

Contributors

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With Wm Stamford's Compl^{ts}



THE
ANNUAL REPORT
UPON THE
Health & Sanitary Condition,
OF THE
BOROUGH OF TUNBRIDGE WELLS,

For the Year ended December 31st, 1896,

BY

WM. STAMFORD,

LICENTIATE OF THE ROYAL COLLEGE OF PHYSICIANS, LONDON,

MEMBER OF THE ROYAL COLLEGE OF SURGEONS, ENGLAND,


FELLOW OF THE SOCIETY OF MEDICAL OFFICERS OF HEALTH,

ETC., ETC.,

MEDICAL OFFICER OF HEALTH FOR THE BOROUGH.

Tunbridge Wells:

PRINTED BY A. K. BALDWIN, GROSVENOR WORKS.



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Medical Officer of Health's Report

For the Year ended December 31st, 1896.

*To the Chairman and Members of the Health Committee of the
Council of the Borough of Tunbridge Wells.*

GENTLEMEN,

I have much pleasure in laying before you my report upon the health and sanitary condition of the Borough of Tunbridge Wells, during the year ended December 31st, 1896, from which it will appear that the vital statistics of the Borough are quite up to their usual high standard of excellence, and that the sanitary operations, and the preventive measures, to which our efforts have been assiduously directed during the year, have been effective.

In former reports I have had to call your attention to the uniformly low rate of mortality, especially in the zymotic class, which obtains in this favoured district, even at times when the country generally is visited with an exceptionally high mortality due to epidemics, and once more I am pleased to say the rate of mortality for the Borough falls well within the mean for a period of ten years.

For ten years the death-rate of this Borough has never risen beyond what may be looked upon as being the lowest likely to obtain in a normal community of 30,000 inhabitants or thereabouts, and during that time it has always been considerably lower than the death rates of Brighton and other towns, both in the general, and in the zymotic classes.

Population.—By my usual method of calculation, which is based upon suggestions made by the Registrar-General, I find the population has an estimated increase of 360 upon the figures for 1895 on June 30th in each case, and I have fixed the number of the inhabitants on June 30th, 1896, for the purposes of this report, at 29,895.

There are several points of much interest, in considering the vital statistics of a district, to which special attention should be given, before comparisons are instituted (those of one district with those of another), and here I would notice that we have in this Borough :—

1st.—A low birth rate.

2nd.—Many aged lives.

3rd.—An excess of invalid lives (visitors).

4th.—Few operatives.

5th.—An excess of the opulent.

By the low birth rate the number of new lives in the vigorous period from youth to middle age, when mortality is at its lowest is restricted.

Aged lives are attracted by the salubrious climate and sheltered situation of the Borough, as are also invalid lives.

The dearth of occupation for the operative classes decreases the natural immigration of healthy men engaged upon manual labour, and thus tends to increase the death rate, while further the inactivity of the opulent, and their luxurious habits of life, cause the excess of lives of this class to tell against the conservation of life.

Births.—During the year there were 680 infants born, of whom 365 were boys, and 315 were girls, being an increase of 95 on the figures for 1895.

Birth Rate.—The birth rate for the year is 22·74, per 1,000 of the estimated population, or about two-thirds that of the country generally.

Deaths.—During the year there occurred 410 deaths from all causes, as against 395 for the previous year, being a slight increase of 15, due to the increased foreign mortality to be presently shewn, whereby an increase of 16 deaths is accounted for.

Death-Rate.—The death-rate per 1,000 of the estimated population is 13·71 as against 13·37 for the previous year, the fractional increase being due to the excess of foreign mortality, already spoken of, and to be referred to again. This death-rate is

within the mean for ten years, and compares very favourably with the statistics of all previous years since any record has been kept. The death-rate for the country generally was 18·9 per 1,000.

TABLE I.
COMPARISON OF DEATH-RATES FOR TEN YEARS.

1887	...	...	13·4
1888	...	...	14·0
1889	...	...	13·3
1890	...	...	13·3
1891	...	...	13·4
1892	...	...	15·9
1893	...	...	14·8
1894	...	...	13·4
1895	...	...	13·3
1896	...	...	13·7
The Mean Death-rate for ten years			13·8

Correction of Death-Rate.—When I say that out of every fifteen deaths registered as having occurred within the Borough, no less than two took place in the cases of persons temporarily resident in our midst, it will be seen how important and appropriate is the correction of our death-rate. This proceeding, though not permissible in rendering returns to the Registrar-General, is of paramount urgency when considering the administration of the department with which your Committee is concerned, and it is adopted by many of the Metropolitan districts and provincial Boroughs, where accuracy of vital statistics is thoughtfully sought after.

