

[Report of the Medical Officer of Health for Lewisham].

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PRESENTED TO BOARD

7 JULY 1876

THE REPORT

BY THE

BOARD OF WORKS

FOR

THE LEWISHAM DISTRICT

FOR THE YEAR

1874-5.

PUBLISHED BY ORDER.

Printed by

W. H. CROCKFORD, JUN., LEWISHAM, AND BLACKHEATH ROAD.

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REPORT.

In the Report for the last year the circumstances which rendered it necessary for the Board to provide New Offices, and the preliminary steps taken with that object, were stated.

Tenders for the erection of the Building were invited from a number of leading London Builders, and on the 7th May, 1874, eight tenders were submitted to the Board, as under, and that of Messrs. Hill, Higgs, and Hill accepted.

	£	s.	d.
Messrs. Holland and Hammer	11,922	0	0
Mr. William Tongue	11,400	0	0
Messrs. Dove Brothers	10,985	0	0
Mr. Geo. Samuel Pritchard	10,845	0	0
Mr. Thomas Elkington	10,833	0	0
Messrs. William Downes and Co.	10,290	0	0
Messrs. Thos. Rider and Son	10,220	0	0
Messrs. Hill, Higgs, and Hill	9,784	0	0

The Contract for the Building was signed on the 21st May, 1874, and the work commenced a few days afterwards, the Foundation Stone being laid on the 27th July, bearing the following inscription :—

“ This stone was laid on the 27th day of July, 1874, by JAMES BROOKER, Esq., of Brockley Park, a Member of the Board of Works for the Lewisham District from its formation in 1856, and Chairman of its Meetings.”

The cost of the Building, including the land purchased for its erection, was estimated at £11,000, which sum the Metropolitan Board of Works agreed to lend at interest at £3 18s. 6d. per cent., repayable by equal annual instalments within 55 years, subject to the necessary sanction of the Treasury. The Treasury was, however, advised that the purchase of land was not a purpose contemplated by the Metropolitan Board of Works (Loans) Act, 1871, and their sanction was in consequence limited to the loan of £9,900, the

estimated cost of the Building, which sum was accordingly advanced by the Metropolitan Board on the terms above mentioned.

The sum of £1,100, the balance of the £11,000, was advanced (with the sanction of the Metropolitan Board of Works) by the Provident Clerks' Mutual Life Assurance Association, at £4 15s. per cent., repayable by equal annual instalments extending over 30 years.

The Building is rapidly approaching completion, and, although no unforeseen difficulties have been encountered, it is not improbable that the total cost will fall little short of £12,000. If this sum be not exceeded, and the remainder be borrowed on the same terms and conditions as the £1,100, the total principal money will be repaid by annual sums of £250 for the next 30 years, and of £180 for the 25 years then next ensuing, and the interest payable will at the outset be £488, but this sum will of course diminish year by year, as the principal is paid off.

So rapid has been the increase in wealth and importance of the Lewisham District within the last few years, that, assuming the estimates to prove correct, the annual payments will only involve a yearly charge to each ratepayer of something less than $\frac{1}{2}$ d. in the £ on the value of his rated property; thus a parishioner paying rates on £100 rateable value will only be called upon to pay 3s. as his annual contribution towards the new Building, and so in proportion; and to the great majority of the inhabitants, who are rated at £20 and under, the charge in respect of the building will be less than 9d. a year.

The Board therefore submit that the erection of so noble a building in the midst of this District, admirably adapted for various public purposes and involving so trifling a sacrifice on the part of the inhabitants, is a subject for unqualified congratulation.

SEWERAGE AND DRAINAGE.

Reference was made in the Board's last Report to the sum receivable under the Beckenham Sewerage Act, 1873, and to

the cost of reconstructing the Penge and Bell Green Sewer. The sum receivable was £1692 5s. 2d., exclusively of the cost of obtaining the Act (which was also paid by Beckenham), and of the permanent annual payment of $\frac{1}{2}$ d. in the £ on the rateable value of the Beckenham Sewerage Area; and the cost of reconstructing the Penge and Bell Green Sewer was £2,120 11s. 7d. The equitable apportionment of these sums between Lewisham and Penge, having regard to all circumstances was a question of considerable difficulty, but it was accomplished to the satisfaction of both Parishes; and the co-operation stated to have auspiciously begun between the Bromley Guardians, as the Rural Sanitary Authority for Beckenham, and this Board, has continued to give effect to the Act. During the year, the sewer, which will probably prove the most important work to be constructed under the Act for many years to come, was commenced, viz., a brick sewer, 3ft. by 2ft. and 2430ft. in length, estimated to cost £900, connecting the sewer on the Birkbeck Estate in Beckenham with the Penge and Bell Green Sewer of this Board, at a point near the road leading from Kent House Lane to the New Beckenham Station of the Mid Kent Railway.

