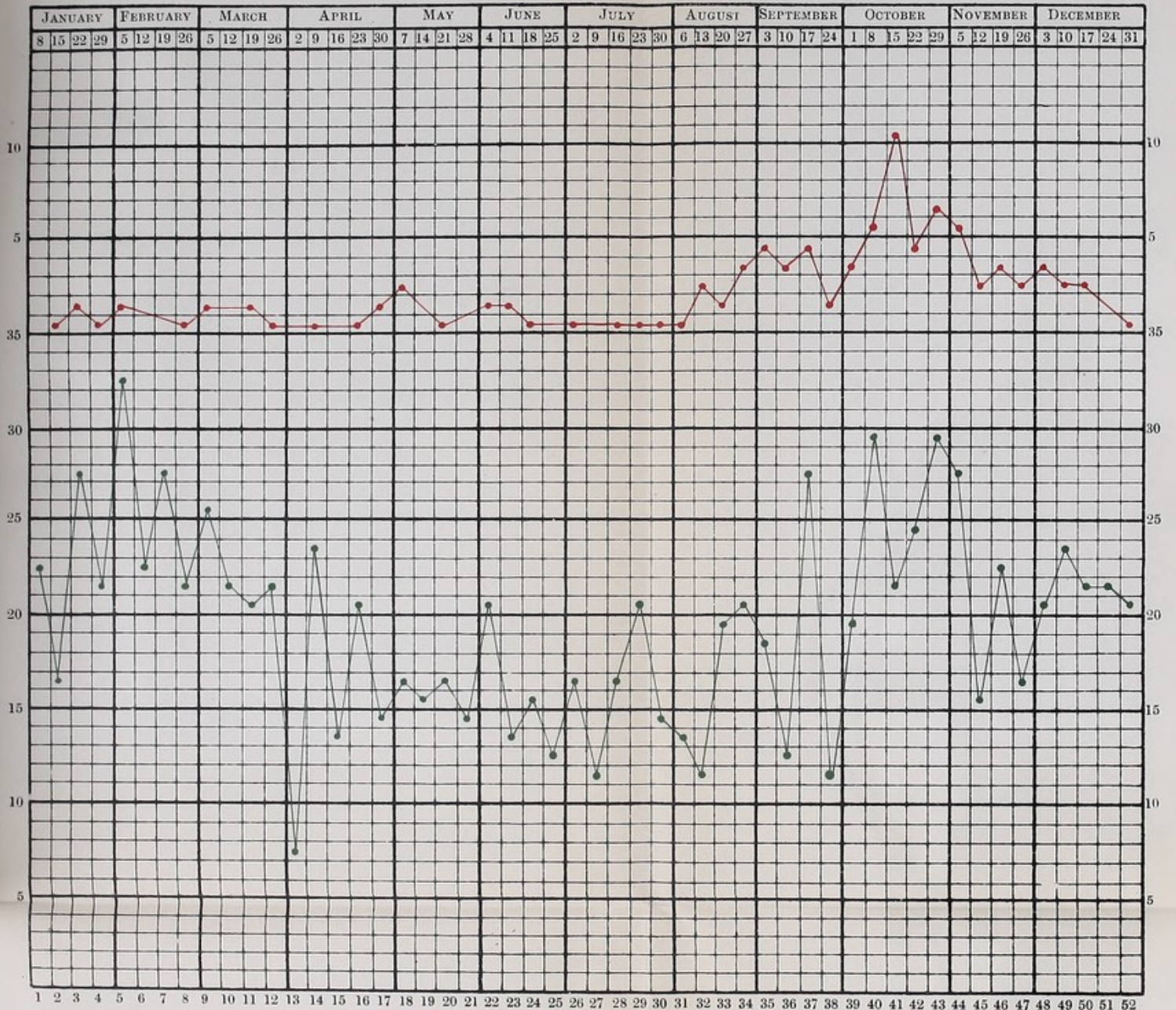
TABLE 2.—The Annual and Quarterly Death Rate in each Ward.

LOCALITIES.	1st Quarter.	2nd Quarter.	3rd Quarter.	4th Quarter.	Annual.
Humber Ward .. .. .	12'44	9'75	11'90	28'68	15'69
Wellington Ward .. .. .	19'04	12'03	11'52	17'04	13'65
Weelsby Ward .. .. .	17'10	5'94	4'46	7'40	8'73
Wellow Ward .. .. .	10'72	7'40	11'54	11'54	10'30
South Ward .. .. .	7'88	9'01	7'88	11'26	9'01
Alexandra Ward .. .. .	11'26	10'70	11'83	17'46	12'81
South West Ward .. .. .	17'83	8'91	5'09	6'36	9'55
Central Ward .. .. .	19'28	11'57	13'77	15'42	15'01
Clee Ward .. .. .	13'79	7'30	8'92	10'54	10'14
Victoria Ward .. .. .	13'77	12'57	10'17	16'16	13'17
North-East Ward .. .. .	17'04	10'95	18'87	13'39	15'06
Hainton Ward .. .. .	11'47	12'62	7'46	6'88	9'61

# CHART No. 1.

DEATH RETURNS, JANUARY 1st to DECEMBER 31st, 1908 (inclusive).

The **GREEN** Spots indicate the number of Deaths per week from all causes, the **RED** Spots Zymotic.





This image shows a full page of blank graph paper. The grid consists of thin, light gray horizontal and vertical lines forming small squares across the entire surface. There are no margins, text, or other markings on the paper.





## NOTIFICATIONS OF INFECTIOUS DISEASE.

The total number of cases of Infectious Disease notified during 1908 was very considerably less than in the previous year, the chief decline being in respect of Scarlet Fever cases.

During 1908 588 notifications were received, as compared with 835 in 1907, and 527 in 1906.

The average number during the previous ten years was 698.

Of this number 268, equal to a percentage of the whole of 45.57, were treated in the Sanatorium, as compared with a percentage of 54.73 in 1907, and 40.00 in 1906.

### Scarlet Fever.

As pointed out in the last annual report, this disease tends to assume periods of epidemic prevalence. A glance at the accompanying table will show that there was a slight rise in the number of cases during 1906, followed by a still greater increase in 1907, when the disease attained its maximum prevalence, following which is a fall in 1908 to somewhere about the number recorded in 1906. We may fairly anticipate a further fall in the present year. Simultaneously with the decline in the number of cases reported we have also to note a fall in the case fatality, and this circumstance also is one which is usually associated with this disease.

The following table shows at a glance the comparative prevalence over a number of years :—

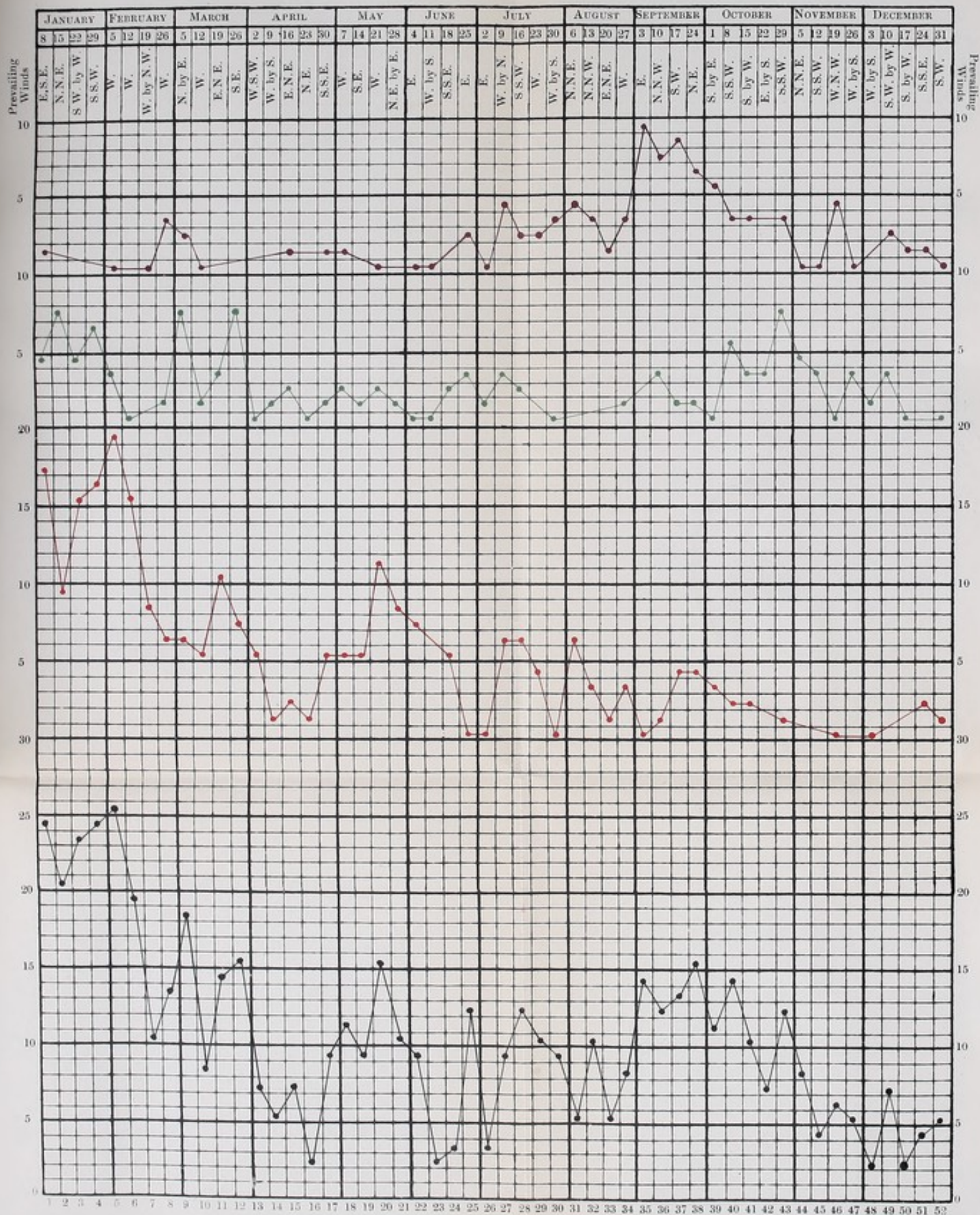
INCIDENCE OF SCARLET FEVER IN VARIOUS YEARS.

Year.	No. of cases Notified.	No. treated in Sanatorium.	No. of Deaths.	Mortality per 100 cases Notified.
1893	306	5	4	1.37
1894	203	10	8	3.94
1895	148	12	3	2.03
1896	146	13	6	4.11
1897	135	47	3	2.22
1898	160	31	4	2.50
1899	149	10	2	1.34
1900	102	16	—	—
1901	202	51	1	.49
1902	708	156	10	1.41
1903	354	128	9	2.54
1904	110	54	3	2.80
1905	96	44	—	—
1906	226	111	1	.44
1907	537	344	11	2.04
1908	283	153	5	1.75



# CHART No. 2.

**PURPLE** Spots indicate the total Typhoid Fever Cases each week during 1908.  
**GREEN** " " " " Diphtheria " " " "  
**RED** " " " " Scarlet Fever " " " "  
**BLACK** " " " " Notifications " " " "  
**BLACK** Letters " " " " Prevailing Winds " " " "







## SCARLATINA NOTIFICATIONS.

WARDS.....	H.	Welln.	Clee.	N.E.	Weelsby.	Wellow.	Centl.	Hainton.	Alex.	Victoria.	S.W.	S.	TOTAL.
March.....	26	22	17	18	9	5	13	23	4	5	3	6	151
June .....	6	2	7	18	6	5	4	4	2	7	—	1	62
September .....	3	8	8	6	7	5	3	5	—	2	—	3	50
December .....	3	6	1	2	1	—	2	1	—	3	—	1	20
Total .....	38	38	33	44	23	15	22	33	6	17	3	11	283
Rate per 1,000 .....	5.14	4.71	6.69	6.69	4.27	3.09	3.03	4.73	.84	2.54	.95	3.09	3.94

## DEATHS.

WARDS.....	H.	Welln.	Clee.	N.E. Weelsby.	Wellow.	Centl. Hainton.	Alex. Victoria.	S.W.	S.	Sanator.	TOTAL.	
March.....	I	—	—	—	—	—	—	—	—	I	2	
June .....	—	—	—	—	—	I	—	—	—	I	3	
September .....	—	—	—	—	—	—	—	—	—	—	—	
December .....	—	—	—	—	—	—	—	—	—	—	—	
Total .....	I	—	—	—	—	I	—	—	—	2	5	
Rate per 1,000 .....	·13	—	—	—	—	·13	—	—	—	·14	—	·06



## Diphtheria.

The number of cases of this disease notified during 1908 was 147, as compared with 118 in 1907 and 128 in 1906.

The case death rate, however, is lower than in any previous year, showing the disease to have been of a mild form, which of itself is conducive to the spread of the infection through the medium of the schools, owing to the fact that children are allowed to resume school attendance after what was thought to be a slight sore throat. One instance illustrative of this may be quoted, as it affords, at the same time, striking evidence of the importance of "carriers" and the value of the system of exclusion of affected scholars in preference to the closing of a whole school.

On October 15th, in consequence of several notifications of Diphtheria having been received in scholars attending a particular school, this school was visited, and each scholar in certain classes inspected. One boy was found obviously suffering from the disease in the acute stage, while throat swabs taken from a number of contacts showed in all, in two classes, no less than 17 boys were "carriers."

These were all excluded from the school, and as a result no further cases occurred in connection with that particular school with the exception of a case or two which were distinctly traceable to some existing centre outside the school. A severe "School outbreak" of Diphtheria was in all probability averted by the timely recognition of these cases, and its entire success fully justified the measures which were adopted.

One other instance where a child was in danger of spreading infection was one in which I visited a house in order to ascertain why the child was being kept from school. She was out "shopping" when I went in, but soon returned, and on examining the throat both tonsils were seen to be covered with Diphtheritic Membrane. Thus it is that the very fact of the disease assuming a mild type is directly conducive to its spread.

The following table shows the relative prevalence of Diphtheria in various years :—

INCIDENCE OF DIPHTHERIA (INCLUDING MEMBRANOUS CROUP) IN  
VARIOUS YEARS.

Year.	No. of cases Notified.	No. treated in Sanatorium.	No. of Deaths.	Mortality per 100 cases Notified.
1893	121	1	29	23.96
1894	112	2	21	18.75
1895	69	2	13	18.84
1896	82	1	23	27.07
1897	83	12	25	30.12
1898	90	—	9	10.00
1899	148	3	31	20.94
1900	360	76	51	14.13
1901	306	97	38	12.41
1902	136	30	12	8.60
1903	101	28	8	7.92
1904	141	51	19	13.47
1905	105	33	14	13.33
1906	126	47	21	16.66
1907	118	60	11	9.32
1908	147	62	11	7.48



## DIPHTHERIA NOTIFICATIONS.

SHOWING THE INCIDENCE OF THE DISEASE IN VARIOUS WARDS.

Wards.....	H.	Welln.	Clee.	N.E. Weelsby.	Wellow.	Centl.	Hainton.	Alex.	Victoria.	S.W.	S.	Total.
March.....	9	10	3	2	7	—	5	9	6	2	2	—
June .....	2	3	2	2	3	—	5	2	3	6	—	—
September .....	7	1	1	—	1	3	1	—	2	1	1	2
December .....	3	1	2	—	7	1	4	2	4	4	6	10
Total .....	21	15	8	4	18	4	15	13	15	13	9	12
Rate per 1,000 .....	2.84	1.87	1.62	.60	3.34	.82	2.06	1.86	2.11	1.94	2.86	3.38
												2.04

## DEATHS.

Wards.....	H.	Welln.	Clee.	N.E. Weelsby.	Wellow.	Centl.	Hainton.	Alex.	Victoria.	S.W.	S.	Sanator.	Total.
March.....	1	—	—	—	—	—	—	—	—	—	—	2	5
June .....	—	—	1	1	—	1	—	—	—	—	—	—	4
September .....	—	—	—	—	—	—	—	—	—	—	—	—	—
December .....	—	—	—	—	—	1	—	—	—	—	1	—	2
Total .....	1	—	1	1	3	2	—	—	—	—	1	2	11
Rate per 1,000 .....	.13	—	.20	.15	.55	—	.27	—	—	—	.28	—	.15

## Enteric Fever.

Precisely the same number, singularly enough, of cases of Enteric were notified during 1908 as during the previous year, namely 123.

Of this number 55 were treated in the Sanatorium. The number of deaths is slightly less than in 1907, being 14 as compared with 16 in that year, giving a case fatality rate of 11·38 per cent. of the whole of the cases notified.