Of the total number of deaths registered from all causes, no less than 55, as against 39 in the previous year, belong to this class of foreign mortality, and should be rightfully excluded, in which case the corrected death-rate stands at 11·87, per 1,000, per annum, as against 12·0 for the previous year.

This mortality is very heavy in all places like Tunbridge Wells, which attract invalid lives, and aged people, by virtue of the hope they hold out to such as cannot exist in other less favoured localities.

The 55 deaths excluded in this way took place in the cases of

visitors resident for periods less than three months prior to their decease, and in the cases of those brought from outside the Borough, to the General Hospital for treatment.

The corrected death-rate is the lowest recorded for a period of seven years, except that for the year 1894, which was practically the same.

TABLE II.
CORRECTED DEATH-RATES FOR SEVEN YEARS
CONTRASTED WITH THE ORDINARY DEATH-RATES.

		Ordinary Death-rate.		Corrected Death-rate.
1890	...	13·3	...	12·8
1891	...	13·4	...	12·2
1892	...	15·9	...	12·5
1893	...	14·8	...	12·9
1894	...	13·4	...	11·7
1895	...	13·3	...	12·0
1896	...	13·8	...	11·8

Quarterly Returns — The mortality during the several quarters of the year was as follows:—

TABLE III.

		No. of Deaths.		Rate per 1000 per annum.
1st Quarter	...	87	...	11·6
2nd Quarter	...	91	...	12·1
3rd Quarter	...	86	...	11·4
4th Quarter	...	146	...	19·4

The mortality during the first quarter, which usually proves greater than that of any other quarter, was practically the same as that of the third quarter, and was the lowest ever recorded in the first quarter of any year during the long period over which the statistics compiled by me extend.

On the other hand I have to report a very heavy mortality during the last quarter, which I attribute to the cold damp weather, experienced during the latter months, proving fatal to young children and the aged. It was an extremely trying time also for invalids, and consequently the mortality among temporary residents was more than is usual at this period of the year.

TABLE IV.
SHEWING THE RELATIVE QUARTERLY MORTALITY
FOR FIVE YEARS.

		1892	1893	1894	1895	1896
1st Quarter	Number of Deaths	160	104	114	114	87
	Rate per 1000 per annum ...	22·6	14·5	14·8	15·6	11·6
2nd Quarter	Number of Deaths	106	103	99	98	91
	Rate per 1000 per annum ...	12·8	14·9	14·3	13·2	12·1
3rd Quarter	Number of Deaths	94	97	81	90	86
	Rate per 1000 per annum ...	13·2	13·1	11·1	12·1	11·4
4th Quarter	Number of Deaths	91	123	97	93	146
	Rate per 1000 per annum ...	12·7	17·0	13·2	12·5	19·4

Correction of Quarterly Death-Rate.—The foreign mortality was distributed over the four quarters of the year, as shewn in Table V., wherein also I have contrasted the ordinary death-rate for each quarter with its proper corrected death-rate, to bring out the incidence of this burden of foreign mortality at the different periods of the year.

TABLE V.

	Number of Deaths.	Rate per 1000 per annum	No. of Deaths to be deducted. Foreign Mortality	Corrected Death-rate.
1st Quarter ...	87	11·6	14	9·79
2nd Quarter ..	91	12·1	13	10·43
3rd Quarter ...	86	11·4	9	10·27
4th Quarter ..	146	19·4	19	16·8

Infant Mortality.—The deaths registered during the year, as having taken place within the first year of life, numbered 80, as against 680 born; which gives a death-rate for infants under one year of age, equal to 117·6 per 1,000 born, that for the country generally being given in the Registrar-General's return as 148 per 1,000 born.

Had we suffered an infant mortality equal to that of the country generally, I should have had to report 24 deaths in addition to those which actually took place, which would have increased the general annual death-rate for the Borough by nearly a unit, so that it will readily appear, not only that our infant mortality is very low, but that it is of the utmost importance from a statistician's point of view to keep it so. The fourth quarter was particularly fatal to infant life, on account of the cold damp weather experienced during that period of the year.