This work forms the trunk sewer for the Beckenham Sewerage Area; and will not only relieve Penge from nuisances, to which it has long been subjected from the adjoining Parish of Beckenham, but will also be available for the drainage of a small part of the Hamlet itself.

In addition to the above, a number of minor sewers and surface water conduits and drains have been projected by Mr. Williams, on behalf of the Guardians and this Board, as works to be carried out at their joint expense. These are still under consideration by the two Boards, and their object and details are fully stated in Mr. Williams' report, appended hereto.

A Bill was introduced into Parliament for this Session, (1874-5), for forming a Drainage District, to be called the West Kent Drainage District, under which a joint Sewerage

Board should be constituted, consisting of representatives of the Metropolitan Board of Works, the Lewisham and Plumstead District Boards respectively, and the authorities representing the Parishes of Beckenham, Hayes, Bromley, Mottingham, Orpington, the Crays, Bexley, East Wickham, Welling, Crayford, Erith, Dartford, &c.; a considerable portion of the Parish of Lewisham towards the south-east, and probably including Southend, was intended to be comprised in the District, and one of two main sewers to be constructed was to pass through this part of the Parish. The Bill, in a materially altered form, passed into law; but the proceedings of the Board in reference to it will form matter for a future report.

The Sewerage works constructed exclusively for the District during the year have been of an unimportant character, and are specified in the annexed Report of the Surveyor of the Board.

Some attention has, however, been paid to the ventilation of existing sewers, 57 Sewer ventilators having been constructed in various parts of the District, and the subject is still under the consideration of the Board.

HIGHWAYS.

The improved condition of the Roads throughout the District, during the past few years, has been fully maintained during the last year, notwithstanding that a considerable reduction has been made in the quantity of material used.

The following is a repetition of the Table given in the Board's last Report, showing the various kinds of material used during the three years ended Lady-day last.

MATERIAL.	Quantity in cubic yards.		
	1872-3.	1873-4.	1874-5.
Granite	1,523	2,802	1,696
Bombay, China, Port Philip, and other hard stone.....	1,055	414	160
Land picked and other flints	4,554	7,039	4,691
Croydon and other gravel	4,191	3,427	3,128
Other material .....	.....	713	194
Total	11,323	14,395	9,869

From this Table it will be seen, that although the quantity of material used in the last year is very much less than in the year 1873-4, it is not much below the average for the three years ending Lady-day, 1875, and perhaps any reduction below such average ought not to be expected. Considerable as were the permanent improvements effected in the roads and footpaths in the year ending Lady-day, 1874, there has, taking one class of work with another, been but little abatement during the past year. In Lewisham, 5522 lineal yards of granite kerbing and channelling have been laid, against 7348 lineal yards in the previous year, while 17,321 superficial square yards of asphalte and tarpaving have been laid, against 15,446 superficial square yards in the previous year; the bulk of the works in the last year being in asphalte, instead of in the cheaper tarpaving, as in the previous year.

In Penge, the quantity of work of each class executed during the past year, has been considerably less than in the previous year.

The total quantity of each class of work in each Parish of the District is shown in the following Table, and some further details are given in the Surveyor's Report annexed.

PARISH OF LEWISHAM.		1873-4.	1874-5.
Kerbing	} Lineal yards {	3370	2713
Channelling		3978	2809
Asphalte	} Superficial sq. yards {	4273	10,982
Concrete		4480	1092
Ditto kerbing and channelling..		19,926	18,413
Tarpaving		11,173	6339
HAMLET OF PENGE.			
Kerbing	} Lineal yards. {	2919	2700
Channelling		4456	3140
Tarpaving	Superficial sq. yards	17,374	8517

IMPROVEMENTS.

Of the two special Local Improvements referred to in the Board's last Report, near the Forest Hill and Sydenham Railway Stations respectively, the first has been nearly

completed, and the long pending negotiations for the other satisfactorily concluded.

The Forest Hill Improvement consists in forming a new road in a direct line from the carriage bridge, under the London and Brighton Railway, a little north of the station, to Park Road, Dartmouth Park, across a piece of land purchased by the Board for the purpose.