The total Zymotic rate of this disease is 1·71, and the death rate ·19 per thousand. For the whole of England and Wales the death rate from this disease in 1908 was ·07, and for the 76 great towns ·08.

## Continued Fever.

One case was notified as "Continued Fever."

## Enteric Fever and Milk Supplies.

It has only been necessary to take action in one instance of a suspected milk supply. During the month of August a few cases of Typhoid Fever occurred in a milk round, and the patients were all persons who were in the habit of taking milk in a raw state. I arranged to meet the Medical Officer of Health of the district whence the milk was derived, at the farm, and after making an inspection in conjunction with the Sanitary Inspectors of both districts, we came to the conclusion that a contaminated well whence water was derived for washing the cans was the probable origin of the mischief. On the tenants of the farm agreeing voluntarily to close the well it was decided, with the concurrence of the Chairman of the Sanitary Committee, to take no further action in respect of stopping the sale of the milk.

It would seem from subsequent events that in all probability this milk supply had been giving rise to Enteric Fever as the occurrence of cases in the particular milk round in question ceased abruptly. Taking into account the necessary time of incubation no cases appeared to be contracted subsequent to the action taken by your officials.

It was fairly evident that a number of cases were to be attributed to the sewer outfall. During the school holidays, and notwithstanding the vigilance of the Police Officer stationed on the foreshore near to the outfall, a large proportion of the cases were in boys of school age, and who it was admitted had played on the foreshore, and had thus either by eating shellfish or putting pebbles in their mouth managed to pick up some of the Typhoid Bacilli.

In view of the light which has been thrown upon the nature and mode of propagation of this disease and particularly in respect of the significance attached



to the existence of so-called "carriers," the present sewer outfall cannot be regarded in any other light than that of a very serious menace to the health of the public, more especially to that of the "young and rising generation."

What a splendid improvement would be effected if the outfall were removed from its present situation altogether, and the sewage carried further down the river and to the level of low water.

The significance, too, of "carriers" in respect of accumulations of excreta, in the vicinity of dwellings is not less important. When we bear in mind that the capability of flies to carry on their feet large numbers of Bacteria, it is not difficult to realize how they may easily pick up some Typhoid Bacilli from any excreta which may be at hand, and forthwith make their way into the house and deposit the same Bacilli on any convenient article of food or drink. The subject is not a pleasant or a savoury one, but it is necessary to face the facts and forthwith proceed to put an end to such a state of affairs as lends itself to propagation of disease.

The accompanying tables show the distribution of the cases over the different areas, as well as the relative incidence in various years. From this it will be seen that the number of cases dealt with during the past year is considerably less than the average over a number of years :—

#### INCIDENCE OF ENTERIC FEVER (INCLUDING CONTINUED AND RELAPSING FEVER) IN VARIOUS YEARS.

Year.	No. of cases Notified.	No. treated in Sanatorium.	No. of Deaths.	Mortality per 100 cases Notified.
1893	368	—	54	14·67
1894	141	—	26	18·44
1895	204	5	21	10·29
1896	129	4	15	10·62
1897	131	6	11	8·47
1898	301	24	24	7·97
1899	305	—	28	9·14
1900	181	41	14	7·73
1901	360	97	37	10·27
1902	410	74	29	7·07
1903	245	91	20	8·16
1904	121	58	13	10·74
1905	119	50	12	10·08
1906	101	47	10	9·90
1907	123	53	16	13·00
1908	124	55	14	11·29

# TYPHOID FEVER NOTIFICATIONS.

WARDS.....	H.	Welln.	Clee.	N.E.	Weelsby.	Wellow.	Centl.	Hainton.	Alex.	Victoria.	S.W.	S.	TOTAL.
March.....	1	—	—	2	2	—	4	—	1	—	—	1	12
June .....	4	1	—	—	2	1	2	1	—	—	—	1	12
September .....	8	9	4	8	2	7	8	6	3	3	9	4	71
December .....	3	1	2	3	—	1	3	1	3	2	5	4	28
Total .....	16	12	6	13	6	9	17	8	7	5	14	10	123
Rate per 1,000 .....	2.16	1.50	1.21	1.97	1.11	1.85	2.33	1.14	.98	.74	4.45	2.81	1.71

38

## DEATHS.

WARDS.....	H.	Welln.	Clee.	N.E.	Weelsby.	Wellow.	Centl.	Hainton.	Alex.	Victoria.	S.W.	S.	Sanator.	W.H.	TOTAL.
March.....	—	—	—	1	—	—	—	—	—	—	—	1	1	—	3
June .....	—	—	—	—	1	—	—	—	—	—	—	—	—	—	1
September ...	—	—	1	1	—	—	1	—	—	—	—	1	—	—	4
December ....	—	—	—	—	—	—	—	—	—	—	6	—	—	—	6
Total ....	—	—	1	2	—	—	1	—	—	—	7	2	—	—	14
Rate per 1,000 .....	—	—	.15	.18	41	—	.14	—	—	—	—	—	—	—	.19



## Erysipelas.

Of this disease 31 notifications were received in 1908, none having a fatal termination. In 1907 55 cases and 3 deaths were reported, and in 1906, 51 cases with 4 deaths.

## Puerperal Fever.

3 notifications were received during the year with no deaths, as compared with 2 and one death in 1907, and 8 with 3 deaths in 1906.

Notices of suspension were served on the Midwives (Sect. 8 (3), Midwives Act, 1902) in attendance on the cases, their clothing also being disinfected prior to their resuming attendance on further patients.

The following Midwives notified their intention to practice within the area of this Authority during the year 1909, as required by Sec. 10 Midwives Act, 1902 :—

1	Blanchard, Sarah	.. ..	..37 Ayscough Street	
2	Cutler, Elizabeth	.. ..	..103 Grafton Street	
3	Coddington, Mary Ann	.. ..	..76 Annesley Street	
4	Dixon, Eliza	.. ..	..485 Grimsby-Rd., Cleethorpes	
5	East, Annie	.. ..	..17 Garden Street	
6	Ellis, Sarah	.. ..	..77 Wellington Street	
7	Fletcher, Rebecca	.. ..	..44 Queen Street	
8	Greenhalgh, Edith Harwood	Union Infirmary, Grimsby		L.O.S. Certificate
9	Hewitt, Maria	.. ..	..64 Bridge Street South	
10	Johnson, Martha Frances	.. ..	..27 Park Street	
11	Manson, Elizabeth Sinclair	.. Union Infirmary, Grimsby		L.O.S. Certificate
12	Paddison, Betsy	.. ..	..24 Cobden Street	
13	Peers, Emily	.. ..	..65 Nelson Street	
14	Robinson, Lois	.. ..	..87 Wintringham Road	
15	Smith, Sarah Jane	.. ..	..Union Infirmary, Grimsby	
16	Pinch, Catherine Ann	.. ..	..106 Granville Street	
17	Wakefield, Sarah Emma	.. ..	..167 Kent Street	
18	Wainman, Sarah Ann	.. ..	..30 Fraser Street	
19	Wells, Martha	.. ..	..15 Bursar Street, Cleethorpes	



## Household Scavenging and Cleansing.

As mentioned in the paragraph dealing with Infantile Mortality, it was decided that during the hot weather the household refuse should be collected bi-weekly, so as to limit as far as possible the danger connected with the accumulation of decomposing matter in the vicinity of dwellings.

This work is carried on in a very satisfactory manner, and few complaints are received at the office of inattention.

More satisfactory still is it to report that the work of conversion of the privy boxes to water carriage is proceeding rapidly. The number of Enteric Fever cases may vary from year to year, influenced by weather conditions and other factors, but it is vain to expect any radical improvement until such time as the ancient system at present in vogue gives place to more modern methods.

## General Drainage.

From the report of the Chief Sanitary Inspector, it will be observed that considerable advance has been made during the year in house drainage, by the fixing of improved drain traps in place of the antiquated brick cesspool, where such existed, and that as regards house drains generally, the necessity for constant attention to these is evidenced by the large number of cases in which defects are revealed by the use of drain tests, these showing defects to the extent of 90 per cent.

The dangers of leaky drains and consequent pollution of surface soil cannot well be overestimated. In great measure as we remedy this evil so may we expect a diminution in the diseases associated with polluted surface soil.

## Water Supply.

The usual quarterly examination of the water supply, taken haphazard from any convenient tap, shows that water supplied to the houses in the Borough by the Grimsby Waterworks Company, is of a high degree of purity, its only fault being the high degree of hardness.

## Smallpox Hospital, Laceby.

This institution is being maintained in a constant state of readiness for occupation at any moment, should necessity arise.

The accommodation provided includes not only separate buildings for infected cases, and also for the isolation of a suspected case, but has, in a separate portion of the grounds and entirely shut off from the infected buildings, complete accommodation for the reception of families of contacts.

It is satisfactory to note that no case of Smallpox having occurred in the district of this Authority, it has not been necessary to bring the institution into use during the year.



Visits of inspection are paid at intervals by your Medical Officer and the Chairman, and other members of the Hospitals Committee, in order to ascertain personally that the institution is being maintained in a satisfactory condition.

## Vaccinations and Exemptions, Grimsby Union.

The following statistics have been supplied by the Vaccination Officer of the Grimsby Union :—

1907—Successful Vaccinations .....	2261
Exemptions .....	264
<hr/>	
1908.—Successful Vaccinations .....	2230
Exemptions .....	811
<hr/>	

The figures here quoted show an enormous increase in the number of unvaccinated children in Grimsby and the neighbouring districts. It is, to say the least, a somewhat disquieting circumstance, and cannot be viewed but with feelings akin to alarm.

Grimsby has had in the past some very severe lessons in respect of Smallpox epidemics, but it would seem as though the memory of these is rapidly fading.

Dependent as we are so largely on a food supplying trade, we can ill afford to try experiments on the value of vaccination as a protection against Smallpox.

It may safely be asserted that, *ceteris paribus*, the risk we run of an invasion of this disease is proportional to the number of unvaccinated persons around us, and that in a like degree is the task of sanitary officials in limiting the spread of the disease, should an isolated case be admitted, made more difficult.

No doubt many of those who now refuse the protective benefits of vaccination would be the first to rush for it should Smallpox appear, but surely this is essentially a case in which "prevention is better than cure."



## SANATORIUM, SCARTHO.

The year 1908 marks an epoch in the sanitary administration of Grimsby, inasmuch as for the first time we have become possessed of a freehold site, within easy access of the town, on which to erect suitable accommodation for the reception and treatment of cases of infectious diseases, other than Smallpox, which is already adequately provided for at Laceby.

For a considerable time now efforts have been made at intervals by the Committee to obtain a site. Many excursions have been arranged and undertaken and proposed sites inspected during the last ten years, which have as frequently proved abortive, and it is a matter for thankfulness that we are now in possession of the much needed, and long sought after site, without having had to go through the tedious and withal expensive procedure of obtaining (or failing to obtain) such by compulsory purchase.

The urgent need of a suitable Isolation Hospital, and the failure to obtain freehold land for the purpose forced the Committee very reluctantly to consent some years ago to the admittedly unsatisfactory expedient of erecting temporary buildings on a small scale on a plot of land adjacent to the Great Central Railway at Little Coates on terms of a yearly tenancy. At this time it was not considered in the least degree probable that our tenancy of the land would be likely to be disturbed in the near future. When, however, the diversion of the existing West Marsh goods branch of the Railway was projected the new line was planned to pass practically through the centre of the site. Together with its accompanying sidings the line occupied nearly the whole of the available land, and it was absolutely necessary to remove as soon as any freehold land could be obtained suitable for the purpose of an Isolation Hospital.

The Railway Company were indulgent to the extent of, for a time, allowing us to remove and re-erect a portion of the existing structure a little distance away, so as to clear a space for the laying down of a portion of the projected lines, and for a considerable period we were in possession of a Hospital with a railway line passing through the centre of the grounds, the wards and administrative portion being on one side the line, and the laundry, sterilizer, coach-house, &c., on the other.

Such an unfortunate state of affairs could hardly be permitted to continue indefinitely, and it was a most fortunate stroke of business which led to the acquisition of the present site. The relative merits of the site finally adopted and of the so-called "Highfield" site, it would not serve any useful purpose to discuss, not forgetting, however, that the purchase of the original "Highfield" site served the purpose of enabling the Committee to successfully negotiate the purchase of the one now occupied.

Situated about  $2\frac{1}{2}$  miles south of the Town Hall, on the north side of Carr Lane, and distant from the main road leading to Waltham about 1,070 yards, it



is sufficiently isolated to leave nothing to be desired in that particular. It is of eight acres in extent, and thus provides ample space for present use, and for any additional accommodation which may reasonably be expected to be required in the near future.

In separate pavilions arrangements are made for the reception of cases of Enteric Fever, Diphtheria, and Scarlet Fever, and for isolation of suspected cases.

The Enteric Fever block consists of two wards of ten beds each, and two small ones of 4 beds each, these latter being intended for the treatment of critical cases—a total accommodation for Enteric Fever of 28 beds.

For Diphtheria a smaller pavilion is divided into 4 wards of 3 beds each, giving a total accommodation for these cases of 12 beds.

Scarlet Fever is naturally the disease for which the most extensive provision has to be made. Arrangements have been made for the reception altogether of 40 cases, in two separate buildings of 24 and 16 bed capacity respectively, each of these being divided into two wards of unequal size. This arrangement enables the convalescent cases to be separated from those suffering from the disease in the acute stage, and thus to some extent limit the tendency to the occurrence of so-called "return" cases, which form so unpleasant a feature of this class of disease.

It sometimes happens that a patient is admitted suffering from more than one form of infectious disease at the same time, and who would therefore be liable to become a source of danger to his immediate neighbours if treated in the same ward as those having only one disease. Also it may be that occasionally a patient is sent in for the purpose of isolation where a definite diagnosis cannot be immediately made.

For these, accommodation has been provided in the form of an Observation Block, consisting of four separate rooms opening into a common corridor, and having a kitchen and all requisites provided, complete in itself. Already this building has proved of immense service as was expected from our experience at Little Coates, where the need of such a building had been often a source of difficulty.

For the more thorough disinfection of Scarlet Fever cases prior to discharge, a small building has been erected, consisting of 3 rooms opening into each other, the middle one having a bath in it. Leaving infected clothing in one room, the patient goes into the middle compartment and has his bath, and leaves this by the door leading into the third compartment, where his disinfected clothes are waiting, from which he can pass out-of-doors without re-entering the room in which the infected clothing was left.

The administration block situated near the entrance to the grounds, provides the necessary kitchens and storage arrangements with dining rooms for nurses and servants, and also sleeping accommodation for the whole staff.



As a married porter and cook are employed in the institution it is desirable that a lodge be provided for their use near the entrance.

Disinfection rooms, laundry, and sewage sterilizer occupy the north-east corner of the site, where a large boiler provides the steam required for the disinfection of bedding and clothing, both for the Hospital itself and for the town cases. The sewage, too, is treated by super-heated steam prior to its passing through filter beds, and on into the stream which passes the north side of the site. A refuse destructor and coach-houses for the ambulance and bedding vans situated here complete the accessory portion of the Hospital.

Heating of the wards is by means of low pressure hot water pipes, supplied by stoves attached to each block.

The whole of the buildings, together with the grounds and the road leading down to the site from the Waltham road, are lighted by electricity supplied by a main from the town electricity works.

The laying out of the grounds is being gradually proceeded with. It is, however, a work of time, and it is not likely that it will be nearly complete before the summer. Unfortunately, the site was ploughed land, so that it is necessary to have portions sown with grass seeds to form playing portions for the convalescents of each group. It is proposed to sod a grass plot in front of the administration block to be laid out in flower beds. A portion is intended to be used as a kitchen garden, where the major portion of the vegetables required in the institution for the use of the staff and patients can be produced.

It was decided after mature deliberation that it would not be advisable to entirely close the Hospital during the process of removal, but to carry out the work piecemeal. For this purpose temporary accommodation had to be provided by means of tents, and when the administration block came to be dismantled a temporary wooden structure was erected, to serve as a kitchen.

Scarlet Fever cases were suitably provided for in the existing Wards as it was deemed advisable not to attempt to remove this building on account of there being a certain amount of risk in doing so, and the fact of its having already done duty in its then capacity for about eight years. The remainder of the cases were housed in tents, as were also the nurses and servants.

When, in the month of September, the weather quickly became very wet and boisterous, so that tents were blown down, and the inconveniences to which patients and staff were exposed became unbearable; also some rather urgent cases of Enteric Fever were waiting for admission for which accommodation at Little Coates was "*non-est*," it was decided to remove at once to Scartho and make use of such portions of the buildings as were in a sufficiently advanced, though unfinished state, to permit of their being used.