From a humanitarian standpoint, the question of infant mortality assumes a magnitude which demands attention, forasmuch as every infant which survives the first year of life enters upon that period of life which shews the lowest death rate, while according to the Registrar-General's returns, the rate for the first year of life, is five times that of the whole period of human life, per annum.

Here, appropriately, I might speak of the effect of better housing for the artizan and poorer classes, for I contend that there is in all large towns an enormous relative infantile mortality, due to the conditions under which the poor and the artizan classes live, but I shall have to call your attention to the question of providing suitable dwellings for these people, and only refer to it now in passing.

Much might be done to prevent the loss of infant lives, were it possible to educate the poorer classes, so that their children might obtain rational management, dietetically and hygienically, with the means already at command.

TABLE VI.
RATE OF MORTALITY IN INFANTS UNDER ONE YEAR
OF AGE.

1892	Death-rate per 1000 born	114·9
1893	" " "	110·7
1894	" " "	88·5
1895	" " "	112·8
1896	" " "	117·6

Duration of Life.—The following deaths took place at advanced ages :—

Deaths at over 90	-	-	-	1
„ under 90 and over 80	-	-	-	37
„ „ 80 „ 70	-	-	-	66
„ „ 70 „ 60	-	-	-	52
Total				156

The total number of deaths being 410, and the deaths of persons at ages over 60 years numbering 156, it will be seen that out of every 100 deaths at all ages, no less than 38, or considerably over one-third, took place at the ages beyond 60 years.

So high a percentage of aged lives falling in, as that which is found to obtain in this Borough, shews that the mortality at ages below 60, which includes the heavy loss of the first year of life, is as low as it could reasonably be expected to be in a community numbering about 30,000, and that the longevity of the inhabitants is exceedingly great.

Mortality at Several Ages.—From Table VII. it will be seen that the figures for the year bear a very close resemblance to those for the year before, the only notable features being an excess of 14 deaths in the first year of life, a loss which is balanced in the next period of from one to five years of age.

TABLE VII.
SHEWING THE MORTALITY AT THE SEVERAL AGES
FOR FIVE YEARS.

	1892	1893	1894	1895	1896
Deaths at under 1 year of age ...	76	69	58	66	80
„ 1 and under 5 years of age	44	30	28	41	26
„ 5 „ 15 „	15	26	18	14	24
„ 15 „ 25 „	22	22	18	17	19
„ 25 „ 60 „	111	113	125	93	105
„ 60 and upwards ...	161	167	144	164	156

Zymotic Diseases.—For a long series of years the death-rate from this class of diseases for this Borough, has not risen so high as to shew a loss of one life per 1,000 of the inhabitants.

I believe such a condition of immunity from mortality of a preventable character to be unique for towns of the size of Tunbridge Wells.

In 1896 the loss from Zymotic diseases numbered 29 deaths, and gave a death rate per 1,000 per annum of 0·97, the Zymotic death rate for the country generally having been 2·18.

Scarlet Fever caused no mortality.

Typhoid and other forms of Continued Fever caused no mortality.

Erysipelas and Pyæmia caused no mortality.

Diphtheria having been epidemic throughout the country generally, caused 14 deaths. It was prevalent in the boundaries of the Borough, at Rusthall and Newtown, and children attending an Infant School which was in a bad state of sanitation became infected.

The School was at once closed, as soon as it was found to have been a source of infection.

Diarrhœa and Dysentery were the cause of two deaths, a very small mortality considering the heat and drought of the summer.

Smallpox caused no mortality, no case having occurred. The record of the Borough for the whole period during which it has been kept, is absolutely free from loss under this heading.

Measles.—This disease was very prevalent during the 2nd and 3rd quarters of the year, and was the cause of 10 deaths. In order to stamp it out the schools were closed in the following order :—

March 29, King Charles School.

April 23, St. James' „

May 9, St. Mark's „

May 29, St. Barnabas' „

June 2, Trinity „

July 10, St. Peters' „

July 15, St. John's „

This precaution stopped the spread of infection, and no doubt saved many lives, in fact we were very fortunate to escape with a loss of only 10 lives, in what threatened so seriously, but for these precautionary measures.

Whooping Cough.—This disease was the cause of only two deaths.

Croup of the membranous variety was the cause of one death.

