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1898.

Gloucestershire County Council,

4TH JULY, 1898.

—o—

ANNUAL REPORT

OF

The Medical Officers of Health

(Reports) Committee,

TOGETHER WITH

ABSTRACTS FROM THE VARIOUS M.O.H. REPORTS,

WITH STATISTICS, &c.,

FOR 1897.

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OFFICE OF THE CLERK TO THE GLOUCESTERSHIRE COUNTY COUNCIL

SHIRE HALL, GLOUCESTER,

20TH JUNE, 1898.

CHANCE AND BLAND, PRINTERS, GLOUCESTER.



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Deanwood House,
Pittville,
Cheltenham.

July 2. 1898

Dear Sir

In compliance with
your request of 24. 2. 98. I
send you a copy of my report
of the health of Gloucestershire.

Yours

Yours faithfully

J. C. Griffiths

Chairman of Sanitary
Committee of
County Council.

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1898.

Gloucestershire County Council,

4TH JULY, 1898.

*REPORT OF THE MEDICAL OFFICERS OF HEALTH
(REPORTS) COMMITTEE OF THE GLOUCESTERSHIRE
COUNTY COUNCIL FOR 1897.*

This Report, presented to the County Council at their July Meeting, deals with the health of the County between January 1st and December 31st, 1897.

The vital statistics of the County will be found tabulated at the end, and an abstract of each Medical Officer of Health's Report.

It is difficult to compare the Returns with those of previous years, for on account of the extension of the Boundaries of the City of Bristol, a large population has now been taken from the County and included in the City.

Births.

The number of births registered in the County was 8,904. The birth-rate was therefore 25·2 per 1,000, as against 23·5 last year, and 29·7 per 1,000 for the whole of England and Wales.

The high birth-rate of Horfield is hardly a fair computation. The report deals only with two months of the year, during which time 7 births occurred—and as the population is estimated at 1,000—the annual rate appears as 42·0.

Deaths.

The number of deaths registered was 5,268, giving a death-rate of 14·6 as compared with 14·1 last year in the County, and 17·4 for the whole of England and Wales.

Infant Mortality.

Under 1 year, per 1,000 born—Gloucestershire 110·6 compared with 105·4 last year.

Notification Act.

Two districts in the County, in spite of the representations of their Medical Officer of Health, decline to adopt the Act—Dursley and Tewkesbury.

It is to be regretted that the Dursley Authority, who are responsible for the health of a district which contains many cloth mills and factories where large numbers of men, women, and children are daily brought together, still refuse to provide their Medical Officer of Health with the means of information of the outbreak of infectious disease.

The result of the policy of the Tewkesbury Rural Authority was exemplified by an outbreak of Diphtheria in Kemerton. It was not until several cases had occurred in the village that the Medical Officer of Health, Mr. Turner, heard of it from an outside source; meanwhile the disease had spread, and resulted in 10 children being attacked, 3 of whom died. On the School being closed and a faulty drain remedied, the outbreak ceased. But had the Medical Officer of Health had early intimation, valuable time would have been saved, and perhaps the children's lives preserved.

Zymotic Diseases.

Deducting Measles and Influenza, of which no reliable information can generally be obtained, 1,908 cases of infectious disease were brought to the

knowledge of the Medical Officers of Health, 294 deaths resulted, giving a Zymotic death-rate of $\cdot 7$. This is extremely favourable when compared with the rate of 2.15 for all England and Wales.

Scarlet Fever.

Scarlet Fever was prevalent in most districts during some portion of the year, especially in Tewkesbury, Cirencester, Gloucester, and Cheltenham.

With the exception of Cheltenham, where ample accommodation at the Delancey Hospital exists, the isolation accommodation proved insufficient, and consequently the infection was very widely spread.

Information derived from notifications discloses the fact that the County is never entirely free from this disease, although the disease is milder in its character than formerly, and fewer deaths result — only $\cdot 19$ per cent. of the 1,239 cases.

Small-pox

One case only occurred in the Pebworth district, which was promptly isolated in the Evesham Hospital, and fortunately recovered.

Diphtheria.

350 cases of this disease were notified, and 64 deaths resulted. This complaint seems to be on the increase throughout the country. Its causation is a matter of some doubt, but generally primary cases have been traced to stopped-up drains and the insanitary surroundings of dwelling houses. Dr. Cox ascribes the spread of it amongst children in schools to sucking pencils and the cleaning of slates with saliva.

School Managers would generally assist were they to see that slate sponges are provided for the children.

A case death-rate of 18·2 per cent. shows that any amount of trouble is well bestowed, if by that means the spread of such a terrible complaint can be prevented.

The paving of yards, the removal of ashes and decaying matter from the neighbourhood of houses, prohibiting the keeping of fowls in back gardens, are all means whereby much may be done to combat this disease in populous places.

The improper cleansing of a school privy vault at Westbury-on-Severn resulted in 23 persons being attacked, and in 7 deaths.

Membranous Croup.	Of this disease 7 cases were notified, and all died.
Continued & Relapsing Fever.	Four cases were notified, with 3 deaths.
Puerperal Fever.	13 cases notified, resulting in 7 deaths.
Erysipelas.	214 cases notified, with 8 deaths.
Measles.	Measles was prevalent in many districts, at Stow-on-the-Wold especially so ; but as this is one of those diseases which are not necessarily notifiable under the Act, it is impossible to say the number of cases. 54 deaths resulted, as against 147 in the year 1896.
Whooping Cough.	101 fatal cases occurred.