The purchase money for the land was £2000; it comprised little more than an acre of ground, of which about 1136 square yards is appropriated to the formation of the road, and about 1303 square yards have been retained by the Board as a stone yard, or for other public purposes; of the remainder, about 2155 square yards were resold by auction for £1470, and about 347 square yards are proposed to be sold to the Lewisham Union Board of Guardians for £250, as a Poor Law Relief Station.

The land sold, or under contract for sale, will thus realize £1720, leaving only £280 (exclusively of attendant expenses) as the cost to the Board of the land retained as a stoneyard, or for other public purposes; this sum is so far below the value of the land that the new road may be considered as having been formed free of cost to the Parish.

The Sydenham Green Improvement.—The right of Mr. E. Howard, as the owner of the Estate on the northern side of the road from the Sydenham Railway Station towards Lower Sydenham, to the open Green in front of and adjoining the same, having been established to the satisfaction of the Board—the existence of a public Footpath over the Green, but separating it from the Estate, was made the groundwork for an arrangement between the Board, Mr. Howard, and the London and Brighton Railway Company, for effecting a great public improvement.

The negotiations, extending over a period of four years, resulted in an agreement executed between the parties on the 14th December, 1874, of which the following are the leading features:—

1. Mr. Howard giving up a width of about 10 feet along the whole length of the Green belonging to him

(about 458 square yards), to be thrown into and made part of the main roadway, the Board using their influence to obtain an Order of Quarter Sessions for stopping up the old footpath, and at their own expense making a new kerbed and asphalted footpath on the ground given up and thrown into the roadway.

2. Mr. Howard also giving up a piece of his land, in all about 1374 square yards, on which the Railway Company are to build a new Station on their down line.

3. The Company selling the site of the present down line Station to the Board for £500, so as to admit of the present Bridge over the railway, now only 25 feet wide, being lowered and made 45 feet in width.

4. The Board bearing the cost of widening and forming the road, and reconstructing the bridge.

The Improvement has been submitted to and approved by the Metropolitan Board, and such approval is understood to carry with it a material contribution towards the cost to be incurred by the Board, but considerable time will elapse before the amount of outlay can be even approximately ascertained, and in the meantime any further application to the Metropolitan Board is deferred.

In pursuance of the agreement made between the parties, the necessary preliminaries were at once undertaken for an application to the (April, 1875) Quarter Sessions, for the stopping up of the Footpath.

Of minor Improvements effected in Lewisham Parish during the year, the most important is the Footbridge over the London, Brighton and South Coast Railway at Sydenham Park (formerly called Park End), about midway between the Sydenham and Forest Hill Railway Stations.

The important improvement contemplated in Penge, viz., the widening of the Bridge over the West End and Crystal Palace Railway in the Anerley Road, has been advanced some steps during the year. The estimated cost is £1000, and the Board is still awaiting the decision of the Metropolitan Board as to the contribution to be made by them.

A great Improvement has been completed during the year in Dulwich Road, near the Crooked Billet Public House.

The Board have undertaken the future repair of the road immediately in front of this ancient hostel as a public road, and the open space of ground in front of it, which was allotted under the Penge Inclosure Award to the owner of the house, has been vested in the Board, and will hereafter be maintained by them.

NEW STREETS.

The following "New Streets" have been paved and formed during the year, under the provisions of the 105th section of the Metropolis Management Act, 1855, at the cost of the owners of the property abutting on them, their future repair being undertaken by the Board.

LEWISHAM.	PENGE.
St. Stephen's Terrace. St. German's Road. St. Stephen's Road. Road at Abbott's Cottages. Brockley Place, Ladywell.	Crystal Palace Station Road.

The total length of the roads is 2715 feet, and the cost about £930.

In addition to the above, the Board have undertaken the future repair of the following old roadways in the District coming under the statutory definition of "New Streets," as not having been previously maintained by the Parish authorities:—

LEWISHAM.	PENGE.
Blythe Hill, Stanstead Lane. Church Vale, Perry Vale. Havelock Mews, Forest Hill.	Road near the Crooked Billet.

These roads are of a total length of 1698 feet, and the cost incurred with respect to them has been about £220.

LIGHTING.

The appointment of Mr. Heisch as Gas Examiner for the District, as mentioned in the Board's last annual Report, has been attended with important results.