Notifications of Infectious Diseases.—The following is a list of the cases of infectious diseases which were notified to me during the year, under the provisions of the Infectious Disease (Notification) Act, 1889 :—

Scarlet Fever	...	...	...	...	74 cases
Diphtheria	...	...	...	...	67 „
Typhoid or Continued Fever	...	...	...	...	11 „
Erysipelas	...	...	...	...	25 „
Membranous Croup	...	...	...	...	2 „
<hr/>					
Total	...	...	...	...	179 „
<hr/>					

Of this number only 15 cases ended fatally, all being of a diphtheritic character, viz.:—14 from Diphtheria, and one from Membranous, or Diphtheritic, Croup.

With regard to this I would point out to your notice that Dr. Thorne Thorne after making a most searching and thorough investigation, in his capacity as Chief Medical Officer to the Local Government Board, came to the conclusion that Diphtheria has increased where sanitation has improved, which is the reverse of what takes place where Typhoid Fever is concerned.

It is always more prevalent in the presence of damp, cold weather, and my personal observation leads me to the conclusion that these combined atmospheric conditions very much favour its development.

Also I am of opinion that the keeping of poultry and cats is a most important factor in the development, and more so in the spread of diphtheritic affections. It is an undoubted fact that cats

suffer from the disease, and being able to go about in that condition children are especially liable to be infected by them.

Householders who keep cats should know that when the animals are out of health they should be isolated or destroyed, and those who keep poultry in their back yards, as so many of the poorer people do, should be counselled not to do so, for this and other hygienic reasons.

The 11 cases of Typhoid Fever were of a very mild type, and some were no doubt due to the hot weather and the drought. It is very necessary at such times for householders to see that the traps of house drains are kept properly sealed with water, and that the drains of houses which have stood empty are flushed with water before the houses are re-occupied.

The 74 cases of Scarlet Fever notified, were all of a mild type, as we generally find them in this district, and there was no mortality. This disease was not so prevalent as it was during 1895, when there were 105 notifications, also without mortality.

I have to refer later to the effects of the Sanatorium upon the spread of Scarlet Fever, in which respect I could not speak too enthusiastically, but here I must say, that did parents realise the importance of the early placing of sick children under medical care, the problem of dealing with Scarlet Fever would be a very easy one indeed.

One boy was found attending school while desquamating after the acute stage of Scarlet Fever, which is recognised as the period during which precautionary measures are most essential.

As a consequence the school had to be closed and disinfected, fortunately with the result that no further case was afterwards discovered among the pupils, but had steps not been at once taken, and had our vigilance not discovered the boy's condition in the nick of time, there is no doubt whatever, in my mind, that many cases and wide-spread dissemination of the disease would have resulted.

Had the parents of this boy called in medical aid when he was first attacked, instead of treating him on the penny wise principle,

the boy would not have suffered probable complications due to premature exposure, and the health of the Borough would have been safe-guarded.

Several cases of Scarlet Fever and also of Diphtheria were ascertained to have been imported.

I cannot close my remarks under this heading without expressing my strong feeling that Measles should be included in the list of infectious diseases falling within the scope of the Notification Act.

I have to thank the members of my profession, practising within the Borough, for the promptness with which they have fulfilled the provisions of the Act, which has been of the greatest service in furthering my labours for the limitation of the spread of infection at the earliest possible moment.

With this object I have also for many years past made frequent visitations at the various schools within the Borough, and wherever I deemed it necessary I have taken measures for the closure and disinfection of the school premises.

The Sanatorium.—In my last annual report I stated that the new Sanatorium was ready for occupation. The building has been opened and used during the year, and the patients have had the benefit of a much greater efficiency in the conduct of the duties of the nursing staff than was possible in the old wooden buildings. They have also had the comfort and enjoyment of roomy and well appointed wards, which, with the increased facilities for attendance upon them and ministrations to their wants, have materially conduced to their rapid recovery, without the supervention of complications, so much to be dreaded in this disease.

64 patients were admitted during the year, 55 of whom were over and nine of whom were under five years of age.

All were discharged cured, and the parents have expressed their grateful thanks to your Committee and the Council for supplying this useful and greatly needed institution.

Each member of the staff, I am pleased to say, has during the year fulfilled the duties entrusted to them to my entire satisfaction.

Water Supply.—I am pleased to be able to report that, notwithstanding the drought in the early part of the year, the water supply was constant and abundant. The reservoir is now full, and there is every prospect of this satisfactory state of things being maintained during the ensuing year.