Diarrhoea

Of the 7 principal Zymotic diseases, diarrhoea is by far the most fatal. Out of 67,051 deaths in 1897 returned by the Registrar General as resulting from them, no less than 26,857 were due to diarrhoea. But the temperature of Gloucestershire during the month of August was generally low, and so we escaped the wave of mortality from diarrhoea which swept over the greater part of the Southern and Midland Counties. 63 deaths only are reported as due to this cause.

359 deaths are registered against this disease.

Phthisis.

The report of the Royal Commission on Tuberculosis very conclusively shows that a grave danger exists through the spread of consumption by means of milk. And that danger may be avoided in a great measure by the use of the tuberculin test to all cattle used for dairies. Statistics from abroad based upon the examination of some 600,000 head of cattle showed that more than 16 per cent. were tuberculous, whilst in England about 28 per cent. were affected.

It would very considerably reduce the mortality from this cause were the Dairy and Cowsheds Order to contain a clause providing for the periodical testing of all dairy cows with tuberculin and were the Order itself enforced generally within the County.

Typhoid Fever.

24 deaths resulted out of a total of 98 cases notified. This is essentially a preventable disease. Recent epidemics at Kings Lynn, Maidstone, and Clifton have shown what disastrous consequences may attend the neglect of those who are charged with the supply of the food and drink of the people.

The case of the outbreak at Clifton should be an object lesson to all dairy farmers. A brook polluted with sewage passed through a farm where the unboiled water of a well sunk close by the stream was used for washing the cans. Milk from this farm was supplied to 57 houses, and 230 cases of typhoid resulted. It is not to be supposed that dairy-men and women are necessarily experts on water supplies, but a great danger might be avoided were it made the rule that all milk cans should be washed out with boiling water.

The late epidemic at Maidstone shows the danger of a polluted water supply. The Farleigh springs being unprotected were polluted by a camp of hop pickers. The Water Works were the property of a Company, and the Sanitary Authority had no periodical examinations or analysis made of the water. It is not certain that any analysis would have shown that the water was infected. But in fact it was, and not only the reservoir but the whole of the mains delivering the water became contaminated, the result being that no less than 1700 cases of typhoid fever occurred, and infinite damage done to the prosperity of the place. The Local Government Board in a circular directed the attention of all Sanitary Authorities to the responsibility which rests on them for seeing that an adequate supply of pure and wholesome water is always available for the inhabitants of their district. The slightest contamination of a water supply with the dejecta from a single case of enteric fever may be the cause of a widespread epidemic.

Periodical chemical and bacteriological examination of the water supplied should be insisted upon by all Sanitary Authorities. Care should be taken that all spring heads supplying any public reservoir or farm supply should be efficiently guarded by means of barbed wire; that all streams from which supplies are drawn, where passing roads or places subject to pollution from wayfarers, are piped or covered; and that efficient filtering beds are provided in the case of all waters except those derived from deep springs.

This last is the great protection. The organisms which propagate disease are infinitely small, and their number and power of multiplication is enormous; yet they have enemies arrayed against them vastly more numerous and powerful than themselves; and fortunately for us this war between microbes of one class and those of another is always going on. Moreover, sunlight, ordinary daylight, and fresh air are deadly foes to those germs whose baleful influence we fear, but the greatest protection against them is slow careful filtration through sand, copying by an artificial method the natural one of earth filtration which gives protection to the waters of deep wells and springs.

We now know that these beds are the field of the most active warfare between the beneficent and the baneful microbes contained in surface water, and the result is to deprive the water almost completely of microbes of every sort. Professor Franklyn's researches in relation to the Thames water supply in London show that through the action of the filter beds over 98 per cent. of microbe life is entirely removed.

As akin to this question, and with a view to ridding our streams and water-courses of sewage pollution, the problem of sewage disposal has occupied the attention of many Sanitary Authorities during the year.

Two processes which seem to commend themselves to sanitarians are to be immediately investigated by a Royal Commission, and it is to be hoped that their verdict may not be long delayed—as pending their Report, schemes for dealing with important districts are very generally being suspended.

It is claimed that the resultant effluents obtained by both processes are clear and free from anything unpleasant, and that they are both far more economical than existing methods.

The Local Government Board are so far satisfied with that now in use at Exeter that after some months of consideration they have sanctioned a loan of £40,000 for its extension.

The processes may be described as the aërobic and the anaërobic.

The first, as in use at Barking, Leeds, and other places, has been introduced by Mr. Dibdin, Chemist to the London County Council, and consists in passing the sewage through filters, composed of coke breeze, 3 feet deep, and 3 inches of gravel, at the rate of 206 gallons per square yard per day. The process is to fill the filter to just level with the surface; 2 hours—to allow it to remain

standing full ; 1 hour—the emptying and remaining empty occupying 5 hours. Thus the whole process may be completed and repeated 3 times in the 24 hours to the full extent of every filter.

The process invented by Mr. Cameron, at Exeter, is of a two-fold character. The sewage is first passed into an air-tight concrete tank capable of containing a twenty-four hours' flow. The sewage remains that length of time exposed to the action of certain bacteria, which require neither oxygen nor light. The micro-organisms present in the sewage enjoy the conditions most favourable to their increase; they develop rapidly, and feed on the solid matter in the sewage, breaking it up and converting it into comparatively harmless compounds. All solids are attacked, and everything which is capable of being dissolved is thrown into solution.

This effluent is then, by an automatic apparatus, run into bacterial filter-beds similar to those used in the Dibdin process. An analysis of the resultant effluent shows that it contains nearly five times less of organic nitrogen than the .03 parts per 100,000, the amount suggested by the Rivers Pollution Commission as being permissible for discharge into any stream.