On his first examination of the gas of the two companies supplying the District, that of the Phœnix Company was found to contain 11·5 grains of sulphur per 100 cubic feet in excess of the maximum (20 grains) allowed by Act of Parliament; and the gas of the Crystal Palace District Company 29·04 grains in excess of the maximum allowed.

Proceedings were taken by the Board for the recovery of the penalties incurred by the Companies, but were not pressed, both Companies pledging themselves to do their utmost to reduce the sulphur in their gas within the statutory limits. Further details of these proceedings will be found in the annexed Report of the Medical Officer.

It is admitted that the Gas Companies labour under almost insuperable difficulties in maintaining the quantity of the sulphur in the gas within the statutory limit; and it cannot be denied that the importance of the point to the gas consumer is a question on which high authorities differ. The first result of the Board's proceedings was therefore an application by the Phœnix Gas Company to the Board to enter into an agreement with them for reducing the standard of purity of gas under the power contained for such purpose in the 25th section of the Gas Act of 1860. The subject was referred by the Board for consideration and report by Mr. Heisch, and under his advice the Board declined to entertain the Company's proposal.

A copy of the statement of facts submitted to Mr. Heisch, with the opinion of Dr. Odling and Mr. Wills, on which the Company relied, and a copy of Mr. Heisch's report, is appended to this Report.

The decision of the Board necessitated renewed efforts on the part of the Companies to reduce the sulphur in their gas within the statutory limits, and such efforts have not been without success. In all subsequent examinations, the

Board have been assured that the gas has been maintained of the full illuminating power and purity, except in some cases of temporary accident.

No alteration as to price has been made during the year by either Company. The Phoenix Company continuing to charge £5 for each of the Public Lamps, the Crystal Palace District Company charging £4 3s. 4d. per lamp.

There have been 34 additional lamps erected in Lewisham Parish during the year, and 9 in Penge, making a total of 1262, viz., 971 in Lewisham, and 291 in Penge.

The cost of Lighting for the year has been £5596, and is fast approaching the cost of maintenance of the public roads, exclusive of watering.

SANITARY.

The sanitary condition of the District continues to be highly satisfactory.

The number of Inhabited Houses in the District has increased in the year from 8856 in 1873, to 9106 in 1874, viz., 6716 in Lewisham, and 2390 in Penge, and the population calculated as before at 6·15 per inhabited house, is estimated to have increased 1540 in the year, and to amount to 56,002, viz., 41,303 in Lewisham Parish, and 14,699 in Penge.

The following table gives the number of Inhabited Houses and Population of the District according to the census of 1871, and the ascertained number of Inhabited Houses and estimated Population in each of the three subsequent years.

	1871.		1872.		1873.		1874.	
	Inhabited Houses.	Population.	Inhabited Houses.	Population.	Inhabited Houses.	Population.	Inhabited Houses	Population.
Parish of Lewishm.	6118	36,525	6073	38,715	6487	39,893	6716	41,303
Hamlet of Penge.	1956	13,202	2101	14,370	2369	14,569	2390	14,699
Lewisham District	8074	49,727	8174	53,085	8856	54,462	9106	56,002

The number of births in the District during the year has been 1752, rather less than in 1873, and the rate also still lower. The birth rate in London was 35·7 per 1000 for the year; in this District it was only 31·28 per 1000. The variation, year by year, is very slight, and is shown for the last five years in the following table.

NUMBER AND RATE OF BIRTHS.

1870.		1871.		1872.		1873.		1874.	
No.	Rate.	No.	Rate.	No.	Rate.	No.	Rate.	No.	Rate.
1568	33·06	1574	31·46	1693	31·89	1779	32·66	1752	31·28

The number of deaths in the year has been 842, against 791 in 1873, and the death rate has been 15·03 per 1000 against 14·52 per 1000 in 1873.

The number of deaths and rate of mortality per 1000 for the past five years is shown by the following table.

NUMBER AND RATE OF DEATHS.

1870.		1871.		1872.		1873.		1874.	
No.	Rate.	No.	Rate.	No.	Rate.	No.	Rate.	No.	Rate.
806	17·00	815	16·29	788	14·84	791	14·52	842	15·03

By reference to Table II. in the Medical Officer's Report, it will be seen that not only is the present rate of mortality lower than the average of the previous ten years, but it has only been as low in three years of that period.

The unprecedentedly low rate of mortality in London, for the year 1873, has been again realised for the past year, within a fraction, being in 1873 21·5 per 1000, and in 1874 21·6 per 1000.