The results obtained by the boring operations have realised the fullest anticipations formed as to the yield of water; but I would earnestly commend to your favourable notice and consideration the reports of Drs. Stevenson and Frankland as to the desirability of constructing filter beds, for rendering the water palatable and acceptable for potable purposes.

Sewer Ventilators.—I regret to say that during the year I have received many complaints as to the effluvia arising from surface sewer ventilators and street gullies.

When this system of ventilating sewers was adopted it was recommended by sanitary engineers, but more recent experience has proved the system to have many drawbacks, and I earnestly commend to the consideration of the Council, the desirability of adopting some method of ventilating the sewers, which shall not have the objectionable features of the surface ventilator, and I recommend that all gullies in the public streets be trapped as soon as possible.

Indoor Baths.—I am pleased to know that during the year it has been decided by the Council to erect Indoor Swimming and Slipper Baths, and that the difficulties which at one time threatened to delay this very necessary work have all been removed, and that the work will shortly be commenced.

The health of the inhabitants cannot fail to be greatly improved by the use of these Baths when completed, and their presence within reach of all, will sufficiently enforce the lesson of cleanliness at this period of the Nineteenth Century.

Sanitary Work.—The report of the Sanitary Inspector is appended along with the tabular statement of the births and deaths (Table VIII.) The work of this Officer has been performed efficiently and practically.

Labourers' Dwellings.—The rental of cottage property in this

Borough being naturally high, owing to the value of land for building purposes, and the preferential erection of other classes of property by private individuals, I would commend to your notice the great desirability of your taking advantage of the powers given by the Act of Parliament bearing upon this matter, to erect about 200 cottages for the exclusive occupation of the respectable and provident poor.

This class is at present compelled to live in apartments, or portions of tenement houses, with the result that overcrowding with its consequent evils is rife in certain parts of the Borough, so that it has become a constant source of anxiety to those concerned with the administration of practical work of the Sanitary Department.

In the Report of "The Improved Industrial Dwellings Company, Limited," incorporated in 1863, it is stated (January 29th, 1897):—

"The mortality returns of the Company's Buildings continue to show most favourable results. For twelve months, ending December 31st, 1896, the average death rate was, including 29 deaths in Hospitals, only 9·9 in the 1,000, 3·33 being infants under one year of age, while, excepting a few cases of infantile complaints, such as Whooping Cough, Measles, &c.; there were only four deaths in the Buildings and seven in Hospitals, from contagious diseases at the whole of the estates"

"The average death rate in the Metropolis for the year to 30th September last was 18·5 per 1,000—although in low and overcrowded districts it was probably between 30 and 40 per 1,000."

Finally, I would state that at the close of the year the Borough was in a healthy state.

I am, Gentlemen,

Your obedient servant,

WM. STAMFORD,

Medical Officer of Health.

TABLE VIII.
TABULAR STATEMENT OF BIRTHS AND DEATHS
For the Year ended December 31st, 1896.

Estimated Population, 30th June, 1896	...	...	...	29,895
Number of Deaths	...	...	...	410
Rate per 1,000	...	...	...	13·71
„ „ Less Visitors (55)	...	...	...	11·87
AGE AT DEATH.				
Under One Year	...	...	...	80
One, and under Five	...	...	...	26
Five, and under Fifteen	...	...	...	24
Fifteen, and under Twenty-five	...	...	...	19
Twenty-five, and under Sixty	...	...	...	125
Sixty Years and Upwards	...	...	...	136
CAUSES OF DEATH.				
Consumption...	...	...	...	25
Bronchitis, Pleurisy, and Pneumonia	...	...	...	49
Diseases of Brain and Nervous System—including Convulsions in Children	...	...	...	40
Old Age	...	...	...	25
Diseases of Organs of Circulation	...	...	...	60
Diseases of Digestive Organs	...	...	...	19
Malignant Diseases	...	...	...	36
Congenital Diseases in Infants	...	...	...	4
Tubercular Diseases	...	...	...	21
Urinary Diseases	...	...	...	18
Premature Birth and Atrophy	...	...	...	26
Parturition	...	...	...	0
Rheumatic Fever	...	...	...	2
Puerperal Fever	...	...	...	0
Suicide and Injuries	...	...	...	9
Influenza	...	...	...	2
ZYMOTIC DISEASES.				
Scarlet Fever	...	...	...	0
Continued Fever	...	...	...	0
Erysipelas and Pyæmia	...	...	...	0
Diphtheria	...	...	...	14
Diarrhoea and Dysentery	...	...	...	2
Smallpox	...	...	...	0
Measles	...	...	...	10
Whooping Cough	...	...	...	2
Croup (Not Spasmodic)	...	...	...	1
All other Diseases	...	...	...	45
TOTAL				410
Number of Births (Boys, 365 ; Girls, 315)	...	...	...	680
Birth Rate per 1,000	...	...	...	22·74