Bronchitis,
Pneumonia, and
Pleurisy.

781 deaths are attributed to these diseases. Of the 5,268 registered deaths in the year, 1,140 are due to chest complaints.

Cancer.

The Medical Officers of Health were requested to show separately the deaths from Cancer, with a

view to discovering whether certain localities, on account of soil or situation, were more favourable than others to the development of this disease, and whether by the comparison of one year with another it could be traced to any influence of climate or be affected by any amelioration of sanitary conditions.

The results so far of the 237 cases registered show that the disease occurs in the ratio of $\cdot 6$ per 1,000 generally throughout the County, and in the ratio of 1.17 per 1,000 to the combined populations of Stroud Urban and Rural, Cheltenham and Cirencester. The death rate from Cancer is 44.9 per 1,000 of the total deaths in the County. The City of Gloucester is not included in the above figures.

Isolation Hospitals.

In this direction much good work has been accomplished. The Small-pox outbreak at Gloucester in 1896 brought vividly home to Sanitary Authorities the urgent necessity of some provision being made for the isolation of Infectious Disease. Several hospitals which were then established for the reception of Small-pox have now been adapted for the reception of General Diseases, to the great advantage of the locality.

A model hospital of the sort has been erected in the Tewkesbury Rural District. The addition of a Diphtheric block to the Cheltenham Delancey Hospital renders it now complete for the service of that great Educational Centre; and the proposed new infectious hospital for the City of Gloucester at Over, within the Rural District, promises to be one of the most efficient hospitals of the kind in the kingdom.

It is to be hoped that the County Council will use all its influence to support the contention of the Gloucester Rural District Council, that accommodation should be provided sufficient not only for the needs of the City, but for that of the suburbs and the surrounding parishes.

Complaints.

The attention of the Local Government Board should be directed to the continued insanitary condition of the town of Painswick. In spite of the repeated protests of the Medical Officer of Health, no steps appear to have been taken to institute a system of scavenging—to replace the existing foul and insufficient stone sewers by sanitary pipes, or to provide a supply of wholesome water.

The difficulties as to the supply of water at Painswick, in spite of the efforts of the Local Authority, and of the chief inhabitants, still continue, and until this difficulty is surmounted any amendment of the drainage system is rendered nugatory.

A foul ditch in the parish of Haresfield has been repeatedly complained of, but nothing appears to have been done.

In the town of Dursley a system of sewerage appears to be badly needed, and the discharge of the sewer into the Broadwell stream, within the town itself, ought no longer to be permitted to continue.

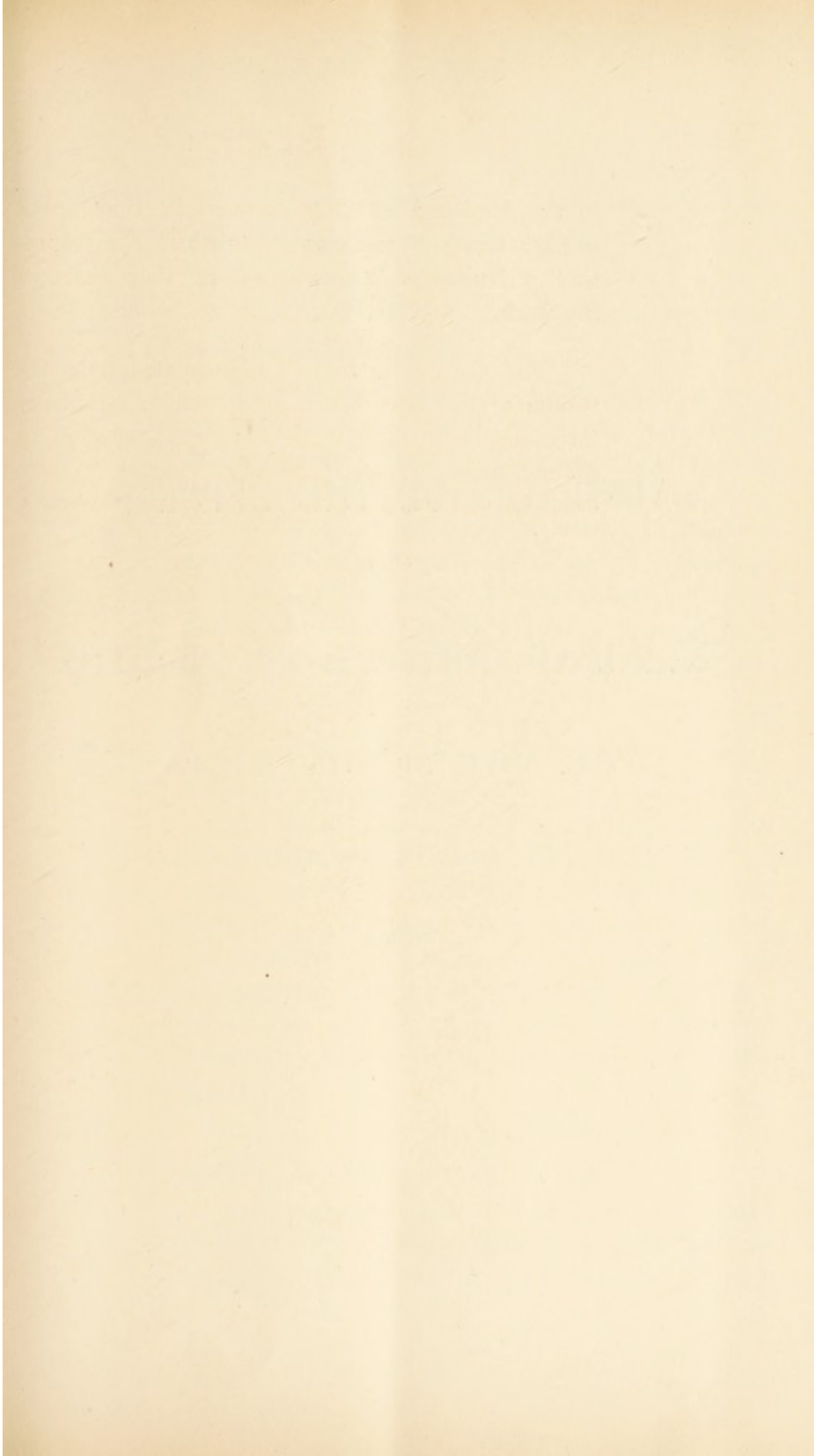
Generally throughout the County the Medical Officers of Health seem to be prompt and energetic