The administration block was not ready for occupation, and the staff had therefore to be housed in one of the Scarlet Fever blocks ; one ward serving as a sleeping apartment (divided by a temporary partition), and the other as a dining room.

[I would here like to interpolate and place on record the extreme loyalty and the great forbearance of the various members of the staff which so greatly aided me in carrying out the details connected with the difficult and trying situation of moving from the old to the new site, while still keeping the institution to some extent available for emergencies. The inconveniences resulting from the limited and the somewhat primitive arrangements which had necessarily to be put up with were at all times cheerfully endured, and much praise is due to them for their conduct in these trying circumstances].

The actual " flitting " commenced on Friday, September 11th, 1908, and by Saturday night the whole of the patients, staff, furniture and effects were safely landed at Scartho, with the exception of the laundry and disinfection apparatus, which had perforce to remain at Little Coates until the new buildings were ready.

It was a happy ending to a period of stress and anxiety to find all safely housed at Scartho without any mishap and none of the patients apparently any the worse for their journey. Several Enteric Fever cases, for whom beds could not be provided at Little Coates, and who had been awaiting admission, were sent for the same day as the move was made to Scartho.

## Opening Ceremony.

The unfinished condition of the work precluded our having a formal opening at this time, and the postponed event took place on November 27th, 1908.

At the invitation of the Chairman (Councillor Tate), the Mayor, the whole of the members of the Corporation, and various officials, visitors from other public bodies connected with the town and the surrounding districts, assembled at the Scartho institution, where, after a preliminary pose in front of the camera (manipulated by the Chief Sanitary Inspector, Mr. Moody), the company made a tour of the buildings, and subsequently assembled in one of the unoccupied wards where they were entertained to afternoon tea, followed by speeches from several members of the company.

The Chairman of the Committee spoke in felicitous terms of the valuable services of the various officials whose combined efforts had culminated in the erection of the buildings now serving so useful a purpose, your Borough Engineer and his staff were especially complimented upon the very satisfactory manner in which the work had been done, and deserved praise was also accorded to the Matron and Nursing staff for their devotion and hard work during the very trying process of removal, and the Committee expressed their entire approval of the ward arrangements and equipment of the institution generally.



## The Work of the Institution during the Year.

Partly owing to the limited accommodation at Scartho during the major portion of the year, when it was necessary to select the cases, and only admit those where there appeared most danger of further dissemination of the particular disease in question, and partly owing to the largely diminished prevalence of Scarlet Fever in the latter part of the year, when the accommodation was available, the number of cases treated is considerably less than in the previous year.

As shown in the tabular report hereto appended, 51 remained under treatment at the end of 1907, 274 were admitted during the year, and 35 remained in the institution at the end of the year.

Of the total number admitted, 153 were cases of Scarlet Fever, 62 of Diphtheria, 55 of Enteric Fever, and 4 of other diseases.

The fatal cases numbered in all 13, of this number 7 were due to Enteric Fever, 3 to Scarlet Fever, 1 only to Diphtheria, and 2 other diseases.

The case-mortality rate, therefore, was in Enteric Fever 12.72, which is considerably higher than in the previous year, due to a succession of very severe cases at the latter part of the year.

The rate for Scarlet Fever is about the same—namely, 1.96, while that for Diphtheria is remarkably low, only one death having occurred in the 62 cases under treatment, giving a case-fatality rate of 1.61, which is by far the lowest death rate on record for this institution. The death rate for the whole of the cases of Diphtheria reported was 7.48.

The total number of days spent by patients in the Hospital was, as regards Scarlet Fever cases 7,234, equal to an average per patient of 47.28, as compared with 45.73 days per patient in 1907.

For Diphtheria the total number of days was 2,199, which, divided amongst 62 patients, gives an average per patient of 35.46 days.

In Enteric Fever the average time under treatment was slightly less than in the preceding year. A total of 2,709 days for 55 cases gives an average per patient of 49.25 days, as compared with 55.13 in 1907.

The accompanying table shows the admissions and discharges for each month:—



# SCARTHIO SANATORIUM.

Table of Admissions and Discharges for 1908

	ADMITTED.					Total.	DISCHARGED.					Total.	DIED.					Total.
	Small-pox.	Scarlet Fever.	Diphtheria.	Enteric or Typhoid.	Others.		Small-pox.	Scarlet Fever.	Diphtheria.	Typhoid.	Others.		Small-pox.	Scarlet Fever.	Diphtheria.	Typhoid.	Others.	
JANUARY .....	...	38	9	2	...	49	...	26	4	1	...	31	...	1	...	...	...	1
FEBRUARY .....	...	21	1	2	...	24	...	32	4	3	...	39	...	...	1	...	...	1
MARCH .....	...	23	9	1	...	33	...	29	3	1	...	33	...	1	...	1	...	2
APRIL .....	...	9	3	2	1	15	...	21	8	3	...	32	...	...	...	...	1	1
MAY .....	...	14	4	1	...	19	...	20	4	1	...	25	...	...	...	...	...	...
JUNE .....	...	7	3	1	...	11	...	10	4	2	...	16	...	1	...	...	...	1
JULY .....	...	8	1	3	...	12	...	9	2	...	...	11	...	...	...	...	...	...
AUGUST .....	...	11	0	7	...	18	...	10	2	4	...	16	...	...	...	...	...	...
SEPTEMBER .....	...	8	3	16	...	27	...	9	0	1	...	10	...	...	...	...	...	...
OCTOBER .....	...	8	14	8	1	31	...	9	1	15	...	25	...	...	...	1	...	1
NOVEMBER .....	...	2	10	4	1	17	...	7	12	4	...	23	...	...	...	3	1	4
DECEMBER .....	...	4	5	8	1	18	...	7	12	7	1	27	...	...	...	2	...	2
TOTAL .....	...	153	62	55	4	274	...	189	56	42	1	288	...	3	1	7	2	13

TABLE 1.—Vital Statistics of whole District during 1908,  
and previous Years.

YEAR.	Population estimated to Middle of each Year.	BIRTHS.		TOTAL DEATHS REGISTERED IN THE DISTRICT.				Total Deaths in Public Institu- tions in the District.	Deaths of Non- residents registered in Public Institu- tions in the District.	Deaths of Residents registered in Public Institu- tions beyond the District.	NET DEATHS AT ALL AGES BELONGING TO THE DISTRICT.	
		Number.	Rate.	Under 1 year of Age.		At all Ages.					Number.	Rate.
				Number.	Rate per 1,000 Births registered.	Number.	Rate.					
1	2	3	4	5	6	7	8	9	10	11	12	13
1898	62000	1876	30.25	419	223	1001	16.14	84	28	..	973	15.69
1899	64190	1937	30.17	417	215	1144	17.82	96	19	..	1125	17.52
1900	65760	2043	31.06	395	193	1210	18.40	106	18	..	1192	18.12
1901	63138	2048	32.43	379	185	1065	16.86	123	27	..	1038	16.43
1902	64140	1972	30.74	284	144	981	15.29	144	31	..	950	14.81
1903	65100	1879	28.86	321	170	953	14.63	141	21	..	932	14.33
1904	65950	1960	29.71	367	187	1113	16.87	144	27	..	1086	16.46
1905	67000	1980	29.55	348	175	1022	15.25	130	25	..	997	14.88
1906	69360	2069	29.82	366	176	1044	15.05	140	35	..	1009	14.54
1907	71220	2119	29.75	325	153	1134	15.92	139	39	18	1113	15.62
Averages for years 1898 1907	65785	1988	30.23	362	182	1066	16.22	124	27	..	1041	15.84
1908	71800	2302	32.06	314	136	1040	14.48	152	43	8	1005	13.99

Area of District in acres  
(exclusive of area  
covered by water). } 3,260

Total population at all ages ... 63,138 }  
Number of inhabited houses ... 13,340 } At Census of  
Average number of persons per house 4'73 } 1901.



Table II. Vital Statistics of Separate Localities in 1908, and previous year.

NAMES OF LOCALITIES...	HUMBER.			WELLINGTON.			WELLSBY.			WELLOW.			SOUTH.			ALEXANDRA.		
	Population esti- mated to middle of each year.	Deaths at all ages.	Deaths under 1 yr.	Population esti- mated to middle of each year.	Deaths at all ages.	Deaths under 1 yr.	Population esti- mated to middle of each year.	Deaths at all ages.	Deaths under 1 yr.	Population esti- mated to middle of each year.	Deaths at all ages.	Deaths under 1 yr.	Population esti- mated to middle of each year.	Deaths at all ages.	Deaths under 1 yr.	Population esti- mated to middle of each year.	Deaths at all ages.	Deaths under 1 yr.
1907	7140	122	44	7490	124	54	5370	51	14	4760	58	11	3790	33	10	6890	103	26
1908	7390	116	44	7980	109	44	5380	47	14	4850	50	12	3550	32	7	7100	91	38
NAMES OF LOCALITIES...	SOUTH-WEST.			CENTRAL.			CLEE.			VICTORIA.			NORTH-EAST.			HAINTON.		
	Population esti- mated to middle of each year.	Deaths at all ages.	Deaths under 1 yr.	Population esti- mated to middle of each year.	Deaths at all ages.	Deaths under 1 yr.	Population esti- mated to middle of each year.	Deaths at all ages.	Deaths under 1 yr.	Population esti- mated to middle of each year.	Deaths at all ages.	Deaths under 1 yr.	Population esti- mated to middle of each year.	Deaths at all ages.	Deaths under 1 yr.	Population esti- mated to middle of each year.	Deaths at all ages.	Deaths under 1 yr.
1907	3180	42	14	7100	119	49	5220	49	20	6890	111	34	6320	109	26	7070	72	15
1908	3140	30	7	7260	109	44	4930	50	23	6680	88	25	6570	99	32	6970	67	11

NOTE.—Owing to the re-arrangement of the Wards, Vital Statistics for separate districts are only available for two years.

L.G.B.

**TABLE 3.—Cases of Infectious Disease notified during the Year 1908.**

Name of District : GRIMSBY.

Cases notified in whole District—At Ages—Years.

NOTIFIABLE DISEASE.	At all ages.	Under I.	I to 5	5 to 15	15 to 25	25 to 65	65 and upwards.
Diphtheria (including Membranous Croup) .. ..	147	3	33	81	18	12	—
Erysipelas .. ..	31	1	1	—	1	26	2
Scarlet Fever .. ..	283	2	61	180	23	17	—
Enteric Fever .. ..	123	—	8	49	30	36	—
Continued Fever .. ..	1	—	—	—	1	—	—
Puerperal Fever .. ..	3	—	—	—	1	2	—
Totals .. ..	588	6	103	310	74	93	2

L.G.B.

**TABLE 3a.—Total Cases notified in each Locality.**

NOTIFIABLE DISEASE.	I Hum.	2 Well.	3 Cle.	4 N.E.	5 Wsby.	6 W'low	7 Cent.	8 Hain.	9 Alex.	10 Vict.	11 S.W.	12 S.	Total.
Diphtheria including Membranous Croup) .. ..	21	15	8	4	18	4	15	13	15	13	9	12	147
Erysipelas .. ..	4	2	4	2	—	1	4	1	5	5	—	3	31
Scarlet Fever .. ..	38	38	33	44	23	15	22	33	6	17	3	11	283
Enteric Fever .. ..	16	12	6	13	6	9	17	8	7	5	14	10	123
Continued Fever .. ..	—	—	—	—	—	—	—	—	—	—	—	1	1
Puerperal Fever .. ..	—	—	—	2	—	—	—	—	1	—	—	—	3
Totals .. ..	79	67	51	65	47	29	58	55	34	40	26	37	588

Isolation Hospital, Name and Situation : THE SANATORIUM, SCARTH.

Total available Beds, 80 ; number of Diseases that can be concurrently treated, 3.



L.G.B.

TABLE 3b.—No. of Cases removed to Hospital from each Locality.

WARDS ....	1 Hum.	2 Well.	3 Clee	4 N.E.	5 Wisby.	6 W'low.	7 Cent.	8 Hain.	9 Alex.	10 Vict.	11 S.W.	12 South.	Outside District.	TOTAL.
Diphtheria ..	6	7	3	1	4	1	2	8	6	9	4	9	2	62
Scarlet Fever .	20	18	25	18	8	8	9	15	4	11	2	4	9	151
Typhoid Fever	8	5	2	4	2	1	12	2	3	6	8	—	2	55
Total .....	34	30	30	23	14	10	23	25	13	26	14	13	13	268

The Isolation Hospital is at Scartho.

L.G.B. TABLE 5.—Infantile Mortality during the Year 1908.  
Deaths from stated causes in Weeks and Months under One Year of Age.

CAUSE OF DEATH.	Under 1 Wk.	1-2 Wks.	2-3 Wks.	3-4 Wks.	Total under 1 Mth.	1-2 Mths	2-3 Mths	3-4 Mths	4-5 Mths	5-6 Mths	6-7 Mths	7-8 Mths	8-9 Mths	9-10 Mths	10-11 Mths	11-12 Mths	Total Deaths under 1 Yr.
All Causes .. .. .	50	8	12	13	83	47	20	28	27	19	21	11	19	16	9	14	314
I.—COMMON INFECTIOUS DISEASES.																	
Measles .. .. .	—	—	—	—	—	1	—	—	—	—	—	1	—	—	1	2	5
Diphtheria : Croup .. .. .	—	—	—	—	—	—	—	—	—	1	—	—	—	1	—	—	2
Whooping Cough .. .. .	—	—	—	—	—	—	—	—	1	1	—	1	—	—	—	—	3
II.—DIARRHOEAL DISEASES.																	
Diarrhoea (all forms) .. .. .	—	—	—	1	1	7	3	4	6	4	9	4	2	5	1	1	47
Enteritis, Muco-enteritis, Gastro-enteritis .. .. .	—	1	—	—	1	2	1	4	3	2	2	—	5	1	—	2	23
Gastritis, Gastro-intestinal Catarrh .. .. .	—	—	—	1	1	3	—	2	1	—	—	1	1	—	—	1	10
III.—WASTING DISEASES.																	
Premature Birth .. .. .	29	3	3	2	37	3	1	—	—	—	—	—	—	—	—	—	41
Congenital Defects .. .. .	1	—	—	1	2	2	1	2	1	—	—	—	—	—	—	—	8
Atrophy, Debility, Marasmus .. .. .	11	3	6	7	27	10	5	6	3	—	—	—	—	1	—	1	53
IV.—TUBERCULOUS DISEASES.																	
Tuberculous Meningitis .. .. .	—	—	—	—	—	—	—	—	—	2	—	—	1	1	1	—	5
Tuberculous Peritonitis, Tabes Mesenterica .. .. .	—	—	—	—	—	—	—	—	—	—	—	—	—	1	—	1	2
Other Tuberculous Diseases .. .. .	—	—	—	—	—	—	—	—	—	—	—	—	2	1	2	—	5
V.—OTHER CAUSES.																	
Rickets .. .. .	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	1	1
Meningitis (not Tuberculous) .. .. .	—	—	—	—	—	—	1	—	—	—	1	—	—	2	—	—	4
Convulsions .. .. .	8	1	3	—	12	4	2	2	4	4	1	—	4	1	—	2	36
Bronchitis .. .. .	—	—	—	—	—	5	4	4	5	3	4	—	1	—	2	1	29
Laryngitis .. .. .	—	—	—	—	—	—	—	—	—	—	—	—	—	1	—	1	2
Pneumonia .. .. .	—	—	—	1	1	4	—	2	3	—	—	3	2	—	2	1	21
Suffocation—Overlaying .. .. .	—	—	—	—	—	2	—	1	—	—	—	—	—	—	—	—	3
Other Causes .. .. .	1	—	—	—	1	4	2	1	—	2	1	1	1	1	—	—	14

District or Sub-division of Grimsby.

Births {legitimate 2193.  
          {illegitimate 111

Deaths from all causes 1,040  
Population 71,800



L.G.B.

TABLE 4.—Causes of, and Ages  
NAME OF DISTRICT

Causes of Death. 1	Deaths at the subjoined ages of "Residents" when occurring in or beyond the District.						6 w
	All ages. 2	Under 1 year. 3	1 and under 5. 4	5 and under 15 5	15 and under 25. 6	25 and under 65. 7	
Measles .. .. .	10	5	5	—	—	—	
Scarlet Fever .. .. .	5	—	2	1	—	2	
Whooping-cough .. .. .	5	3	2	—	—	—	
Diphtheria (including Membranous croup) .. .. .	11	2	8	1	—	—	
Enteric Fever .. .. .	14	—	—	—	4	10	
Rheumatic Fever .. .. .	1	—	—	1	—	—	
Diarrhœa .. .. .	69	60	7	—	—	1	
Phthisis(Pulmonary Tuberculosis)	111	8	10	12	27	53	
Cancer, malignant disease .. .. .	57	—	2	—	—	32	
Other diseases of Respiratory Organs .. .. .	176	53	21	10	1	46	
Premature Birth .. .. .	105	102	3	—	—	—	
Heart Diseases .. .. .	95	2	—	2	2	57	
Accidents .. .. .	48	5	7	3	7	24	
Convulsions .. .. .	39	36	3	—	—	—	
Cerebral Disease .. .. .	79	8	11	5	7	27	
Abdominal Diseases .. .. .	98	20	2	9	6	41	
Senile Decay .. .. .	60	—	—	—	—	—	
All other causes .. .. .	57	10	4	2	6	32	
All causes .. .. .	1040	314	87	46	60	325	20

Death during Year 1908.  
RIMSBY.