BOROUGH SANITARY INSPECTOR'S OFFICE,
TOWN HALL,
TUNBRIDGE WELLS,
January 24th, 1897.

SIR,

I have now the pleasure of handing you my third Annual Report on the matters relating to the "Public Health" that come under my supervision.

Drains, as a matter of course, must be my first item, and I must submit to you that an enormous amount of work has been done in that direction, but still more might be done, especially in the houses of the "Working Classes," if I were armed with some efficient Bye-laws or regulations with regard to drains and sanitary fittings.

While I am speaking of the "Working Classes," I would like to point out that many of them are making their homes unhealthy by the reason of keeping chicken, ducks, rabbits, and even in some instances attempts have been made at pig-keeping, and while having that regard necessary for the feelings of those who wish to make a pet of something or other, I must say that to keep such things in the confined spaces usually found at the back of our cottages, is certainly, more or less, bad for the health of the inmates, and I may say I am not speaking without personal experience.

I have during the year received numerous complaints with regard to "Sewer Ventilators," and have reported from time to time on the nuisance existing: however, I am pleased to say that I believe my efforts in that direction will soon be rewarded, for the Works Committee have already directed certain experiments to be made.

I was pleased to see the house refuse being removed more frequently during the warmer months of the year, and hope to see a repetition of the work again this year, and even done more frequently still.

Manure, Fish Offal, and Marine Stores, have been their usual source of nuisance, and many persons responsible for the removal have required to be sharply dealt with. I am again pleased to say

that no offensive trades proper are carried on in any part of the district.

Factories proper are not in existence in the Borough, but we have many Workshops that come under the Factories and Workshops Act, these are visited as often as time permits, and the Cowsheds, Slaughter Houses, &c., &c., receive similar attention.

All food stuffs have been specially attended to, and many parcels overhauled and examined, 7 samples have been submitted to the Public Analyst for analysis, viz.—5 milks and 2 butters, all proved to be genuine, and the butters were very low priced.

I am sorry to say an outbreak of anthrax among cows in the district gave cause for some alarm during the year, every precaution, however, was taken, and I truly hope this terrible disease has left us for ever.

This leads me on to the Infectious Diseases which we cannot possibly escape from entirely.

We have certainly had an excess of Diphtheria, but this in a great measure is due to the peculiar way in which we are connected to an area that has been infected, and not in our Sanitary district, there has also been some few cases imported from other parts.

Scarlet Fever has shown a wonderful decrease. In 1894, we had 164 cases. In 1895, 105 cases. And here, in 1896, with an increased population, we have only 74 cases, this is a fact worthy of notice, and certainly tends towards showing that stringent methods of disinfection are not without good results.

Other notifiable complaints we have been almost free from.

I may add at this point that the Working Classes are supplied with disinfectants free when they have requisition for them.

At the close of my Report, "A Crying Want" is brought under my notice by the Press, and I am glad that the question of Housing the Working Classes has been brought in that way, it will give every one concerned a chance to express their views publicly, and thereby promote discussion, and by discussion we are better enabled to arrive at the best solution of such a problem.

I desire to record my sincere appreciation of the liberal way

in which I was treated by our Committee when I had completed my second year's service.

In conclusion, I wish to thank the Borough Officials for the kind way in which they have ever been ready to assist me in my work, and to you, Sir, I beg to offer my sincere thanks for the way in which you have appreciated my work, and thereby rendered my duties less onerous than they might have been.

I append a list of works carried out during the year.

I am, Sir,

Ycur obedient servant,

JAMES CAVE,

Borough Sanitary Inspector.

W. STAMFORD, ESQ.,

Medical Officer of Health.