in the discharge of their duties, and they speak in high terms of the manner in which the Inspectors of Nuisances have carried out their share of the work.

The County is to be congratulated upon the results of the year, which show that a generally increasing appreciation of Sanitation is gaining ground amongst not only the members of the Councils, but also the inhabitants of the Districts.

J. C. GRIFFITH,

Chairman of the Committee.



ABSTRACTS OF THE REPORTS
OF THE
Medical Officers of Health
OF THE 39 DISTRICTS
OF GLOUCESTERSHIRE.

1897

The Population of each District and the Birth and Death Rates will be found in the Table at the end of Report.

WEST DEAN.
RURAL.

M.O.H.—DR. MALCOLM POIGNAND.

Isolation Hospital—None.

The health of this large and scattered district has been fairly maintained during the year. The M.O.H. strongly advises the protection of all springs and sources of water supply from pollution by means of fencing; and the more regular and frequent cleaning out of privies and cesspits. The erection of new houses should only be permitted where all details of water supply and sewage disposal have been properly planned and submitted to the R. D. Council.

COLEFORD.
URBAN.

M.O.H.—DR. P. BUCHANAN.

Isolation Hospital—None.

An increase in the mortality returns is due to a larger number of deaths having taken place in infancy and early childhood. Measles was prevalent, and the schools were consequently closed. Considerable improvement has been made in the drainage and water supply of the town. The inhabitants show an increasing regard for sanitation. Systematic house-to-house inspections are made monthly.

LYDNEY.
RURAL.

M.O.H.—DR. BOND.

Isolation Hospital—General Diseases.

Although the public enquiry by the Local Government Board Inspector was held so far back as May, 1894, the scheme for the sewerage of Lydney

has not yet been commenced. Water supply schemes for Lydney, Alvington, and Woolaston are under consideration. Building bye-laws have also been drafted. The whole of these matters—of urgent importance to the health of the district—are in abeyance through the dilatory action of the Local Government Board. The Hospital which was provided at Alvington in 1896 for the reception of Small-pox has proved useful for the isolation of other diseases. A caretaker, who is also available for the purposes of nursing, resides on the premises.

EAST DEAN.
RURAL.

M.O.H.—DR. BOND.

Isolation Hospital for General Diseases.

Although the return shows a diminution in Measles, Whooping Cough, and Scarlet Fever, the development of Diphtheria—60 cases principally in Cinderford, Littledean, and Minsterworth; resulting in 14 deaths—is much to be regretted. The Hospital at Green Bottom, erected in 1896, has now been adapted for the reception of General Diseases, and the Soudley Hospital closed.

AWRE.
URBAN.

M.O.H.—DR. BOND.

Isolation Hospital—None.

No incident, except the occurrence of a single case of Scarlet Fever, has interfered with the salubrity of this district.

NEWNHAM.
URBAN.

M.O.H.—DR. BOND.

Isolation Hospital—None.

The birth and death rates have been exceptionally low. The Sanitary condition is satisfactory. Steps have been taken to protect the sources of the water supply from any possible pollution.

WESTBURY-ON-
SEVERN.
URBAN.

M.O.H.—DR. BOND.

Isolation Hospital—None.

An outbreak of Diphtheria, traced to the improper emptying of the School privies, resulted in 23 persons being attacked, and 7 deaths. Very unwisely the Sunday Schools, both Church and Non-conformist, were kept open for some time after the Day Schools were closed, and to this fact is in some degree to be attributed the persistence of the infection. The drainage of the main street of Westbury has been under consideration, but nothing as yet has been done.

NEWENT.
RURAL.

M.O.H.—DR. W. M. MARSHALL.

Isolation Hospital for Small-Pox and General Diseases.

Newent for a period of 20 years has enjoyed complete immunity from Typhoid Fever with the exception of two cases, one imported, and one resulting from a polluted well, which was promptly remedied.

A serious outbreak of Diphtheria occurred at Ryton, spreading from house to house, and proved fatal in the majority of cases, principally due to the want of intelligent nursing. Since then a small but efficient Isolation Hospital has been established in the Parish of Oxenhall, under the charge of Dr. Smelt.

The water supplies throughout the district are satisfactory.

TEWKESBURY.
URBAN

M.O.H.—DR. ALLARD.

Isolation Hospital—For General Diseases.

A serious epidemic of Scarlet Fever has occurred, commencing on August 23rd and continuing during the remainder of the year. The accommodation at the Isolation Hospital proved inadequate—many cases had to be treated at their own homes, thus conducing to the spread of the infection. In spite of 5 deaths from this cause the death-rate of the Borough shows a diminution of 1.58 as compared with last year.