Deaths at all ages of "Residents" belonging to Localities, whether occurring in or beyond the District.												Total deaths whether of "Residents" or "Non-Residents" in Public Institutions in the District.
m.	Well.	Weels.	Well'w	South	Alex.	S.W.	Cent.	Clee.	Vict.	N.E.	Hain.	
	10	11	12	13	14	15	16	17	18	19	20	21
2	3	—	—	—	2	—	1	—	1	—	—	1
1	—	—	—	—	—	—	1	—	1	—	—	2
1	1	—	—	—	—	—	1	1	1	—	—	—
1	—	3	—	1	—	—	2	1	—	1	—	2
—	—	1	2	—	1	—	—	—	—	1	—	9
1	—	—	—	—	—	—	—	—	—	—	—	—
4	12	1	4	—	6	2	10	5	3	9	2	1
3	13	5	7	4	10	3	6	4	11	9	7	19
8	—	4	6	—	5	4	5	—	6	1	6	12
0	23	10	7	2	9	7	29	9	15	18	11	16
7	14	5	3	2	14	3	12	12	12	10	3	8
8	9	5	7	3	11	3	11	2	9	9	8	10
2	3	—	2	—	7	—	—	—	2	16	1	15
7	3	2	3	2	2	1	7	1	4	3	3	1
0	5	2	1	2	10	3	7	5	10	5	8	11
8	10	2	4	5	8	4	7	4	7	11	9	19
9	8	3	4	8	1	—	3	1	4	2	3	14
4	5	4	—	3	5	—	7	5	2	4	6	12
6	109	47	50	32	91	30	109	50	88	99	67	152



# GREAT GRIMSBY PORT SANITARY AUTHORITY.

---

## *REPORT for year ending December 31st, 1908.*

---

A detailed account of the work done in the District by your officials, the inspection of shipping, of fish and other foods, and the general sanitary work, is herewith presented.

Tables giving the amount and total value of the fish landed in 1908 and previous years, and the amount found to be unfit for consumption, are also appended, together with a return of the alien traffic for the year, compared with 1907.

VESSELS INSPECTED (FOREIGN)—British Steam Ships 591, British Sailing Ships 22, Foreign Steam Ships 480, Foreign Sailing Ships 79, Steam Fishing Vessels 189, Sailing Fishing Vessels 7—Total 1,368.

VESSELS INSPECTED (COASTWISE)—British Steam Ships 358, British Sailing Ships 177, Foreign Steam Ships 247, Foreign Sailing Ships 16, Steam Fishing Vessels 353, Sailing Fishing Vessels 68, Steam Herring Vessels 48, Sailing Herring Vessels 8, Canal Boats 222—Total 1,497. Total Coastwise and Foreign—2,865. Extra Inspections of work in hand 417.

The Nationalities of the vessels were as follows :—British 2043, Swedish 291, Norwegian 241, Danish 132, German 56, French 48, Russian 35, Dutch 12, Belgian 6, Spanish 1. Total—2,865.

## Canal Boat Inspection.

222 inspections of Canal Boats were made. No case of infectious disease was met with, and generally their sanitary condition was good.

Infringements of the Acts that were dealt with were as follows :

Defective ventilators 9, leaky overhead decks 6, dirty cabins 8, dirty water casks 6, water casks rotten 2, no cover to water casks 1, cabins requiring painting 3, defective bulkshead 4, defective stoves in cabins 5, defective pump 1.

## Structural Defects on Vessels.

	Cases.	Remedied.
No ventilation to crew's spaces .....	51	37
Defective ventilation to crew's spaces .....	57	49
Broken Port Lights.....	70	45
Defective floorings in crew's berths .....	29	28
Leaky overhead decks .....	47	41
Defective w.c. pans .....	19	13
Defective w.c. floors .....	1	1
Leaky combings to deck houses .....	1	1
Defective bulksheads between w.c.'s and crew's forecastles, causing nuisance .....	5	5
Sweating overhead iron deck, causing moisture to fall on the crew's beds .....	5	3
Choked scupper pipes in forecastles .....	13	11
Defective floorings in crew's forecandle, causing an accumulation of filth between the wood and iron deck .....	3	3
Defective stoves in forecastles.....	11	7
Defective flange to hawse pipe, causing dampness in forecandle ..	1	1
Defective iron plate in ship's side, causing men's bedding to be wet .....	1	1
	—	—
Totals .....	314	246
	—	—

## Dirty Forecastles.

The forecastles or deck-houses on 173 British and 96 Foreign vessels were found in a dirty condition. Orders were given by your Inspector for the cleansing of the same, and in each case they were either cleansed, painted or lime-washed as required.

They were of the following Nationalities :—British 173, Swedish 47, Norwegian 29, Russian 9, German 5, French 3, Belgian 1, Dutch 1, Spanish 1. Total 269.



### **Choked and Dirty Water Closets.**

On 105 vessels the deck or cabin w.c.'s were found in a choked and dirty condition. Orders were given for the same to be cleansed and disinfected ; this in all cases on re-inspection was found to have been carried out.

### **Inspection of Water Boats.**

The boats used for the supply of fresh water to the vessels in dock are regularly inspected, and at all times have been found clean, and the water of good quality.

### **Dirty Water Tanks and Casks.**

On 65 vessels the tanks or casks used for the storage of drinking water were found in a dirty condition. Orders were given for the cleansing of same, and in all cases the work was carried out to the satisfaction of your Inspector.

### **Nuisance from Foul and Dirty Fore Peaks.**

On 14 vessels the forepeaks situate under the crew's forecastles were found in a foul and dirty condition, causing a nuisance to exist. Orders were given for the cleansing and disinfection of same, and in all cases this has been done.

### **Dirty Food and other Lockers.**

On 13 vessels the food or other lockers in the crew's forecastles were found in a dirty condition.

Cleansing of these was at once carried out when the attention of the master had been called to their condition by your Inspector.

### **Inspection of Fish and other Foods.**

Particular attention is paid daily to this important work, and the following list will show the quantities landed and the value. Also the amount condemned, and received as forfeited, all being destroyed as unfit for human food.

It has not been necessary to resort to legal proceedings in any case throughout the year.

Statement showing the Total Quantity and Value of Wet Fish and Shell Fish landed at Grimsby during each of the years 1899-1908.

**QUANTITY.**

	1899	1900	1901	1902	1903	1904	1905	1906	1907	1908
Wet Fish.....	1,869,060	2,149,560	1,989,315	2,683,106	2,739,167	3,038,266	2,980,000	3,510,000	3,747,000	3,429,000
Shell Fish :—										
Crabs .....	No. 112,400	No. 178,640	No. 245,100	No. 382,740	No. 279,010	No. 500,240	Not available.	Not available.	Not available.	Not available.
Oysters .....	2,370,000	2,100,000	1,420,000	1,225,000	590,000	301,600	Not available.	Not available.	Not available.	Not available.
Other Shell Fish	15,390	10,370	9,140	6,044	3,011	5,865	Not available.	Not available.	Not available.	Not available.

**VALUE.**

	1899	1900	1901	1902	1903	1904	1905	1906	1907	1908
Wet Fish.....	£ 1,720,263	£ 1,966,647	£ 1,852,865	£ 2,069,609	£ 2,145,355	£ 2,519,464	£ 2,410,600	£ 2,760,000	£ 2,880,000	£ 2,849,000
Shell Fish :—										
Crabs .....	1,117	1,729	2,061	2,879	2,501	3,490				
Oysters .....	4,740	4,190	2,890	2,592	1,436	791				
Other Shell Fish	9,525	7,010	6,425	4,881	2,425	4,655				
Total Value.....	1,735,645	1,979,576	1,864,241	2,079,961	2,151,717	2,528,400	2,420,100	2,771,600	2,890,000	2,856,500



## **Destroyed as Unfit for Food.**

Haddocks, 18 $\frac{3}{4}$  tons ; Cat Fish, 28 $\frac{1}{2}$  tons ; Codling, 10 $\frac{1}{4}$  tons ; Halibut, 4 $\frac{1}{4}$  tons ; Gurnets, 3 $\frac{1}{2}$  tons ; Dabs, 2 $\frac{1}{4}$  tons ; Plaice, 2 tons ; Cod,  $\frac{3}{4}$  ton ; Skate and Roker,  $\frac{1}{2}$  ton ; Coal Fish, 8 stones ; Bream 24 stones ; Witches, 8 stones ; Whiting, 30 stones ; Tusk, 6 stones ; Lobster, 95 pounds ; Smelts, 419 boxes ; Lobster Prawns, 4 boxes ; Mackerel 21 boxes ; Shrimps, 64 baskets ; Prawns, 8 kits ; Crabs, 3 score ; Bacon, 194 pounds ; Eggs, 4 cases.

## **General Sanitary Condition of the Docks, Closet Accommodation. Nuisances, &c.**

The results of systematic sanitary inspection were satisfactory as shown by the reports of your Inspector from time to time. A large number of nuisances were abated, and much real improvement made. Details of the work done in this connection were as follows :—

Choked gullies cleared, 64 ; choked drains cleared, 42 ; defective drain re-laid, 8 ; new drains laid with gullies, 4 ; fixing new w.c.'s and drains with flush, 2 ; replacing flush to w.c.'s, 4 ; cleansing dirty w.c. pans, 36 ; clearing choked w.c. pans, 10 ; fixing new w.c. pans to replace broken, 2 ; new downspouts to replace broken, 13 ; defective downspouts repaired, 8 ; new eave spout fixed, 1 ; repairing a 4" drains with a 6" to prevent choking, 1 ; new grids to gullies to replace broken, 4 ; clearing choked eave spouts, 2 ; repairing defective soil pipe, 1 ; repairing defective joints to soil pipe, 2 ; repairing urine pan, 1 ; cleansing urinal (public), 1 ; relaying fish-house floors, 7 ; workshops limewashed, 28 ; passages limewashed, 4 ; w.c.'s limewashed, 7 ; repairing doors to w.c.'s in workshops, 3 ; repairing windows in workshops, 2 ; passages to workshops limewashed, 4 ;

In one cellar an old tile drain and untrapped cesspool was found ; this was taken out, the trench filled in, and the cellar floor concreted.

The attention of the Great Central Railway Company has been called on several occasions to the dirty condition of the Pontoon under the offices ; they have always remedied the complaint when requested.

## **Sickness on Board Vessels during the Year.**

Out of a total of 57 cases which came under the cognisance of your officials during 1908, six only proved to be of an infectious character—namely, Scarlet Fever 1, Enteric Fever 2, Measles 2, and Diphtheria 1.

The prevalence of Cholera in St. Petersburg and a few other Russian ports caused some anxiety, and a strict watch was kept on all vessels arriving from these suspected ports, both on arrival and also while in dock. Fortunately no illness of suspicious character was encountered.



The pleasure yacht "The Viking" made a call at St. Petersburg after Cholera had broken out there, and the whole of the passengers and crew were inspected on arrival here, and their names and addresses obtained and forwarded to the Medical Officer of Health of the district, to which they were proceeding. No case of illness had occurred during the voyage beyond that of a member of the crew having contracted Scarlet Fever.

The matter of the death of five Russian transmigrants on board a vessel arriving from Antwerp formed the subject of a special report by your Medical Officer to the Local Government Board, a copy of which is herewith appended.

The following is a detailed list of the cases of sickness investigated by your officers during the year :—

- January 2nd—S.T. Romeo. The trimmer was suffering from Influenza on arrival here and was allowed to proceed to his home.
- January 7th—S.T. Bustard. The mate was suffering from Gastritis and was sent home.
- January 9th—S.T. Aldgate. The deck hand suffering from Catarrhal symptoms was sent home.
- January 12th—S.T. Rhone. The third hand was found on arrival here to have a Hernia, and was allowed to proceed home.
- January 22nd—S.T. Duncan. The steward appeared to be suffering from General Debility.
- January 24th—S.T. Refino. The master on arrival was suffering from Muscular Rheumatism, and was sent home.
- February 10th—S.T. Grimbarian. The trimmer was brought in in a state of unconsciousness, suffering from what appeared to be Meningitis complicating Influenza. He was removed to the District Hospital, where he died on the following day.
- February 13th—S.T. Aurora. The deck hand complained of muscular pains, he was allowed to proceed home.
- February 19th—S.S. City of Leeds, from Hamburg, had on board an alien passenger who appeared in a state of collapse. Investigation showed that he was malingering, and as permission to land was refused by the Immigration Officer, he was returned to Hamburg.
- February 23rd—Lighter Florence, from Hull. The mate died suddenly on board. At the inquest which was held at the District Hospital, a verdict was returned that death was due to Hæmorrhage from the lungs.
- February 25th—S.T. Barbadoes. The steward was found suffering from Influenza, and was sent home.



- March 17th—S.T. Rigo. The third hand had been taken ill while on the voyage with a return of a long standing illness, and on arrival he was taken home.
- April 17th—S.T. Dovey. The mate was ill with a severe Quinsy, and was sent home.
- April 22nd—S.T. Challenger. On arrival of this vessel it was reported that the chief engineer was ill. This proved to be a case of Bronchitis, and he also was allowed to be taken home.
- May 6th—S.T. Undaunted. This vessel arrived with the deck hand very seriously ill with Pneumonia. He was removed as soon as possible to the Workhouse Infirmary, where he died after a few days illness.
- May 13th—S.T. Brisbane. The trimmer, who was suffering from a bad attack of Diarrhœa, was sent home.
- May 31st—S.T. Yeovil. This vessel on arrival reported the trimmer ill. He was found to be suffering from Pneumonia, and he was at once removed to the District Hospital.
- June 2nd—S.T. Gardenia. The deck hand of this vessel had had an Apoplectic seizure during the voyage, and on arrival he was removed to the Workhouse Infirmary.
- July 17th—S.T. Vanilla. The deck hand appeared to be suffering from the effects of a chill, and was sent home.
- July 20th—S.T. Aldgate. The second engineer of this vessel was reported ill on arrival. He was found to be suffering from Pleurisy, and was sent home.
- August 6th—S.S. Northcliffe, from Mobile. The third engineer of this vessel while in dock was reported ill. The medical man in attendance advised his being sent to his home, as he was suffering from Phthisis in an advanced state.
- August 6th—S.T. Reverté. This vessel reported on arrival that the chief engineer was taken ill. He was found to have severe Diarrhœa, and was removed to his home.
- August 8th—S.T. Ranee. The chief engineer died on board. At the inquest a verdict of death from suffocation while asleep, due to vomiting, was returned.
- August 9th—S.T. Rajah. On arrival of this vessel the trimmer was reported to have died during the voyage. Strangulated Hernia was returned as the cause of death.
- August 10th—Brisbane. The steward suffering from Lumbago was sent home.



- August 15th—S.T. Cineraria. On arrival the mate of this vessel was reported to be ill. He was suffering from General Debility, and was allowed to proceed to his home.
- August 18th—S.T. Pacific. It was reported on arrival of this vessel that the deck hand had died during the voyage. Verdict of death from Heart Failure was returned at the inquest.
- August 31st—Steam Herring Drifter, M. Thompson. The mate was found suffering from Influenza. Medical attention recommended, and he remained on board.
- September 6th—S.T. Glenroy. The trimmer was taken ill on the voyage. On arrival he was seen to be suffering from Catarrh, and went to his home.
- September 13th—S.T. Beaucentaur. The chief engineer was found suffering from Follicular Tonsilitis, and was sent home. The trimmer also of this vessel was suffering from Enteritis, and was allowed to go to his home.
- September 19th—S.Y. The Viking. This vessel arrived in the roads, and having called at St. Petersburg on the tour, the passengers and crew were inspected before being allowed to land. The ship's printer had contracted Scarlet Fever on the voyage, but had been kept under strict isolation, and no others had been affected. He was removed, together with his effects to the Sanatorium, and his cabin fumigated.
- September 22nd—S.S. Borkum (German) ex Hamburg. One of the crew suffered from Abdominal pains. Medical aid was obtained, and he remained on board.
- October 2nd—Herring Drifter "Friendship." One of the deck hands had an attack of Gastric Catarrh. He was allowed to land and proceeded to his home.
- October 2nd—S.S. Leicester, ex Hamburg. One of the firemen had been taken ill during the voyage. His symptoms pointed to Enteric Fever, and he was removed to the Sanatorium, together with his belongings and the whole fore-castle fumigated.
- October 6th—S.T. Falmouth. On arrival of this vessel the chief engineer was found to be suffering from an attack of Lumbago, and was allowed to proceed to his home.
- October 6th—S.T. Canadian. The deck hand of this vessel was visited while the vessel was out in the river. He was seen to be in a very serious condition from an attack of acute Diarrhœa and exhaustion. He was removed as soon as possible to his home, where he subsequently died. The vessel was fumigated.