Summary of Works, &c., Carried out:—

- 232 Complaints have received attention.
- 56 New drains have been constructed.
- 54 drains have been cleared and repaired.
- 114 w.c.'s have been repaired.
- 38 Ventilating Shafts to drains erected.
- 21 New soil pipes erected.
- 302 New traps substituted for defective ones.
- 60 Rainwater pipes disconnected and repaired.
- 28 Manholes have been constructed.
- 287 Houses inspected.
- 87 Rooms cleansed, &c.
- 690 Visits made to Works in course of progress.
- 117 Loads of offensive matter removed.
- 420 Visits to infected houses.
- 140 Rooms have been disinfected.
- 17 Loads of bedding have been disinfected.
- Some hundreds of chicken, ducks, and pigs removed.
- 9 Wells have been dealt with.
- 7 Samples of food have been analysed.
- 304 Parcels of food examined.
- 140 Houses have had the Town water supply laid-on.
- 5612 Dustbins have been periodically emptied and cleansed.
- 73 Various improvements have been carried out.

APPENDIX.

Reprinted from the "Kent and Sussex Courier."

METEOROLOGICAL NOTES AT TUNBRIDGE WELLS IN 1896.

The most sunny day of the year was the 1st of June, when there were 14 hours 44 minutes of sunshine. The total recorded by the Jordan (photographic) recorder was 1,718 hours 52 minutes, and by the Campbell-Stokes (burning glass) was 1,547 hours 16 minutes. The former gave 72 and the latter 77 sunless days.

The Jordan recorder—

First showed	10	hours	of	sunshine	on	March 22nd.
"	"	12	"	"	"	May 4th.
"	"	14	"	"	"	May 27th.
Last	"	14	"	"	"	July 9th.
"	"	12	"	"	"	July 28th.
"	"	10	"	"	"	Sept. 28th.

The Campbell-Stokes recorder—

First showed	10	hours	on	April 21st.
"	"	12	"	May 3rd.
Last	"	12	"	July 28th.
"	"	10	"	Aug. 16th.

The greatest heat in the sun was 128·3 deg. on July 20th, and in the shade 84·3 deg. on July 14th.

The lowest temperature, 4ft. above the ground on Mount Ephraim, was 22 deg. on December 17th, and on the grass 16·5 deg. on February 26th. The mean temperature of the year was 48·8 deg., and the mean daily range 14·7 deg. The mean difference between the wet and dry bulbs at 9 a.m. was 3 deg., the greatest being 14 deg. on July 13th. There were 56 frosts in the air, and 146 on the grass. The last frost in the air in Spring was on May 2nd, and the first in Autumn on October 19th. The last frost

on the grass in Spring was on June 1st, and the first in Autumn on September 21st.

The temperature in the sun—

First reached	100	on	March 10th.
"	"	110	" March 23rd.
"	"	120	" May 18th.
Last	"	120	" Sept. 9th.
"	"	110	" Sept. 14th.
"	"	100	" Oct. 10th.

The mean for the year being 90 deg.

The temperature in the shade was

First	60 degrees	on	March 22nd.
"	70	"	May 12th.
"	80	"	June 15th.
Last	80	"	July 21st.
"	70	"	Sept. 8th.
"	60	"	Oct. 7th.

The temperature of the soil at the depth of 1ft. was highest, 68·5 deg. on July 15th, and lowest, 35·8 deg., on December 23rd and 24th. The mean being 50·4 deg.

It was first	50 degrees	on	April 10th.
"	60	"	June 2nd.
" last	60	"	Sept. 18th.
"	50	"	Oct. 18th.

The Anemometer, showing the horizontal force of the wind, recorded 87,538 miles. The most windy day was September 22nd, when it showed 682. The calmest, November 22nd, when the record was only 44 miles.

The wind was	N.	on	57 mornings.
"	"	N.E.	" 44 "
"	"	E.	" 25 "
"	"	S.E.	" 23 "
"	"	S.	" 50 "
"	"	S.W.	" 39 "
"	"	W.	" 71 "
"	"	N.W.	" 51 "

And calm or very variable on 6 mornings.

The total rainfall was 30·07 ins., and the most in one day 1·47 ins. on June 10th. Rain fell on 168 days. There was snow on six days only, four of which were in December. There were 18 fogs, and there was thunder or lightning on 22 days. The mean amount of cloud at 9 a.m. was 6·6; overcasts being represented by 10.

F.G.S.