TEWKESBURY
RURAL.

M.O.H.—DR. A. F. TURNER.

No Report received.

PEBWORTH.
RURAL.

M.O.H.—DR. HARRISON GILPIN.

Isolation Hospital—General Diseases.

A single case of Small-pox occurred in Childswickham, which was promptly removed to the Sanatorium at Evesham. The whole of the 10 villages of the district are now amply supplied with tap-water of undoubted quality.

WINCHCOMB.
RURAL.

M.O.H.—DR. COX.

Isolation Hospital—General Diseases.

Scarlet Fever has extensively prevailed at Winchcomb, but on the opening of the Isolation Hospital, and the closing of the schools, gradually subsided. Dr. Cox attributes the spread of Diphtheria in Gretton, 13, and Stanley Pontlarge, 2, to the contact of children at school, and to their habit of cleaning their slates with saliva, and sucking their pencils.

The Gretton water-supply scheme is completed.

NORTHLEACH,
RURAL.

M.O.H.—DR. RYAN MACMAHON.

Isolation Hospital—None.

Scarlatina was prevalent at Bibury, and 7 cases of Diphtheria occurred. The Medical Officer of Health reports that all his efforts were in vain in Bibury. All instructions and advice were ignored, and isolation utterly impracticable. The much-needed Isolation Hospital is in process of erection.

STOW-ON-THE-WOLD
RURAL.

M.O.H.—DR. DENING.

Isolation Hospital—None.

The year opened with a severe outbreak of Measles. The severe weather in February consequently caused a great number of Bronchial cases amongst the young, and very old people. With this exception, the health of the district has been generally well maintained, the Death-rate standing at 13·3 against 17·9 in 1896. The water supply has been frequently tested and found satisfactory.

BOURTON SUB-
DISTRICT.
RURAL.

M.O.H.—DR. CORSER.

Isolation Hospital—None.

An Isolation Hospital and a Steam Disinfecting Apparatus would prevent in a great measure the spread of infectious diseases in this district.

The drainage of Church Westcote has been re-laid. An extension of the water supply to the middle of the village is very desirable. The water-supply to Bourton is *in statu quo*.

Public feeling is now coming round to the opinion that a water supply with sufficient pressure to reach the w.c.'s upstairs is a real necessity.

STOW-ON-THE-WOLD
 UBAN.

M.O.H.—DR. DENING.

Isolation Hospital—None.

With the exception of a serious epidemic of Measles at the beginning of the year, the general health of the town has been very good. Influenza has been entirely absent.

The water supply has during the year been found pure and abundant.

In proof of the salubrity of Stow-on-the-Wold, old age and pulmonary diseases are shown to be invariably the principal causes of death.

In a record of 10 years a solitary case of Typhoid sums up the total number of deaths from the 8 principal Zymotic diseases.

CAMPDEN.
 RURAL.

M.O.H.—DR. G. FINDLAY.

Isolation Hospital—General Diseases.

As a whole the district continues to be in a fairly healthy condition.

The Local Government Board Inspector has reported that a new scheme of water supply and drainage is necessary for Moreton.

The Council have engaged an Engineer, who has prepared plans, and the matter is receiving attention.

The water supplies in the district have all been specially examined. Negotiations are taking place regarding the purchase of a spring for the supply of Moreton-in-Marsh by gravitation.

MARSTON SICCA.
RURAL.

M.O.H.—DR. THOMPSON.

Isolation Hospital—General Diseases.

The infantile mortality is Nil. Out of a total of 38 births no deaths occurred under 1 year.

The district has been remarkably free from infectious disease. The water supply of Long Marston is in an unfortunate position. To allow the present condition of affairs to continue any longer is out of the question. The inclusion of the place in the Villages Water Scheme is the only solution of the difficulty. The condition of many of the cottages is unsatisfactory and demands a remedy.

FARINGDON,
RURAL.

M.O.H.—DR. F. E. STREETER.

Isolation Hospital—Tents.

Lechlade is the only Gloucestershire Parish in this district. The Parish Schools were closed there on account of the prevalence of Whooping Cough. An Equifex Spray Apparatus has been purchased, and has proved useful for disinfecting.

The adoption of Urban Powers and Bye-laws is strongly recommended for the more populous parishes.

CIRENCESTER,
URBAN.

M.O.H.—DR. BOND.

Isolation Hospital—Small-pox and General Diseases.

Zymotic diseases have been prevalent. 203 cases of Scarlet Fever, of a mild type, were notified, and only 87 of the total number were removed to the Hospital. An entertainment which brought a

large number of children together gave a great impetus to the spread of the epidemic. The Hospital accommodation was supplemented by the erection of a tent capable of holding 12 beds. But this was insufficient, and many cases were of necessity treated in their own homes. A difficulty arose between the Urban and Rural Authorities as to their relative financial shares in the maintenance of the Hospital. An agreement was finally come to, that the cost of administration shall be shared between them in proportion to the stay in the Hospital of the cases admitted from each district respectively.

The Hospital itself is no longer up to the standard of efficiency which public opinion demands.

Dr. Bond strongly advises that either very considerable additions be made to the existing building, or an entirely new hospital on another site be erected. He bears testimony to the valued services of Mrs. Newell, the Matron.

The over-charging of the sewers by storm water is pointed out as a source of danger to the neighbouring wells, and renders a public water supply the only safe one.

The District Council have acquired the works of the Cirencester Water Company at a cost of £16,000, and also the Swimming Bath.