- October 11th—S.T. Hydra. The third hand had been taken ill with Sciatica, and was sent home on arrival.
- October 12th—S.T. Remo. The third hand was taken ill on the voyage and removed to the Sanatorium on arrival. Vessel fumigated.
- October 17th—Steam Drifter "Friends." The cook of this vessel was found in a serious condition from what appeared to be an attack of suppressed Measles. He and his effects were removed to the Sanatorium, and the vessel disinfected.
- October 21st—S.T. Fitzroy. The chief engineer, although not having complained of illness during the voyage, was seen by a medical man at his home and certified to be suffering from an attack of Diphtheria. The vessel was consequently fumigated.
- October 23rd—S.S. Kymo Albrecht (German Herring Drifter). One of the crew was found to be suffering from Jaundice, and having no home in the town he was advised to go to the District Hospital.
- November 8th—S.T. Narbeth Castle. The deck hand was suffering from attacks of Vertigo, and was sent to his home.
- November 11th—S.S. Viking, ex Libau. Amongst a number of transmigrants a child was discovered suffering from a severe attack of Measles. The mother and child were taken to the Sanatorium, and the vessel disinfected.
- November 18th—S.T. Pegasus. The second hand on the boat was found to be suffering with Bronchitis, and sent home.
- November 21st—S.T. Castor. The steward was suffering from an attack of Eczema, and sent home.
- November 26th—Smack Alexandre (Danish). The mate of this vessel was found to be suffering from severe Neuritis. Medical attention was advised as he preferred to remain on board.
- December 6th—S.T. Defender. The mate of this vessel died on board. Cause of death certified as Heart Failure from Rupture of Aorta.
- December 6th—S.T. Duncan. The trimmer on this vessel was suffering from an attack of Rheumatism, and was allowed to leave for his home.
- December 11th—S.T. Phoenix. This vessel arrived with the chief engineer ill on board. He was seen to be suffering from Influenza, and went home.
- December 12th—S.T. Rialto. The trimmer on this boat, suffering with Colic, was seen and sent home.
- December 17th—S.T. Duncan. On this voyage the trimmer was found to be suffering from Influenza.

December 21st—S.T. Albion. The mate of this vessel had symptoms pointing to a possible attack of Enteric Fever. He was sent home, and the vessel disinfected.

December 24th—S.T. Bravo. On arrival of this vessel the cook was reported ill. He was found to have an attack of Bronchitis, and was sent home.

December 26th—S.T. Hellenic. The deck hand was reported ill. He was suffering from Influenza, and was sent home.

December 29th—S.T. Rupert. The third hand was found to be suffering from Rheumatic pains, and was allowed to proceed to his home.

### **Emigrant Home and Alien Receiving House.**

These premises are visited periodically, and are found to be kept in good order.

### **Emigrant Traffic.**

The returns for 1908 of Alien Traffic through the port of Grimsby show a considerable decrease, the chief falling off being in the numbers of transmigrants, the inward passengers alone representing a decrease of over twelve thousand, and a total falling off of alien passengers, both inward and outward of over sixteen thousand.

The total immigrants in 1908 amounted to 2,906, as compared with 3,650 in 1907, a decrease on the year of 744.

The accompanying table gives a full analysis of the alien passengers, both inward and outward for the past year :—



## ALIEN TRAFFIC—INWARDS—1908.

Month.	Number of Vessels.	Cabin.	Exempted 2nd Class.	Trans- migrants.	Immi- grants.	Total Alien Passengers
January .....	68	163	—	530	211	904
February .....	62	109	—	676	218	1003
March .....	68	149	2	1101	287	1539
April .....	66	251	1	1479	247	1978
May .....	71	236	11	1271	221	1739
June .....	66	288	8	914	217	1427
July .....	89	399	7	1308	246	1960
August .....	88	341	11	1411	240	2003
September .....	73	253	6	2201	236	2696
October .....	64	152	9	2035	273	2469
November .....	61	95	4	1654	228	1981
December .....	61	101	2	1099	282	1484
1908 .....	837	2537	61	15679	2906	21183
1907 .....	867	2385	74	27406	3650	33515
Increase .....	..	152	..	..	..	..
Decrease .....	30	..	13	11727	744	12332

1908 ..... 94,172

1907 ..... 77,905

~~Real~~

16,267

~~Real~~

## OUTWARD TRAFFIC.

Aliens holding through Tickets from one Foreign Country to another.		Aliens not holding through Tickets.	
January .....	6758	January .....	693
February .....	8856	February .....	1001
March .....	10164	March .....	734
April .....	6907	April .....	797
May .....	4574	May .....	748
June .....	4856	June .....	693
July .....	4141	July .....	825
August .....	2852	August .....	718
September .....	2663	September .....	696
October .....	2914	October .....	622
November .....	4091	November .....	536
December .....	4847	December .....	548
Total .....	63623	Total .....	8611



1908—Total Aliens passing through Grimsby—

Inwards .....	21183
Outwards, with through tickets .....	63623
Outwards, without through tickets .....	8611
Outwards Rejected and Deported Aliens	755
Total .....	94172

### **Fish Curing Houses.**

These are visited at intervals by your officials, and are for the most part kept in a satisfactory condition, and in compliance with the Bye-Laws dealing with such.

Removal of fish offal is carried out regularly for the most part, and only occasionally has it been found necessary to make complaint respecting the failure to carry out this important work.

### **Oil Boiling Works.**

Complaints have been made by householders in respect of these, and visits of inspection have at times been paid by your officials.

Suggestions made with a view to moderate any offensive effluvia have been carried out. The works generally are kept clean and in a sanitary condition.

### **General Sanitary Condition.**

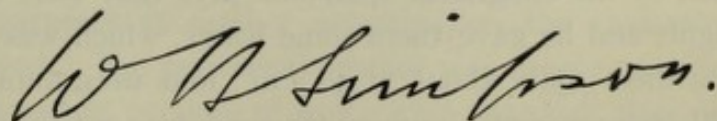
There is room for considerable improvement in the general sanitary condition around the Fish Docks. The heavy traffic on the roads quickly grinds into powder the material used for repairs, with the result that in wet weather, coupled with the drainage from carted fish, the detritus is converted into mud, and unless this is quickly removed the condition of the roads becomes very deplorable. In dealing with a traffic such as fish it is of the utmost importance that the most strenuous efforts should be made at every stage to observe every possible detail of cleanliness.

Depressions in the surface of open spaces require to be filled in in order to prevent accumulations of water, which, becoming stagnant, give rise to offensive effluvia when the weather is at all warm.

Refuse material too, especially of animal origin, requires to be frequently removed, as if allowed to remain an unnecessary time it becomes a menace to the public health.

I am, Gentlemen,

Your obedient Servant,



*Port Medical Officer of Health.*



# COPY OF REPORT

SUPPLIED TO THE

LOCAL GOVERNMENT BOARD

RELATIVE TO THE

## Deaths of Russian Emigrants on Board the S.S. Ashton, Dec. 13th, 1908.

---

On Sunday evening, December 13th, about 5-10 p.m., a message was received from the Customs that the s.s. Ashton had arrived in the roads, and that there were five emigrants dead on board. The message further stated that the Captain was also ill.

I at once proceeded down to the Docks, and arrived on board the s.s. Ashton about 6 p.m.

It appeared that the vessel left Antwerp about 7-30 p.m. the previous evening, having on board, besides her ordinary crew, the following passengers :—

1 Saloon.

1 Belgian transmigrant (transferred in Antwerp to saloon).

5 Russian transmigrants.

10 homeward-bound sailors.

The five deceased persons were the Russian transmigrants, who alone occupied the emigrant quarters, the 'tween decks forward. They came on board in Antwerp about 6 p.m. on the previous evening, and were then, as far as was known, in good health. Between 6 and 7 p.m. they partook of a meal consisting of bread and butter, corned beef and tea. They were seen about on deck during the evening, but of their subsequent history very little could be ascertained until they were visited by the Steward about 8-30 a.m., when they were suffering from what appeared to be sea-sickness. One of the sailors who occupied the fore-cabin adjacent to the emigrants' quarters says they were suffering from thirst during the night, and he gave them some water, which was immediately vomited. On visiting them again about 11-30 a.m., four were found to be dead or dying, and the fifth, who was not quite so far gone, was got up on deck, and stimulants administered, but he died shortly after, at or about 12-30 p.m.



At the time of my visit the bodies had been removed on deck ; the hatches had also been removed from the upper hatchway, there was free circulation of air, and no special odour was perceptible in the apartment occupied by the deceased. About the floor were signs of vomiting and of faecal evacuations.

Practically nothing was known of the deceased prior to their coming on board the vessel. It was not known whether they were one party travelling to together (three of them bore the same name on one pass). All were bound for Boston, United States of America.

It seemed impossible from the available data to arrive at a definite conclusion as to the cause of death. Broadly, the symptoms pointed to some form of irritant poisoning, but as a precautionary measure, and until something more definite could be ascertained, it was deemed advisable to detain the vessel, and to remove the bodies ashore for further investigation.

Under my direction they were removed to the mortuary at the Scartho Cemetery, and the Coroner communicated with.

Acting under his instructions a *post mortem* examination of the remains was made during the night and portions of viscera removed and forwarded to the pathologists, the Royal Institute of Public Health, together with some portions of food found amongst the belongings of the deceased persons for bacteriological and chemical analysis.

A preliminary enquiry was held by the Coroner on Monday, December 14th, which was adjourned to the following Wednesday. On this day, the investigations not being concluded, a further adjournment was made to Monday, December 21st.

P.M. All the bodies presented very much the same external appearances. The eyelids were closed, and the pupils semi-dilated. Rigor mortis was noticeably well marked (about 12 hours after death), and the colour of the skin and mucous membranes was dark in colour. There was, however, an absence of the shrunken, shrivelled appearance seen in cases of death from Cholera.

THORAX. The right heart in all cases was distended with blood of a dark red colour, and unusually fluid in character, the left ventricle being empty. Lungs were dark in colour, in all cases save one where the lung was adherent to the parietal pleura, and this lung was less dark in colour. Some slight ecchymoses were present on the surface.

ABDOMEN. For the purposes of further investigation the stomachs were ligatured *in situ* and removed. The peritoneal surface was deeply congested, as was also that of the small intestine, portions of which were removed, after ligature for bacteriological investigation. The mucous membrane of the intestine was highly congested and covered with a thick tenacious mucus.



The portions of small intestine and the stomachs were placed in suitable receptacles and forwarded to the Royal Institute of Public Health, for Bacteriological Examination.

The full report on the investigations is herewith attached.

It was found on examining the ship's manifest that there was stored, in the lower forehold, immediately beneath the compartment occupied by the deceased, a quantity (about 9 tons) of a substance known as Ferro-Silicon.

As some suspicion attached to this substance, I on Monday evening, December 14th, in company with your Port Sanitary Inspector, visited the vessel and had one of the hatches removed from the lower hold where the Ferro-Silicon was stored, and on bending down over the aperture a slight but peculiar garlic-like odour was perceived, hence it was thought that possibly some poisonous fumes might have been given off which had set up the symptoms of irritant poisoning observed in the case of the deceased persons.

On Tuesday, December 15th, the preliminary examination of the viscera proving negative so far as infectious disease was concerned, and there being no further illness on board, it was decided to allow the vessel to enter the dock.

Portions of the Ferro-Silicon were obtained and forwarded to the Borough Analyst and to the Royal Institute of Public Health for examination and report as to its chemical composition and liability under varying conditions to give off poisonous gases.

The publicity given to the occurrence on board the s.s. Ashton in the daily press had the effect of bringing me a number of communications having reference to somewhat similar happenings, one of which was from a keelman to the effect that a month previously they had taken part cargo from an Antwerp steamer at Grimsby (name not given), and that on the voyage up the canal to Sheffield several of the persons on board had been taken ill, two of whom had died. I wrote to the Medical man who had charge of the cases which recovered and in reply received the following account of the symptoms observed by him in these cases which came under his care :—

“ On Saturday, October 31st, 1908, I was called to J. H., 17 years, who was  
 “ suffering from what I took to be Ptomaine poisoning, but could get no history  
 “ of injudicious diet. He was suffering from collapse, vomiting, and cramps in  
 “ the legs, and recovered with the usual treatment in about a fortnight. He was  
 “ employed on a keel with this grandfather, W. H. J. H. was left at Thorne,  
 “ and W. H. went on up the canal on Monday, November 2nd, with his wife and  
 “ another grandson. They reached Tinsley when they were all seized with the  
 “ same symptoms as J. H.; they were treated by a medical man. The little  
 “ grandson died on Wednesday, November 9th, and W. H. on Thursday, November  
 “ 5th. Mrs. H. was brought home on Friday, November 6th, 1908, with all the



“ symptoms of the deceased lad, and after being in a most precarious condition  
 “ for over a fortnight eventually recovered. Her principal symptoms were  
 “ vomiting, collapse, cramps in the legs, abdominal pain, and constipation. At  
 “ the inquest death from ptomaine poisoning from eating pork was returned ;  
 “ the grandson, however, ate no pork, and I have traced the pig and find that it was  
 “ recently killed, and that a large number of persons have eaten the carcase without  
 “ any ill effects.

“ A portion of the cargo was handed to me, which consisted of a metallic  
 “ substance. I submitted it to the Clinical Research Society, who analysed it,  
 “ and discovered the presence of phosphides, evolving free phosphoretted  
 “ Hydrogen. J. H.'s relatives inform me that all the brass work in the cabin  
 “ became discoloured. The H.'s are very steady, healthy people, and were strict  
 “ teetotallers.”

The remainder of this sample is now in my possession. It appears to be of the same nature as the substance found on the s.s. Ashton.

It appears further from a letter received from a medical man at Althorpe, near Doncaster, that a somewhat similar occurrence took place as far back as 1905. It states :—

“ I was called to the canal at Keadby to see some people ill on board a keel  
 “ called ‘ Emily,’ on Saturday afternoon, October 21st, 1905. I found on arrival  
 “ one child, aged 4 years, dead, and the other dying.

“ The father and mother both suffered from abdominal pain and sickness  
 “ and Diarrhoea, for which I gave them *pulv cret cum opio*. No cough or crepi-  
 “ tations to be heard in the woman's chest, I did not examine the man as he was  
 “ not seriously ill. On Friday, while coming up the Trent to Keadby they all  
 “ suffered from sickness, dizziness, a pain in the body on getting up in the morn-  
 “ ing, and then they improved during the day because they were up on deck more  
 “ or less, but towards evening the children again became sick and diarrhoea com-  
 “ menced, and the mother who stayed down below also felt sickness and dizziness  
 “ coming on with pain in the body, which got worse when she got up out of bed to  
 “ see to the children. She said they all ate the same food during the day, and  
 “ also some watercress at tea time was taken, but I sent some of the cress to  
 “ Sheffield, and it was perfectly good, and so was the sample of food found on  
 “ board. Then they entered the canal from the Trent on Saturday, October  
 “ 21st, and the same symptoms occurred only aggravated in form, and they sent  
 “ for me about 2 p.m. that day.

“ All the vomit was thrown away.

“ There were sails over the ‘ hold ’ of vessel, and so making it impervious to  
 “ the weather, which was dull, damp and inclined to rain ; these latter facts were  
 “ asked for by the Analyst, and he said such weather would increase the develop-  
 “ ment of fumes from the Ferro-Silicon, and so were impressed on me.



“ A *post mortem* was ordered by the Coroner on both the children, and I found  
 “ the signs of Asphyxia, but owing to the crepitations which I heard in the one  
 “ child and the feeling of tightness across the chest complained of by the mother,  
 “ and the symptoms being all aggravated when the patients were down below  
 “ (such as on rising in the morning and after being down after tea time) suggested  
 “ some inhalation infection and combined with the smell of acetylene gas I  
 “ suggested an analysis of certain organs, and I will write to Mr. Gamble and find  
 “ out whether anything was noticed in the lungs, and let you know. Briefly the  
 “ symptoms were : headache, or as the mother said a feeling of tightness in the  
 “ head and chest, sickness and dizziness, all aggravated on getting up, followed by  
 “ abdominal pain and diarrhoea, no cough or any mention of a taste in the mouth  
 “ of any kind. During the day in the fresh air these symptoms subsided, and  
 “ returned during the evening.”