The number of plans for new houses approved during the year is evidence of the progress which Cirencester is making as a residential town.

Altogether the work done has been eminently satisfactory, and is quite on a level with that of previous years.

CIRENCESTER.
RURAL.

M.O.H.—DR. BOND.

Isolation Hospital—Small-pox and General Diseases.

The Zymotic deaths have been more numerous than usual in consequence of the prevalence of Scarlet Fever, Measles, and Whooping Cough. An outbreak of Diphtheria occurred in the villages of Driffield and Harnhill, involving 11 cases, but no death resulted. In several cases the use of serum was employed with apparent advantage. The water supply to the village of Coates is still undecided, the Local Government Board's requirements not having been satisfied.

TETBURY.
RURAL.

M.O.H.—DR. BOND.

Isolation Hospital—None.

The improvement in the water supply to the village of Avening is still unaccomplished owing to local difficulties, but there is a prospect of its being shortly carried out.

The general condition of the district is satisfactory.

TETBURY
URBAN.

M.O.H.—DR. BOND.

Isolation Hospital—None.

Building enterprise is at a standstill, and yet there is a demand for houses in Tetbury. The sanitary condition of some of them is deplorable; they are barely tolerable as places of human habitation.

The water supply up to the present has proved sufficient, and an extension of the town sewers is under consideration.

NAILSWORTH.
URBAN.

M.O.H.—DR. PARTRIDGE.

Isolation Hospital—Small-pox only.

The drainage and water supply have received the special attention of the Council.

The Council have declined to join the other districts in a joint drainage scheme, considering that they can provide for their own district effectively and at a less expense. The health of the district is satisfactory.

STROUD.
URBAN.

M.O.H.—DR. PARTRIDGE.

Isolation Hospital—Small-pox only.

The condition of the town is satisfactory. The cases of infectious disease have been few, and nothing of special interest has occurred. Water supplies have been under observation, dairies and bakehouses visited, and all defects remedied.

STROUD.
RURAL.

M.O.H.—DR. PARTRIDGE.

Isolation Hospital—Small-pox only.

The death rate (14·6) is in excess of that of last year (12·3). The infant mortality remains practically the same, but a larger number of deaths took place amongst old people. 12 of the total number were upwards of 90 years of age.

Attention is drawn to the continued insanitary condition of some parts of the district. Painswick

is still in a very bad state. It has no proper system of sewerage, and the water in most of the wells is polluted by organic matter. In the opinion of the M.O.H., there should be no delay in providing the inhabitants of this town with a sufficient supply of wholesome water for domestic purposes, and in putting the place in a good sanitary condition.

FRAMPTON
SUB-DISTRICT.
RURAL.

M.O.H.—DR. WELLER.

Isolation Hospital—Small-pox only.

Very few cases of infectious disease are reported. The death rate, though higher than last year, is lower than any other year since 1890.

Various improvements have been carried out at Eastington Workhouse and at Frampton. The plan for an improved water supply to Longney, though approved by the District Council, has not yet been proceeded with.

Pig-keeping at the Bell Inn, Frampton, which was complained of last year, continues to be a nuisance. The District Council should have it abated.

HARESFIELD
SUB-DISTRICT.
RURAL.

M.O.H.—DR. G. B. WATTERS.

Isolation Hospital—Small-pox only.

A considerable increase in notifications of infectious cases occurred in the last quarter of the year—34 of Scarlet Fever and 7 of Diphtheria. The infection spread from Gloucester. The schools were closed for a time, with excellent results.

Whooping Cough and Measles were also prevalent. The Dairy Farms in the district have all been inspected. The sanitary condition of Frocester has much improved, and the water supply seen to. The M.O.H. has repeatedly called attention to the condition of a foul ditch at Haresfield Village, which receives house drains and contains a quantity of offensive sewage. No steps have been taken to remedy this serious nuisance.

A similar neglect is reported at Crockham Pill, in Standish Parish, where 4 cottages are unprovided with a proper water supply.

A considerable number of nuisances have been abated, and sanitary improvements effected, in the district, which may be considered in a fairly satisfactory condition.

CHELTHENHAM.
URBAN.

M.O.H.—DR. GARRETT.

Isolation Hospital—Small-Pox and General Diseases.

The death-rate, 15·8, as compared with 16·8 last year, points to improved Sanitary conditions and a more widely disposed knowledge of the habits and conditions that are inimical to health. The number of cases of Scarlet Fever have been somewhat in excess of the average of previous years. The prompt manner in which these cases were isolated and treated in the Delancey Hospital is a credit to all concerned—only 1 death ensued. Diphtheria, now so prevalent throughout the entire country, was notified in 43 cases, and resulted in 6 deaths. The small incidence of Typhoid Fever, 20 cases in all, speaks favourably for the general Sanitary condition of Cheltenham.

Valuable work has been done in the way of systematic inspection of houses and premises connected in any way with the preparation or sale of any articles of food.

Residents in increasing numbers are availing themselves of the services of the Staff of the Health Department, and having their houses examined for the Corporation Sanitary Certificate.

The Trustees of the Delancey Hospital have opened a separate block for the reception and treatment of Diphtheria. It now forms one of the most perfect Isolation Hospitals in the Kingdom, and the fact that but one death has occurred in it out of 451 admissions, speaks volumes for the suitability of the Hospital to its purpose, and the care and attention of the Medical Superintendent, Mr. E. Cocks Johnson; The Matron, Sister Isabel; and the Nursing Staff.

The water supply, now supplemented when needful from Tewkesbury, has been ample in quantity and excellent in quality.

Additional works are in contemplation to meet increasing demands, and every care is taken to safeguard the gathering grounds and sources of supply from every chance of pollution.

CHEL TENHAM
RURAL.

M.O.H.—DR. J. F. JOHNS.

Isolation Hospital—Small-Pox and General Diseases.

An unusually low death-rate and comparative freedom from infectious disease are subjects of congratulation.

Much good work has been done in the different villages of this scattered District, but much still remains to be accomplished. Sewerage works and water supplies await the action of those responsible.

CHARLTON KINGS.
URBAN.

M.O.H.—DR. H. BANSALL TODD.

Isolation Hospital—Small-pox and General Diseases.

The general health of the District has been good. There has been a remarkable absence of infectious disease, only 3 cases, 2 of Scarlatina and 1 of Enteric Fever being notified. Attention is called to the prevalence of Phthisis in the District; 10 deaths have taken place out of a total mortality of 52.

GLOUCESTER.
RURAL.

M.O.H.—DR. BOND.

Isolation Hospital—None.

The death-rate and Zymotic mortality have been exceptionally low. Although Scarlet Fever has been prevalent the type has been mild.

The action of the City Corporation in establishing an Isolation Hospital at Over, in the Rural District, without a satisfactory arrangement for the joint use of it, is discussed. The Rural Council have consequently made application to the Local Government Board to oppose the loan. Terms of mutual accommodation might easily be arranged, and the Hospital, when built, be on a scale sufficient for the needs both of the City of Gloucester and the immediately surrounding parishes. Large schemes of Sewerage have been proceeded with

during the year. The much-vexed question of a ditch becoming a common sewer by allowing houses, the property of more than one owner, to drain into it, has arisen at Hempstead. The opinion of Counsel was that the ditch trench became a common sewer vested in the Authority. Moral: Let Sanitary Authorities be on the alert to see that houses drain each into its own cesspool, or into a properly constructed sewer.

It is to be hoped that before long the mains of the City Authority may be extended to the South-end District. The source of the present supply is open to danger, which is not minimised by the nature of the arrangements made for pumping it.

At Upton St. Leonards the need for an improvement of the existing water supply has been increasingly felt.

DURSLEY,
RURAL.

M.O.H.—DR. JOYNES.

Isolation Hospital—General Diseases.

Much attention has been given to the water supply and careful examination of all sources made, but though various schemes have been suggested for supplying Dursley, all are in abeyance as yet. The discharge of the sewers into the Broadwell stream within the town itself is very unsatisfactory. The sewers are very defective.

This district is one of the two in the County which refuses to adopt the Notification of Diseases Act.

THORNBURY.
RURAL.

M.O.H.—DR. BOND.

Isolation Hospital—None.

A marked improvement in the number of infectious cases during the year. But during the year no less than 11 deaths were certified as being due to influenza.

Dr. Bond suggests that if the millions of gallons of water now being pumped to waste at the Monmouthshire end of the Severn Tunnel could be conveyed across, they would provide an ample supply, and compensate for the draining of the wells which formerly supplied the District.

CHIPPING SODBURY
RURAL.

M.O.H.—DR. BOND.

Isolation Hospital—General Diseases.

Attention is called to the action of the Great Western Railway Company in bringing large numbers of navvies into the district and building huts for their accommodation, without contributing anything to the cost of meeting the risks to the health of the district it thus creates.

The sewage works at Wickwar are so far completed as to cut off the refuse of the Breweries from the brook.

The West Gloucestershire Water Company's mains have been extended to Chipping Sodbury, but a proper system of sewerage is becoming a necessity to the town.

Isolation Hospital—General Diseases.