As stated in the opening paragraph of this report, the first message received by me was to the effect that in addition to the five victims the Captain was also ill. When I first saw him he complained of a feeling of tightness across the chest, precordial pain, and dryness of the throat and thirst. He was generally in a highly excited and agitated state as though in dread of some impending calamity, and his condition was attributed to shock and nervous prostration consequent on the startling events which had happened a few hours previously. In the light of subsequent discoveries it would appear that his symptoms were the result of attending to the dead and dying emigrants, he having remained down in the compartment longer than others.

The compartment occupied by the deceased persons was the forward 'tween decks. In the floor of this compartment is a hatchway leading to the lower forehold, in which the Ferro-Silicon was stored. The hatches are loose-fitting, and are covered by a tarpaulin placed thereon, but not fixed to the hatchway combings as is the case with that which covers the hatches in the upper deck, which latter are made impervious to water by overlapping tarpaulin fixed by wedges to the outer sides of the hatchway combings.

The evidence was to the effect that the ventilators leading from both the upper and lower compartments of the forehold to the deck were closed when at sea on account of the weather, while as regards the door leading up the companion way the accounts were conflicting. It appeared to be left to the caprice of the passengers whether the door was open or closed.

If the latter condition prevailed the apartment would be practically air-tight, and the occupants would be subjected to the full effects of any fumes escaping into it from the compartment beneath.

Taking into consideration the whole of the facts revealed in the investigations in connection with these cases, the negative evidence of the bacteriological examination as to the presence of infectious disease or of ptomaine poisoning ; the



*post mortem* appearances, which were consistent with the theory of death from deprivation of oxygen ; the known composition of Ferro-Silicon and its liability, under certain conditions, as revealed by the experimental evidence detailed in the bacteriological report to give off poisonous gases, chiefly arseniuretted hydrogen and phosphoretted hydrogen ; the situation of the compartment occupied by the deceased persons and the fact that there was free access to it for any gases from the lower hold (the hatchway being closed by loosely fitting hatches over which a tarpaulin was laid), while at the same time the upper hatchway was covered by a tarpaulin spread over the hatches and doubled back over the combings to which it was fixed by wedges, the ventilator being closed while at sea to prevent entrance of water and the possibility that the door leading to the companion way was also closed, I had no hesitation in stating as my opinion that the deceased persons were poisoned by the inhalation of gases evolved from the Ferro-Silicon stored in the lower hold beneath the compartment which they occupied. A verdict to this effect was returned by the jury at the adjourned inquest on December 14th, 1908.

Ferro-Silicon in appearance might be described as being like iron in coarse powder. It has a rather bright metallic lustre in the coarser grains which is lost when in fine powder which becomes of a dark grey colour.

It appears to be a mixture of iron ore, coke and lime with or without (according to the nature and quality of the ore used) the admixture of sand or Silica.

When pure (if one may use such a term in reference to a product of varying composition) it is comparatively harmless, but as a matter of fact it is frequently found to contain variable quantities of Arsenic, Phosphorus and Sulphur.

When this impure product is exposed to a moist atmosphere (even, it would appear, without the application of water to the substance direct) it is capable of generating gases of a highly poisonous nature, such as Arseniuretted Hydrogen, Sulphuretted Hydrogen, Phosphoretted Hydrogen, and Acetylene. As will be seen from the experimental evidence of the bacteriologists the poisonous gas in the cases under review was probably chiefly Phosphoretted Hydrogen, as shown by the absence of Arsenic in the organs. The occurrence of blackening of the brass work on board a keel mentioned would seem to indicate that Sulphuretted Hydrogen was present in some quantity.



[COPY].

## BACTERIOLOGICAL REPORT.

*Re Enquiry into the Cause of Death of Five Russian Immigrants on board the s.s. "Ashton" at Grimsby.*

---

I have the honour to report that on Monday, December 14th, 1908, I received from you the following specimens, with the request that an enquiry should be undertaken with the view of determining whether the cause of death of five Russian immigrants, two men respectively of the ages 35 and 32, two women of the ages 19 and 15, and a boy aged 11 years, was owing to Cholera or Ptomaine Poisoning.

The five stomachs and five corresponding parts of the small intestines were contained in five separate receptacles, properly secured, marked Nos. 1, 2, 3, 4 and 5. The stomachs were found to be filled with a watery turbid liquid containing food-rests (cherries) and greyish-white flakes of mucus (especially in cases Nos. 1 and 5). The contents of the small intestines were less liquid than those found in the stomachs and had a greyish-yellow colour. The mucous membrane of the stomachs and of the small intestines showed a strong injection of the blood vessels and was covered with mucous.

From a pathological point of view, therefore, the cases did not suggest evidence of Cholera, as the "rice-water" like appearance of typical cholera contents was not presented.

Film preparations were made from the mucous flakes of the stomachs and intestines, and these revealed amongst other bacteria, numerous vibrios (especially in cases 1 and 5) in heaps, and even in "fish-in-stream" like arrangement, and thus the suspicion of cholera appeared to be justifiable.

The efforts for isolating the vibrios in question were for a long time without result, as they apparently, for some reason or other, were considerably weakened, and consequently could not be isolated from the original gelatine-agar and peptone-water cultures, but they were subsequently isolated by means of subcultures from the second series of peptone-water cultures, and even then only in cases 1 and 2. These vibrios, which grew on gelatine and agar plates, in colonies indistinguishable from true cholera colonies, were subjected to a further examination. They gave the "cholera-red" reaction after twenty-four hours growth in peptone-water, but tested with an agglutinating cholera-immune serum, they could not be agglutinated in a serum dilution of 1 in 100 within two hours,



whilst in a control experiment the true cholera vibrios were agglutinated by the same cholera-immune serum in a dilution of 1 in 100 within a few minutes, and in a dilution of 1 in 500 in thirty minutes. Pfeiffer's reaction, also carried out with the vibrio under examination, a true cholera vibrio, and a true cholera-immune serum on four guinea-pigs, gave negative results, the vibrio not being dissolved. The vibrio, however, was found to be pathogenic for guinea-pigs; half a loop of the vibrio in 1 c.c. broth intra-peritoneally injected into guinea-pigs killed them within eight to ten days; whilst one loop of the vibrio in 1 c.c. broth intra-peritoneally injected, killed within three to four days. Thus it was proved that the vibrio isolated from the Grimsby cases, although closely resembling the cholera vibrio in its growth on media and giving the "cholera-red" reaction, and being pathogenic to guinea-pigs, was not the true cholera vibrio.

Since Ruffer's investigations in El Tor, it is known that from the intestines of patients suffering from various diseases (diarrhoea, dysentery, pneumonia, rheumatism), but who had never had cholera nor been in contact with it, cholera-like vibrios may occasionally be isolated, and these five Grimsby cases furnish a confirmation of this statement. These cases are, therefore, of much interest inasmuch as they prove the possibility of the existence of vibrios, closely resembling cholera vibrios, in the stomachs and intestines of presumably healthy persons.

Whilst the bacteriological examinations for the cholera vibrio were being made, the samples of food sent, together with the sausage and the contents of the stomachs and intestines, were subjected to examination for the detection of the presence of a food poison, or of food-poison-producing bacteria, belonging to the group of the *B. enteritidis* and *B. botulinus*, but both anaerobic and aerobic cultures (Drigalski, Conradi, Endo, Malachite green plates, &c.), and the experiments on animals (mice, rats, guinea-pigs) gave negative results. As the deaths had been of such a sudden nature, portions of the viscera, as well as the preserved fruit, sausage, etc., were chemically examined for alkaloids, arsenic, antimony and the metallic posions, but with negative results. Suspicion was now directed to a portion of the cargo as being a possible cause of death, owing to the poisonous gases which it was known to evolve. As the result of this, the portions of the lungs, blood and urine were examined for arsenic, without result. The blood was also spectroscopically examined for carbon monoxide, with like negative results.

With reference to the gases emanating from Ferro-Silicon, the following experiments on animals were undertaken, viz. :—

(1). A small quantity of the Ferro-Silicon received on December 17th was placed in the bottom of two glass jars, being moistened in the one case, but left dry in the other. Into each of these jars a mouse was then placed, resting on a piece of wire-gauze placed some distance above the substance. Both mice showed marked symptoms of dullness and somnolency, and the one, before death, dis-



turbances of movement. The mouse over the moistened Ferro-Silicon died in four-and-a-half hours, whilst the one over the dry substance lived.

(2). Four mice placed in a larger jar over moistened Ferro-Silicon also died within from six to ten hours.

(3). Four guinea pigs when placed over the moistened substance under similar conditions, died within ten hours.

(4). A guinea-pig placed over a quantity of dry Ferro-Silicon also died, but this was possibly accounted for by the Ferro-Silicon becoming moistened with the animal's urine.

All these animals exhibited the symptoms previously mentioned, together with those of retching.

With reference to the *post mortem* examination, the only common abnormal feature found was congestion of the lungs, such as is usually seen in cases of death by suffocation. In a few cases pneumonia-like patches in the inferior lobes of the lungs were found. Two of the mice, however, showed enlargement of the spleen. The other organs of all the animals exhibited no marked features. Microscopically, the lungs showed hyperaemia and albuminous exudation into the alveoli, whilst in the other organs no remarkable histological alterations could be noticed.

These animal experiments prove that Ferro-Silicon, when moist, readily evolves gases which are fatal to life. This substance is a coarse metallic powder which, under ordinary circumstances, possesses no particular odour, but if confined powdered or moistened, a distinct phosphorous odour can be detected. It is manufactured by heating a mixture of iron-ore, quartz, coke and lime in an electric furnace, and is used by steel-makers as a convenient method for the addition of silicon to certain grades of steel. A little consideration will give some indication of the nature of the poisonous gases likely to be formed when this product is moistened. Many minerals contain phosphoric acid and arsenic. Consequently, when such a mixture, as above described, is strongly heated, phosphides, arsenides, carbides and silicides may be formed, and these may, under certain conditions, evolve phosphoretted hydrogen, arseniuretted hydrogen, acetylene, and silicon hydride.

In order to determine which of the above gases is mainly evolved when Ferro-Silicon is moistened, the following experiments were made :—

(a) Two hundred grammes of the powdered and moistened substance were placed in a horizontal glass tube, 19in. long and 1in. in diameter. This tube was connected with another tube about 11in. long and  $\frac{1}{2}$ in. in diameter, and filled with small pieces of potassium hydrate in order to absorb any sulphuretted hydrogen. Air was then gently drawn through the tube for about three hours and allowed to pass through a 10 per cent. solution of silver nitrate contained in a



De Koninck absorption apparatus. A dark precipitate was immediately produced in the silver solution, and at the end of the period was considerable in amount. This precipitate might be due to all or any one of the above mentioned hydrides.

(b) Experiment (a) was repeated, with the exception that the potassium hydrate tube was removed and ammoniacal cuprous chloride solution substituted for the silver nitrate. As no precipitate was formed in the copper solution it is evident that acetylene is not formed under these conditions.

(c) Experiment (a) was repeated, but in this case the gases were passed through nitric acid. The acid solution was evaporated almost to dryness, hydrochloric acid added, and the mixture evaporated to complete dryness. The addition of hydrochloric acid and subsequent evaporation to dryness was repeated and the residue dissolved in distilled water, when no trace of insoluble silica was found. Silicon hydride is, therefore, not evolved from moistened Ferro-Silicon at ordinary temperatures. Having excluded acetylene and silicon hydride from the gaseous mixture, there remains the possibility of phosphoretted and arseniuretted hydrogen.

(d) Some of the silver solution obtained in experiment (a) was then filtered and the filtrate, which would contain arsenic (if present in the gases) as arsenic acid, was introduced into a Marsh-Berzelius apparatus, with the result that a slight mirror was obtained after prolonged heating. Some of the precipitate was then introduced into the apparatus, when the characteristic phosphorus, flame was immediately produced, being most marked, and this, in spite of the facts that the heating of the glass tube was continued, which would tend to decompose phosphoretted hydrogen, and that the flame was burning at the end of a tube not furnished with a platinum jet. It is, therefore, evident that although arseniuretted hydrogen is produced in small quantities, the chief gas evolved is undoubtedly phosphoretted hydrogen, a gas which is stated to be so poisonous that 0.02 per cent. of it in air is fatal to small animals within half-an-hour.

The result, therefore, of the enquiry into the cause of death of the five Russian immigrants on board the s.s. Ashton is that they died from the effects of gaseous emanations from the cargo (Ferro-Silicon) mainly attributable to the presence of phosphoretted hydrogen.

I am, Sir, Yours faithfully,

WILLIAM R. SMITH, M.D., D.Sc., & R.S.M.,  
*Principal.*

W. BULMER SIMPSON, Esq., M.D., D.P.H.,  
Medical Officer of Health, Grimsby.



## FERRO-SILICON.

### REPORT OF EXAMINATION OF *Re* DECEASE OF RONIN AND OTHERS. S.S. "ASHTON."

I have to report that on December 15th, 1908, I had a telephonic conversation with you on the above subject, when you asked me whether I knew anything about Ferro-Silicon, and after I had explained to you the nature of the substance, I confirmed the explanation in writing in my letter of the same date. The following day, I received a letter from you in which you stated "that you are sending a sample of the Ferro-Silicon." The sample referred to, I received same date in a wide mouth screw-capped bottle of about 4 oz. capacity, and was labelled "T. No. 1 309/12 M.O.H., Grimsby." This sample was tested by the Marsh's test for Arsenic, Qualitatively and for Phosphoretted Hydrogen, and both found to be present. To make certain experiments I had in mind, I requested a further and larger sample, which I received, and which weighed 5 lbs. 5oz., contained in a glass jar, well corked and labelled "T. 35/275/12 s.s. Ashton." Taken in presence of Inspector Cheals, G.C.R. Co.

With this sample the following particulars were ascertained, and the following experiments were performed:—

- 1 A determination of what gas or gases, if any, were being evolved whilst the Ferro-Silicon was out of contact with the outside air.
- 2 If gases were evolved, to determine their quantity separately and collectively.
- 3 If gases were evolved, when ordinary-dried air was passed over the Ferro-Silicon, and their nature.
- 4 If gases were evolved, when air saturated with moisture was passed over the sample, and their nature.
- 5 What gases were yielded when water was poured on the Ferro-Silicon sample and their quantity.

To carry out experiments Nos. 1 & 2 the following apparatus was used:— A piece of glass tube bent at right angles; each arm being 4". One Leibig's Absorption bulb filled with Ammonio-Silver Nitrate; a second with Ammonia Cuprous Chloride; a third filled with a strong solution of Sodium Hydrate, and a U. tube with a solution of Sulphuric Acid of a strength of 25 per cent., and which latter tube was connected to a delivery tube passing under water to a 50 c.c. Eudiometer, which was also filled with water. These were connected in the order given. The four Absorption tubes and their contents carefully weighed before connecting up. The large sample bottle which, as previously stated, was well



corked, was taken and by means of a cork borer a hole was made in the cork about  $\frac{5}{6}$ ths through. The borer was then withdrawn, and the bent tube of the apparatus pushed in, pushing the remaining cork into the bottle so that no gas escaped except through the apparatus. A gas or mixture of gases was seen to bubble through the apparatus. The apparatus was again weighed and found to have gained 0.035 grammes.

Experiment No. 3 :—

The same apparatus was again used after being cleaned out, re-filled and re-weighed, but in lieu of the Eudiometer an Aspirator was connected to the exit to produce suction, whilst the bottle containing the Ferro-Silicon sample had the cork pierced in a second place and a tap funnel inserted. Air which had been previously dried was now aspirated through the apparatus, the volume being measured and which amounted to 3.5 gallons. This volume of air was drawn over during a period of about twelve hours at a steady rate of flow. The apparatus was again weighed and the gain in weight was found to be 0.243 grammes.

Experiment No. 4 :—

The apparatus was again cleaned out, re-filled and weighed, and air which had been drawn through a bottle of water was aspirated through the sample and apparatus. A very large amount of gas was evolved, and a greater amount of precipitate produced in the absorption bulbs Nos. 1 & 2 than in the previous experiments. The gain in weight was not ascertained owing to an accident.