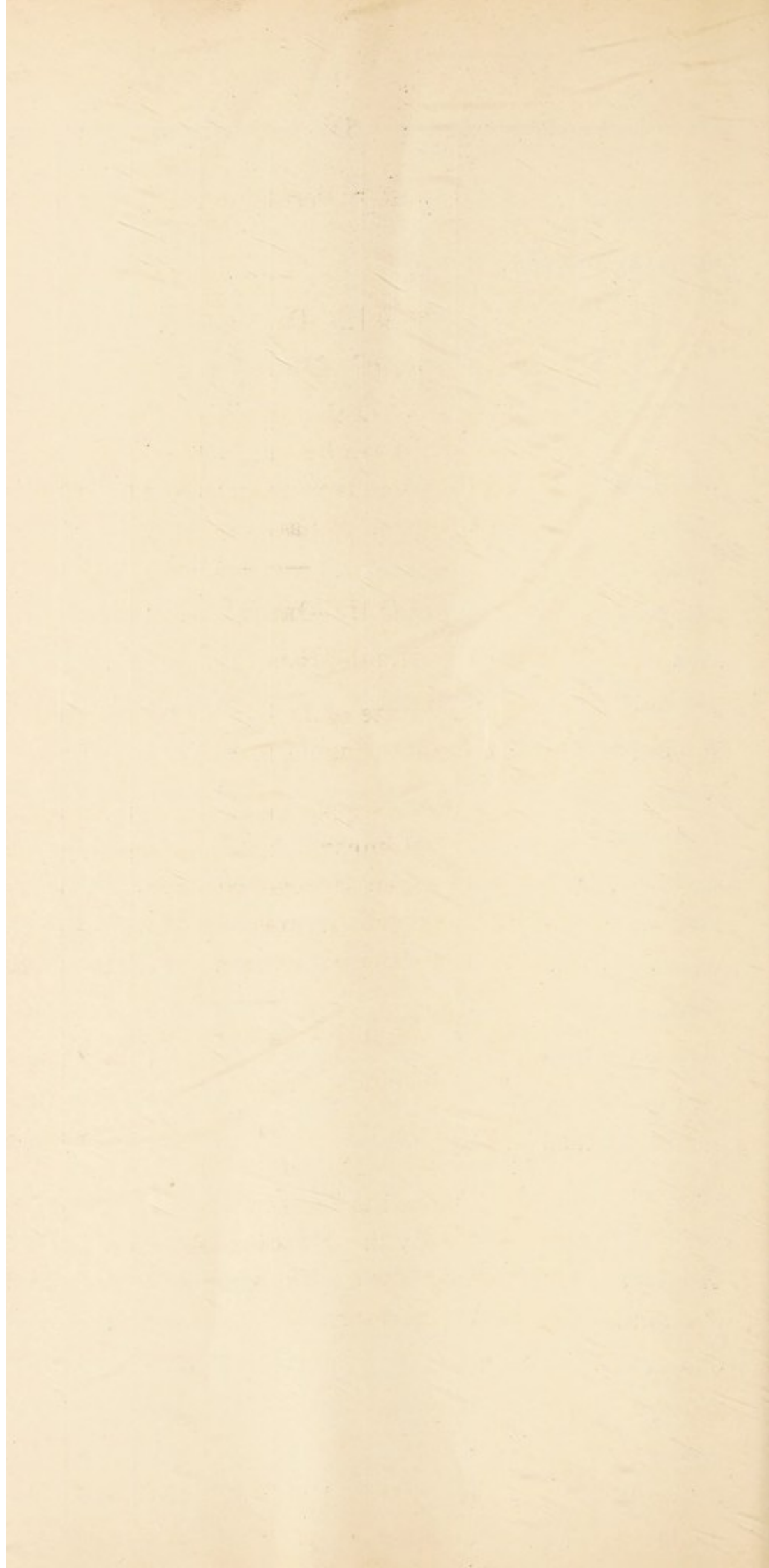
The West Gloucestershire Water Company supplies the greater portion of this district, and every effort has been made to extend the mains, so that each house may have a sufficient supply within a reasonable distance.

The Sewerage Works at Mangotsfield are completed, but a system of scavenging is needed.

A noteworthy feature is the method of construction, whereby complete purification works are erected upon a limited area of ground that formerly would have been considered impossible for the purpose. After passing the detritus and screening chambers, the sewage, of a strong domestic character, with some manufacturers' and slaughterhouse refuse, is treated with ferozone, from 2 to 3 grains per gallon being found sufficient; it then flows through horizontal inlet pipes to 15-inch vertical tubes in the centre of the Candy circular upward flow precipitation tanks, and falls within 2 feet of the bottom, on to spreading plates. There is an outer cylinder 5 feet in diameter, reaching from about 6 inches above water level to 6 inches below the spreading plates; by this means further contact with the ferozone is given, and at the same time the precipitated solids overlying the bottom of the tank are not disturbed by the incoming sewage; a large volume is thus enabled to be rapidly dealt with, a continuous flow is maintained, and the effluent delivered without loss of level, a matter of great importance where the fall is limited. The

tanks, two in number, are capable of dealing with a flow of one million gallons daily, and are fitted with Candy's patent automatic sludge removal apparatus; each tank is 24 feet in diameter, with 15 feet 6 inches depth of sewage, the total area occupied by them being about 64 square yards. After leaving the tanks the effluent passes through clarifiers, of which there are five, each 7 feet in diameter, by 8 feet high. The space occupied by these clarifiers (which are capable of dealing with a similar volume of sewage as the tanks) is about 63 square yards. The effluent from the clarifiers runs on to concentrated polarite filters, which can deal with 1,500 to 2,000 gallons per square yard per twenty-four hours. The superficial area of the polarite filters is about 480 square yards, so that the modern and successful purification installation for purifying one million gallons per day is contained within a total area of about one-sixth of an acre. A remarkably pure effluent is obtained, far above the ideal standard recommended by Sir Edward Frankland, of the late Royal Commission. Much satisfaction is felt because the sewerage and sewage disposal scheme, which includes eighteen miles of sewers, has been ably carried out under Mr. Le Maitre, C.E., of Staple Hill, Bristol.

Although 70 cases of Scarlet Fever and 6 of Diphtheria were notified, the Isolation Hospital, on account of its distance from the centre of the population and its inaccessibility, has never once been made use of. The disinfectant has only once been used, and no proper conveyance is provided for infected clothing or bedding.



The Infantile Mortality is 162,—the highest in the County.

HORFIELD.
URBAN.

M.O.H.—DR. A. W. PEAKE.

Isolation Hospital—None.

The report deals only with the district for the months of November and December only. The vital statistics and rates are calculated for the year in the proportion of that period.

KINGSWOOD.
URBAN.

M.O.H.—DR. C. J. PERRETT.

Isolation Hospital—None.

A death-rate of 11·5 per 1,000 is extremely low for a manufacturing district.

The water supply has been ample and satisfactory. Several important main extensions have been made, and a new storage reservoir, capable of holding 3,000,000 gallons, erected. The sewerage scheme, although sanctioned, has not yet been commenced.

BARTON REGIS.
RURAL.

M.O.H.—DR. E. CROSSMAN.

Isolation Hospital—None.

The necessity for an Isolation Hospital is a very real one. The influx of a navy population makes it more than ever desirable. The charge to the district by the Bristol Authorities is 3 guineas per week per case. The whole of the district is well supplied with water.