Experiment No. 5 :—

Four pounds of the sample was taken, which was placed in a flask of about 1 litre capacity. This flask was fitted with an India-rubber stopper pierced in two places, through one hole was fitted a delivery tube, the second fitted with a tap funnel. The delivery tube was connected to the same apparatus as had been used in the previous experiments, the apparatus having the Aspirator replaced by a delivery tube passing under water to a large gas jar fitted with a cock at the top, and which had the air replaced by water. The volume occupied by the Ferro-Silicon was calculated and the air space in the flask ascertained. Water was now introduced into the flask through the tapped funnel till all the air and gas was displaced in the flask. The volume of gas displaced and collected in the gas jars was not found to have materially increased from the original volume. This air, etc., was transferred to another gas jar and retained. The gas jar was again filled with water and allowed to stand over the delivery tube of the apparatus over a period of 18 hours, when it was found that the contents of the Absorption bulbs had become saturated and gas was being evolved into the gas jar. The gain in weight of the Absorption apparatus amounted to 0.356 of a gramme and 245 cubic centimetres of gas, which on being tested was found to be Phosphoretted Hydrogen ( $\text{PH}_3$ ) collected in the Jar.



## Experiment No. 6 :—

50 grammes of the original sample was weighed out and transferred to a Marsh's test apparatus, together with some pure Zinc (Arsenic and Antimony free) then added (Quant. suff.) dilute Sulphuric Acid and tested flame. The outer mantle of the flame was of a lilac colour, whilst the inner was green. This flame impinging on cold porcelain gave a black metallic deposit which was found to be Arsenic ; whilst the tube when heated along its length showed a metallic mirror, indicating Arsenic.

The Solutions and Precipitates from No. 1 Leibig's absorption tube, used from each experiment, were mixed together, filtered, washed and examined. The Precipitate which was black was found to consist of reduced Silver, Silver Acetylide and Silver Sulphide. The solution containing any Arsenic was treated with Hydrochloric Acid to separate any Silver and Sulphuretted Hydrogen gas passed through the solution when the Arsenic as the Yellow Sulphide was precipitated.

The solutions and precipitates from the No. 2 Leibig's absorption tube used for each experiment were mixed together, filtered and the precipitate examined. This was found to consist of copper acetylide and sulphide.

The gas collected in the Eudiometer in experiments Nos. 1 & 5 was tested and found to burn with a livid green colour, yielding copious white fumes with the odour of burning Phosphorus and Garlic, indicating Phosphoretted Hydrogen and probably Arsenic.

From the above, it is conclusively proved that Phosphoretted Hydrogen, Arseniuretted Hydrogen, Acetylene and Sulphuretted Hydrogen were evolved.

The total weight of gas evolved during the whole of the experiments calculated on 4 lbs. or 1814 grammes of the sample was 0.566 gramme, whilst the volume of gas collected in the graduated gas jar was at least 245 cubic centimetres. Taking the weight of one Litre of the mixed gases to be approximately 1.44 grammes, *i.e.* the specific gravity of the Mixture being 16 (H-1) then 0.566 gramme would occupy the volume of 393 cubic centimetres at normal temperature and pressure, which, with the 245 c.c.'s above, make a total of 638 cubic centimetres, or

One Kilogram of the Ferro-Silicon yields approximately 351 cubic centimetres of gas.

On the total weight of nine tons (the weight of the Ferro-Silicon on board) a volume of 113.2 cubic feet.

From the above figures and the toxic nature of the gases evolved, it will be readily seen that in an enclosed space there is far more than a sufficiency of these deadly gases to produce the effects which have been observed.

(Signed) J. A. FOSTER, F.I.C., Etc.,

*Public Analyst to the Borough of Grimsby.*

28TH MAY, 1909.



# Grimsby Urban Sanitary Authority.

SANITARY DEPARTMENT,

184 VICTORIA STREET.

## Report of the Borough Sanitary Inspector for 1908.

GENTLEMEN,

I have the honour to present to you my Annual Report upon the operations of the Sanitary Department, as follows :—

### SUMMARY.

#### Drainage.

Sharpes Gullies fixed .....	220	Hand-flushed w.c.'s fitted with	
Washout Gullies fixed .....	112	cisterns .....	13
P Traps fixed .....	47	New Soil Pipes fixed .....	4
Tile Drains removed .....	10	New Waste Pipes fixed.....	5
New w.c.'s with flushing cisterns		Choked Fall Pipes cleared .....	2
fixed .....	726	New Drains laid .....	797
Hand-flushed w.c.'s fixed .....	19	Choked Interceptors cleared .....	10
W.C.'s and Drains smell tested .....	16	New Interceptors fixed.....	6
Vents fixed on drains .....	88	Choked w.c.'s cleared .....	19
Disconnection of fall pipes from		Defective Drains relaid .....	48
sewer .....	165	Drains re-tested after re-jointing,&c.	249
New Gully Covers fixed .....	14	Choked Gullies and Drains cleared .	241
Drains smoke tested .....	354	Inspection Chambers built .....	56
Urinals repaired .....	3	Passage Drains relaid .....	2
Piggeries relaid .....	4	New w.c. Pans fixed (replacing	
W.C. Cisterns repaired .....	4	obsolete forms) .....	2
Disconnection of waste pipes.....	1	W.C.'s re-set .....	5
Grease Traps fixed .....	1	W.C. Pans cleansed .....	12
Scullery Sink Wastes fixed .....	3		



## General Nuisances, Routine Work, &c.

Portable Sanitary Bins provided ...	378	Rooms disinfected in dwellinghouses	589
Insanitary Ashpits removed .....	3	Whole houses disinfected .....	3
Privy Floors redrained .....	2	Rooms disinfected (after Con-	
Privies limewashed out .....	35	sumption) .....	14
Privies repaired .....	10	All the Public Schools disinfected	
New Privy Boxes provided .....	69	twice during the year .....	
Yards repaired.....	56	Inspections of Common Lodging-	
Dirty Piggeries cleansed.....	13	Houses .....	445
Insanitary Ashbins improved .....	5	Inspections of Bakehouses .....	172
New Covers fixed on ashbins .....	4	Inspection of Houses Let in Lodg-	
Pigs within limit of dwelling (re-		ings .....	508
moved) .....	4	Inspections of Slaughterhouses ....	586
Privies demolished .....	11	Inspections of Workshops .....	352
Dirty Houses cleaned out .....	26	Inspections of Cowsheds .....	52
Dirty Fowl Runs cleansed .....	8	Visits and Re-visits <i>re</i> Infectious	
Manure Accumulations removed ...	7	Diseases .....	1172
Passage Paving relaid.....	5	Visits and Re-visits <i>re</i> Nuisances....	6452
New Eave Spouts fixed .....	4	Complaints received .....	977
Cases of Overcrowding dealt with...	21	Letters and Notices dispatched.....	5573
Rooms disinfected at Workhouse ..	2		

The following matters were specially reported upon during the year :—

Manure Works Smells.

The Dust Nuisance from Victoria Mills.

The road behind villas in Lambert and Welholme Roads.

The Fluid Disinfectant supplied to the Corporation.

The Housing of Scotch Herringers during the herring season.

The Cesspools of the houses in the Humber Ward.

The Number of Pumps in the Borough, Number of Houses supplied, and distance from dwellings.

The Fish Offal nuisance at Holles Street sidings.

Certain unsanitary ashbins in the Borough.

My visit to the Public Health Congress at Cardiff.

The deposit of cesspool filth on Corporation land in the West Marsh.



**Table showing the Quantity of Meat, Fruit, &c., destroyed during the Year.**

23 Beast Carcases	1 box of Mixed Fish
1 Lamb	61 Rabbits
1 Sheep	201 stones of Onions
23 Pigs	5 stones of Potatoes
1 box Calf Livers	30 baskets of Cherries
27 Beast Livers	$\frac{1}{2}$ ton of Pears
27 Sets of Beast Offal	$3\frac{1}{4}$ tons of Strawberries
4 kegs of Tripe	10 tins of Tomatoes
654 lbs. of Beef (frozen)	

### WATER SUPPLY.

No. of samples of the Town Water supply sent for Bacteriological Examination .....	3
No. sent for Chemical Examination only .....	3
No. of Pump Waters Chemically Examined .....	41
No. of Pump waters certified as fit for potable use .....	40

A full list of the number of Pumps in the Borough, with the number of houses supplied per pump, and the distance from the furthest house was submitted (by order of the Sanitary Committee) in the month of May, and the whole matter was remitted to the Surveyor to be dealt with as per Sect. 62 of the Public Health Act, 1875. During the year 2 pumps were replaced by taps, and 10 taps were fitted to houses where the running springs had given out. 1 additional tap was fixed to house property in Burgess Street. The bore supplying 1 pump was re-drilled, and its connection to the pump made tight.

**Table giving Description and Total Number of Samples submitted to the Public Analyst during 1908.**

Description of Sample.	No. of Samples.	Result of Analysis.	
		Genuine.	Adulterated.
New Milks .....	133	112	21
Butter .....	22	22	0
Lard .....	1	1	0
Demerara Sugar .....	2	2	0
Whiskey .....	6	6	0
Rum .....	2	2	0
Brandy .....	2	2	0
Gin .....	2	2	0
Mustard .....	1	1	0
Laudanum .....	7	6	1
Sweet Nitre .....	6	3	3
Tincture of Rhubarb .....	2	2	0
Golden Syrup .....	5	5	0
Sal Volatile .....	1	1	0
Pepper .....	2	2	0
Margarine .....	3	3	0
Totals .....	197	172	25



## Results of Analyses and Number of Prosecutions during 1908.

Name of Article.	Adulteration.	Decision of Court.
New Milk .....	35·89% of added water .. ..	Trial sample only.
	Official sample .. ..	Found to be genuine.
New Milk .....	25·89% of added water .. ..	Fined £1 1s. and £4 4s. 6d. costs.
New Milk .....	13·89% of added water .. ..	This case not proceeded with, the foregoing case concerning the same defendant.
New Milk .....	Deficient in fat 16·6% .. ..	Trial sample only, the subsequent official sample proving genuine.
Laudanum .....	Deficient in total solids 50%, and deficient in absolute Alcohol at least 23%	Trial sample only, the subsequent official sample proving genuine.
Sweet Nitre .....	Contained only 1·25% of Ethyl Nitrite and deficient in absolute Alcohol 31·41% (Official sample). Contained only 0·55% of Ethyl Nitrite and deficient in Alcohol 31·33%	Trial sample only. Ordered by Court to pay costs, 7/6.
New Milk .....	5·8% of added water .. ..	Trial sample, the subsequent Official sample proving satisfactory.
New Milk .....	5·8% of added water .. ..	Trial sample only.
„ .....	6·6% deficient in milk fat .. ..	Official sample. Case dismissed on Warranty.
„ .....	11·66 deficient in milk fat .. ..	Official sample from wholesaler to shopkeeper. Defendant fined £1 1s.
„ .....	3·41% of added water .. ..	Official sample from farmer to street vendor. Defendant fined 1/- and £3 5s. costs.
„ .....	Further sample from farmer to street vendor	Found to be genuine.
New Milk .....	16·5% added water .. ..	Trial sample.
„ .....	21% added water .. ..	Official sample from same shop. Case dismissed by Stipendiary, and Defendant warned.

Name of Article.	Adulteration.	Decision of Court.
New Milk .....	2.35% added water .. ..	Official sample from wholesaler to shopkeeper. Defendant fined 10/- and £2 2s. costs.
New Milk .....	10% deficient in milk fat ..	Trial sample, subsequent official sample proving genuine.
New Milk .....	10% deficient in milk fat ..	Trial sample only.
	6.6%     "     "     "     " ..	Official sample. Case dismissed, defendant warned by Stipendiary.
New Milk .....	Deficient in milk fat, and 12.9% of added water ..	Trial sample only, subsequent official sample proving genuine.
New Milk .....	13.3% deficient in milk fat ..	Trial sample.
	3.5% added water. (Official sample).	Case dismissed, defendant warned by Stipendiary.
	Two other official samples proving genuine.	
Sweet Nitre .. ..	72% deficient in Ethyl Nitrite ..	Trial sample, subsequent official sample proving genuine.
New Milk .. ..	21.2% added water .. ..	This sample taken at place of delivery, the cross analysis stating it to be genuine. Case dismissed by Stipendiary.
	One other official sample proving genuine.	
New Milk .....	8.2% added water .. ..	Official sample. Case dismissed by Stipendiary. Defendant warned.
" .....	2.35% added water .. ..	Wholesale supply to above case. Not proceeded with, defendant being fined in a previous case.

## SUMMARY :—

Total number of samples taken during the year .....	197
Total number of trial samples (including milks) .....	105
Total number of Official Milk samples taken at the place of delivery.....	73
Total number adulterated .....	23
Total number of Convictions .....	5
Total amount of Fines (including costs).....	£12 12s. od.



The late Public Analyst, Jas. Baynes, Esq., died about the 11th August, 1908, his successor (J. A. Foster, Esq.) being appointed by the Urban Sanitary Authority on October 19th, 1908.

It will be noted that a large number of trial samples and samples at the place of delivery have been taken. This is as recommended by the Board of Agriculture, and the results justify such a course; it is in this way that spurious articles are detected, and equally fair to the vendor who sells in the ordinary way (to the Inspector's Agent), not recognising the official intention, until the purchase is completed.

**Table of Common Lodginghouses in the Borough.**

SITUATION.	No. of Houses.	No. of Rooms.	Sleeping.	Day.	Registered No. of Lodgers.
Down Yard back of 19 Pasture Street	4	11	9	2	27
50 Upper Burgess Street	1	4	2	1	24
6 Whitgift Street	1	7	5	2	17
8 Whitgift Street	1	3	2	1	6
111 King Edward Street	1	4	3	1	18
130 King Edward Street	1	13	11	1	60
1 Fotherby Street	1	10	7	3	30
31 Fotherby Street	1	4	3	1	12
2 Duncombe Street	1	4	3	1	9
37 Railway Street	1	5	3	2	7
23 Railway Street	1	4	3	1	16
69 Nelson Street	1	7	6	1	33
Back of 25 Havelock Street	1	4	4	Use large room at No. 29.	17
Back of 27 Havelock Street	1	4	4	1	10
Back of 29 Havelock Street	1	3	2	1	6
156 and 158 Upper Burgess Street	2	8	7	1	32
8 Upper Burgess Street	1	8	6	1	19
4 Holme Street	1	5	4	1	12
6 Holme Street	1	4	3	1	9
8 Holme Street	1	4	3	1	9
48 Upper Burgess Street	1	4	3	Back Kitchen not used.	12
48 Strand Street	1	13	11	2	60
33 Fotherby Street	1	4	3	1	9
No. 1 back 253 King Edward Street	3	3	3	Use large Kitchen of new Lodging House	9
No. 2 " " "	3	3	3	1	9
Down Yard " " "	1	4	3	1	57
At the bottom of King Edward Street, near Cleethorpe Road	1	7	6	1	64
294 Lower Burgess Street	1	6	3	3	6
296 " " "	1	13	12	1	74
	37	173	137	33	673

During the year 3 new Common Lodginghouses were registered, viz., the old Turkish Baths in Lower Burgess Street, the Working Men's Home, King Edward Street, and the Cottage, No. 294 Lower Burgess Street; the first named was suitably altered for its intended purpose and it and the Cottage (No. 294) were inspected by the Sub-Committee prior to being licensed.



The Working Men's Home is an entirely new building (replacing some dilapidated old cottages), it is (in my opinion) a well adapted place throughout, and kept in a very clean condition indeed. I may be permitted to remark that if more of such commodious places were erected by private enterprise (as in this instance) it would effect an improvement much to be desired in catering for the class of lodger, and help to lessen the number of adapted cottages so used, which, however much is done to make them serve their purpose, remain unsuitable, being a series of small rooms instead of the open, lofty, and well ventilated places like the new ones in King Edward Street.

1 application for registration was refused (the proposed place not meeting the requirements in any way).

The work of the year connected with Common Lodginghouses is as follows :—

New flock beds provided 65, new sheets 75, new blankets 57, new mattresses 7 pairs, places cleansed throughout 1, licence transferred 1, new bedroom utensils provided 12, choked drains cleared 1, walls repaired 1, yards repaired 1, new doors hung 1, and 5 new Byelaw cards supplied.

### HOUSES LET IN LODGINGS.

The total number of houses under inspection is 90, with 198 rooms (*i.e.*), 76 sleeping, 65 living, and 57 combined living and sleeping rooms; the number of families housed is about 135, aggregating 227 adults and 21 children; this is, of course, a constantly changing number, and renders the work of inspection somewhat difficult; the real object of the regulations (the prevention of overcrowding, and cleanliness of the rooms), is, however, attended to. The work during the year was as follows :—Dirty rooms cleansed 8, ceilings repaired 1, overcrowding cases dealt with 2, dirty bedding washed 1, floors repaired 1, w.c.'s replacing box privies 7, dirty closets cleansed 1, the total number of inspections was 508.

### THE WORKSHOPS ACT, 1901.

The following is a list of the Workshops (classified under the different headings) :—

#### MEN'S WORKSHOPS.

Basket Makers .....	2	Dentists .....	1
Blacksmiths .....	20	Engineers .....	3
Blind Makers .....	1	Joiners .....	24
Block Makers .....	1	Masons .....	2
Boot Repairers .....	80	Painters .....	5
Bottlers .....	2	Picture Framers .....	3
Cabinet Makers .....	7	Plumbers .....	16
Carriage Builders .....	2	Polishers .....	5
Saddlers .....	4	Undertakers .....	5
Sail Makers .....	1	Upholsterers .....	5
Snood Makers .....	1	Watch Makers .....	22
Sweet Boilers .....	2	Wheelwrights .....	7
Tailors .....	37	Wood Carvers .....	1
Tinners .....	8	Wood Turners .....	1
Twine Spinners .....	1	Trawl Makers .....	1
Rope Merchants .....	2	Umbrella Maker .....	1
Coopers .....	2	Tattooing .....	1
Cycle Makers .....	7	Clog Makers .....	1



## DOMESTIC WORKSHOPS.

Boot Sewers .....	1	Picture Framers .....	1
Corset Makers .....	2	Plain Sewers.....	10
Dressmakers .....	88	Stocking Knitters .....	1
Laundries .....	2	Tailors.....	12
Fancy Drapers.....	2	Umbrella Makers .....	3
Milliners .....	7	Shirt Makers .....	3

## TENEMENT WORKSHOPS.

Boot repairers 4, Dressmakers 7, Tailors 1, Plain sewing 1, Basketmakers 1.

## MIXED WORKSHOPS.

Cattle Oil Manufacturers .....	2	Milliners .....	35
Boot Repairers .....	8	Polishers .....	2
Bottlers .....	2	Plumbers .....	3
Blacksmiths .....	2	Rag Stores .....	2
Braiders .....	5	Rope Turners .....	2
Cigar Makers .....	2	Sauce Makers .....	1
Cabinet Makers .....	5	Sweet Boilers .....	1
Carriage Builder .....	1	Stocking Knitters .....	2
Dressmakers .....	64	Tailors.....	44
Dyers .....	1	Twine Spinners .....	6
Firewood Works .....	1	Upholsterers.....	3
Fly Paper Makers .....	3	Wheelwrights .....	1
Joiners .....	6	Makers of Rubber Goods .....	1
Picture Framers .....	1	Tinner .....	1
Laundries .....	8	Undertaker.....	1
Cycle Works.....	2	Umbrella Maker .....	1
Coopers .....	1		

The number on the registers in 1902 was 336, in 1903 416, in 1904 436, in 1905 557, in 1906 593, in 1907 616, and in 1908 650.

The following summary shows the work of the year :—

Workshops with insufficient closet accommodation .....	1
Workshops without closet accommodation .....	3
Additional w.c.'s fixed .....	2
New water closet (replacing obsolete form) .....	1
W.c.'s refixed .....	1
W.c.'s (replacing box privies) .....	6
Dirty closets cleansed .....	2
Choked drains cleared .....	3
Defective drains relaid .....	2



Dirty workrooms cleansed .....	3
Defective drainage relaid .....	3
Nuisance (from gas escape remedied) .....	1
Rooms measured up .....	6
Abstracts required .....	13
Addresses changed .....	9
Letters sent to workshop occupiers .....	14
Dangerous workshops re-constructed .....	1

3 cases of infectious disease (occurring in workshops) were removed to the Sanatorium, and the places disinfected, and business at one workshop was suspended until recovery of the patient.

35 (Forms 35) *re* notices of occupation of workshops were received from the Factory Inspector, viz., 5 Tailors, 8 Dressmakers, 1 Millinery, 1 Cycle Repairer, 5 Fish Curing and Drying places, 1 Flycatcher, 6 Boot Repairers, 1 Laundry, 1 Shoeingsmith, 1 Upholsterer, 3 Plumbers, 1 Malster, and 1 Cabinetmaker.

### Location of Bakehouses, Wholesale and Retail, in the Borough.

100 Alexandra Road	36 Holles Street
64 Ayscough Street	116 Hamilton Street
52 Burgess Street	2 Holme Street
96       "       "	Hope Street (off Oxford Street)
102       "       "	97 Heneage Road
141       "       "	331       "       "
15 Bull Ring	141 Hainton Avenue
1 Brewery Street	127 King Edward Street
Back 62 Cleethorpe Road	138       "       "
173 Cleethorpe Road	155       "       "
217       "       "	185       "       "
240       "       "	198       "       "
254       "       "	99 Lord Street
300       "       "	Back 104 Nelson Street
363       "       "	Back 115 Nelson Street
396       "       "	182 Oxford Street
327       "       "	13 Pasture Street
Back 28 Crescent Street	30       "       "
87 Church Street	70       "       "
107 Convamore Road	13a Rutland Street
Central Market	24 Rutland Street
41 Chapman Street	90       "       "
11 Chantry Lane	124       "       "
57 Corporation Road	29 Short Street
76       "       "	148 Stanley Street
21       "       "	Torrington Street (Co-operative Soc.)
50 Donington Street	15a Victor Street
134 Duncombe Street	90       "       "
32 East Marsh Street	Back of 195 Victor Street



37 Flottergate  
 Back 29 Freeman Street  
 48 Freeman Street  
 64 " "  
 127 " "  
 156 " "  
 189 " "  
 230 " "  
 215 " "  
 217 " "  
 246 " "  
 Behind 28 Guilford Street  
 1 Garibaldi Street  
 14 Grant Street  
 3 Hilda Street

Back of 44 Victoria Street  
 Back of 128 " "  
 Back of 132 " "  
 Back of 350 " "  
 Back of 376 " "  
 Back of 412 " "  
 83 Weelsby Street  
 377 " "  
 110 Wood Street  
 167 Wellington Street  
 234 " "  
 54 Wintringham Road  
 14 Wellowgate  
 48 Yarborough Street  
 Back of 35 Yarborough Street

The Bakehouses in the Borough were found upon inspection during the year to be kept generally clean.

The floor of one bakery was relaid throughout.

#### Situation of Licensed Slaughterhouses in the Borough.

1	Beside 70 Garibaldi Street	30	Back of 100 Heneage Road
2	Back of 1 Cleethorpe Road	31	Back of 48 Sixhills Street
3	" 27 "	32	" 40 Connamore Road
4	" 84 "	33	" 92 Garibaldi Street
5	" 295 "	34	" 122 "
6	" 369 "	35	" 23 Wellowgate
7	" 2 Holles Street	36	" 14 Grafton Street
8	" 19 "	37	" 38 Pelham Street
9	" 39 Corporation Road	38	" 9 Humber Street
10	" 51 "	39	" 49 Yarborough Street
11	" 20 "	40	" 120 Hildyard Street
12	" 36 Freeman Street	41	" 27 Abbey Walk
14	" 126 "	42	" 44 Eastgate
16	" 426 Victoria Street	43	" 33 Bethlehem Street
17	" 39 Duchess Street	44	" 79 Lord Street
18	" 39 "	45	" 60 Ravenspurn Street
19	In Hope Street (facing saw mills)	46	" 56 Crescent Street
20	" " " "	47	" 2 South Parade
21	In Albion Street (round Brocklesby Hunt corner)	48	" 6 Wood Street
22	In Foundry Inn yard, Church St.	49	" 128 Weelsby Street
23	" " " "	50	" 129 Macaulay Street
24	In Strand Street	51	" 30 Oxford Street
25	"	52	" 121 Duncombe Street
26	In Redhill	53	" 110 Fildes Street
27	In Catherine Street, East side	54	" 177 Stanley Street
28	In King Edward Street (near Havelock Street end)	55	" 47 Annesley Street
29	In 10-foot (back of 50 Hamilton St.	56	End of Holme Street
		57	Top of Willingham Street (near Welholme Road)

# ANNUAL REPORT

## RE

### Slaughterhouses and Offensive Trades Premises

### 1908.

---

MUNICIPAL OFFICES,

184 VICTORIA STREET,

MARCH 8TH, 1909.

MR. CHAIRMAN AND GENTLEMEN,

I beg respectfully to submit, for your information, my report as follows :—

#### SUMMARY.

Number of Inspections during the year .....	586
New Sanitary Bins provided (for offal removal) .....	1
Copies of new Byelaws supplied .....	12
Outside Signs repainted .....	4
Yards repaired.....	2
Yards Asphalted throughout.....	1
Dirty Yards cleansed .....	1
Letters sent to Licencees .....	12
Pining Fold Floors repaired.....	1
Occupiers cautioned <i>re</i> offal removal .....	2
Changes of Occupancy .....	2
Chambers built on drain system .....	1
Sanitary Gullies fixed (replacing cesspools) .....	8
Total number of Slaughterhouses on register .....	57
And the application for use of premises behind 448 Victoria Street, will (when allowed) make the No. 58.	

The following transfers were granted, viz. :—

House No. 51 from Mr. Walsham to Mr. Collinson.

House No. 12 from Mr. Petitt to Mr. Bush.

House No. 18 from Mrs. Foster to Mrs. Turner.

House No. 6 behind 27 Abbey Walk (lately occupied by Mr. Lister) is not now used.



House No. 11 (beside No. 122 Garibaldi Street) has not been used for the greater part of the year.

House No. 13 (behind 78 Victoria Street) is not now in use.

House No. 19 (behind No. 6 Wood Street) has been re-constructed entirely on modern lines, and is now one of the best places in the town.

House No. 48 (behind 65 Bath Street) has not been in use at all during the year.

At houses numbered 17 and 26 the outer yards were repaired, and at houses numbered 37 and 38 sanitary gullies replaced mason-trapped cemented out cess-pools, whilst at house No. 7 a chamber was built upon the drain system and 5 wash-out gullies fixed.

The practice of butchers generally in reporting suspicious appearances in slaughtering animals continues. I always encourage them to do this, satisfactory conclusions are arrived at mutually, and the protection of the public is assured. The food reported in this way exceeded £490 in value during the year, and comprised 21 pigs, 23 whole beasts, 1 sheep, 1 lamb, and 654 lbs. of beef.

50 applications are to hand for renewal of licences, and though a few are not yet to hand, they will come shortly. May I suggest the Committee authorise the renewal of them all.

An application is to hand for licence to use as a slaughterhouse premises behind 448 Victoria Street (in Burgess Street). It is an old slaughterhouse, the drains have been put in order recently, and the owner intends building a new pinning fold, meanwhile, an existing building is proposed for use as such. Will the Committee authorise issue of the licence subject to the owner undertaking to erect a suitable pinning fold.

### **OFFENSIVE TRADES PREMISES.**

These premises comprise 7 tripe boilers, 1 fish skin scraper, 2 hide markets, 1 soap boiler, 50 fish-houses and fish drying places, and 3 manure works (2 of which are beyond the Borough boundary).

Although work is done to a limited extent at the Oil and Manure Company's works, no complaint has been made of any offensive smells, nor has any nuisance to the public (so far as I am aware) arisen from Messrs. Bennetts works.

The floor of 1 tripe dressing shop was relaid entirely, a wash-out gully replaced the cesspool, and all the drains (to workshop and house) were relaid.

The dilapidated state of the tripe dressing house in Wellington Street, occupied by Mr. Woollis, is a matter to which I beg to direct the attention of the Committee. It is, in my opinion, quite unfit for its purpose, being partly built of wood and part brick, the old wood cannot be kept properly clean, and being contiguous to



a number of stables and piggeries the place is over-run with rats, and in my opinion is quite unfit for use as a place where human food is prepared. I suggest the matter be left with the Chairman after an inspection of the premises.

H. F. MOODY, *Borough Sanitary Inspector.*

The report was adopted, 2 months being allowed for the owner of the place in Wellington Street to put the place into sanitary order, or discontinue the use of the premises.

### **COWSHEDS.**

The 15 cowsheds in the Borough (of which 6 are at old Clee Village) were found upon inspection in a fairly clean condition generally (*i.e.*, as regards internal cleanliness, the air space is, however, a matter about which (during the year) I have addressed a letter to each cowkeeper—the new regulations now require that each animal shall have not less than 800 cubic feet of free air space, and nearly all our cowsheds are much too small to permit of such an allowance, each farmer has had two years grace during which to prepare for this important change.

Attention has had to be directed to the unsatisfactory state of one cowshed (old Nuns Farm), but in the month of April, 1909, the buildings ceased to be used for keeping milch cows.

The situation of the cowsheds in the Borough is as follows :—

Back of 8 Chapman Street	The Nuns Farm
„ 38 „ „	Back of 100 Lord Street
„ 31 Lime Street	„ Ainslie Street
„ 35 „ „	„ 51 Harold Street, and
„ 129 Macaulay Street	6 at Old Clee village

### **BOX PRIVIES.**

The Council will remember that serious work in this connection was commenced in March, 1908, and since then has been vigorously prosecuted, and an average of more than 90 conversions per month has been maintained since April of the year 1908. I append a table shewing the progress made (in Wards) up to the end of December, 1908, and from it will be seen that a beginning was made in the Victoria Ward, where, in the neighbourhood of King Edward and Burgess Street there are so many narrow courts where the box privy was a real nuisance, and although a great deal of talk was indulged in, and some temporary opposition displayed, it is my privilege now to report that practically all the large cottage property owners are becoming convinced of the wisdom of, and necessity for, the change, and they are converting whole blocks to water carriage to the great appreciation of house occupiers, who are likewise realising its advantages. I have very frequently been told by tenants (when making inspections) that they would gladly pay a trifle more rent, and have a w.c., rather than the foul smelling box *close to our kitchen doors and pantry windows, say they.* It is very gratifying indeed to know that so rapid and real an advance in the sanitation of the Borough is being made, and the present attitude of property-owners (if followed up) as I am assured and promised by them that it shall be, will soon rid us of a



system for which no redeeming feature can be found, and the retention of which, the highest authorities are at one in saying, can only be inimical to the public health.

Up to the time of writing this report (June), and since the 1st of January, 1909, an average of fully 100 conversions per month has been made.

#### List of w.c.'s fixed during 1908 (in Wards).

Hum.	Well.	Clee.	N.E.	Wlsby.	Wellow.	Cen.	Hainton.	Alex.	Vict.	S.W.	S.	TOTAL.
71	39	1	114	5	39	100	38	27	265	1	26	726

#### INFECTIOUS DISEASES.

Under this head, the following summary indicates the work done :—

Dirty house surroundings	9	Rooms fumigated	589
Low fall pipes on sewer direct	27	Houses	2
Defective yard paving	8	Rooms fumigated at Workhouse	2
Insanitary gullies and cesspools	7	Bedding treated at Disinfectory	
Leaky privy boxes	16	(lots)	439
Defective eave spouts	1	Rooms disinfected after Phthisis	14
Unsanitary Dustbins	6	Removals for business reasons	13
Choked w.c.'s	2	Choked yard drainage	3
Visits and re-visits to houses	1172	Defective waste pipes	1

All Public Library books are sent to the Sanitary Office and subjected to thorough disinfection in a closed chamber before being returned to the Institution.

Examination by smoke-test of house drains connected with Typhoid Fever and Diphtheria cases, resulted in the discovery of defects to the extent of 100 per cent. in the former disease, and in the latter 90 per cent.

The appointment of Mr. Madeley as an Assistant on the Inspectorial Staff in August, 1908, was valuable, in that additional help was afforded thereby, though it must be remembered that a new man, minus practical experience, is of very little real value for a time; indeed, he must be accompanied by an older officer in order to become acquainted with even the routine work, and this latter kind of work fell upon the new assistant, because of the great amount of special work connected with drainage and box privy conversions falling upon the older officers.

The newly-appointed junior clerk (in the office) relieves me of much of the letter drafting in longhand, which formerly had to be done in this way, the youth is a smart typist and shorthand writer, and is extremely useful indeed.

Permit me, gentlemen (in conclusion), respectfully to express my thanks to all the Members of the Corporation for the encouragement afforded to us in the sometimes difficult work we do, and to sincerely thank (once again) every member of the staff (clerical and inspectorial) for their willing assistance cheerfully given at all times (night or day), and for the zeal and energy shown in the discharge of their duties.

I am, Gentlemen,

Your obedient Servant,

Henry F. Moody

*Borough Sanitary Inspector.*



...and ... (in ...), ... to ...  
 ... of the ... for the ...  
 ... and ... (once again) ...  
 ... (for their ... and ...)  
 ... (right or day) and for the ... and ... shown in  
 the ... of their ...

Your obedient servant

Henry J. Wood