Not only is the rate of mortality in this District very favourable as compared with London, but also as compared

with the Metropolitan suburbs, which are designated by the Registrar General the "outer ring." In this area the rate of mortality was 16·90 per 1000, against 15·03 in this District. This result is, undoubtedly, so far satisfactory, but it is, nevertheless, essential to analyse the causes of death in the District; and the Table I, appended to this Report, affords the means of comparing the number and cause of deaths in the District, and the ages at which the deaths occurred, during each of the past three years, with the per centage of deaths caused by each class of disease, and the per centage of deaths occurring in each of six selected periods of life.

This Table is pregnant with matter demanding most serious consideration, and shows that there are still 155 deaths, or 18·41 per cent. (more than one-sixth) of the whole attributed to zymotic or preventable diseases; and of the total number of children born, 235, or considerably more than one-fourth, die off within 12 months after birth. But although there have been 155 deaths in all from zymotic diseases, there have been only 114 deaths from the seven principal zymotic diseases, viz:—

Small Pox	0
Measles	25
Scarlet Fever	6
Diphtheria	4
Whooping Cough	25
Fever	15
Diarrhœa	39
	<hr/>
	114
	<hr/>

This number gives a per centage to the total deaths in the District, comparing favourably with the per centage of deaths from the same diseases to the total deaths in London, also in the 18 towns specified by the Registrar General.

The per centage for the District being . . . 13·5

The per centage for London being . . . 14·7

The per centage for the 18 towns being . . . 17·9

But a similar comparison of the number of deaths of

infants under one year of age is not so favourable. The percentage is as follows:—

In this District	27·91
In London	24·6
In the 18 towns	26·03

It will thus be seen that not only is the proportion of deaths of infants in the District greater than in London and the 18 towns, but the proportion of deaths from the seven principal zymotic diseases, although less than in London and the 18 towns, is not less in the same proportion as the total mortality of the District bears to the total mortality of London, and that thus, notwithstanding very substantial grounds for congratulation, there still remains a strong incentive to continued efforts for sanitary improvement.

Three Inspectors of Nuisances have been engaged throughout the year in the discharge of duties having reference to the sanitary condition of the District, and the following Table gives a summary of the work performed by them for the present and past year, as derived from the Tables in the Medical Officers' Report for each year:—

Nature of Work performed in abatement of Nuisances.	1873.	1874.
Number of complaints brought under the notice of the Board	170	228
Number of houses and premises inspected and reported on.	1062	2754
Number of house drains repaired, cleansed, trapped, or ventilated	93	133
Number of privies and waterclosets repaired, cleansed, supplied with water, or new ones provided	91	114
Number of new dust bins provided, and old ones repaired.	147	152
Number of new water cisterns provided, and old ones repaired	42	77
Number of removals of accumulation of dung and other offensive matter	45	40
Number of cases of animals being improperly kept	38	16

The slaughterhouses, cowhouses, and bakehouses have been periodically inspected during the year; and the house-to-house inspection of the smaller tenements has been maintained as heretofore.

The Inspectors of Nuisances are also the officers appointed to procure and submit for analysis samples of articles under the Act for preventing Adulteration of Food, Drink, &c., and during the year they have taken 82 samples for analysis by the Public Analyst. The result has been very much the same as was reported last year, viz., that in the great majority of instances the articles have been found to be either unadulterated, or but so slightly adulterated as neither to be injurious to health, or to involve any appreciable fraud on the purchaser, for, in 15 cases only was adulteration proved.

FINANCE.

Appended to this report is a Statement of the Receipts and Expenditure of the Board for the year, and also a Statement of their Liabilities and Assets at Lady-day, 1875, both being prepared according to the form first adopted for the year 1873-4; and the following is an abstract of the sums raised and expended by the Board in the year, including the cash balances:—

SUMS RAISED.		SUMS EXPENDED.	
	£		£
1874. March 25. Cash Balance	1,073	Making, watering, and maintaining Roads, &c.	23,429
RATES—		Dust Collecting	1,216
General Rates	16,200	Lighting	5,596
Do. (159 Sect.) Lewisham	6,415	Sewerage and Drainage	2,290
Lighting Rates	6,488	Instalments and Interest	5,409
Sewers Rates	4,470	Temporary Loans (Treasurer's)	8,100
Met. Consolidated Rate ...	7,272	Officers' Salaries (1½ years) ...	2,478
OTHER RECEIPTS—		Precept of Metropolitan Board	
New Streets and Private		of Works.....	8,257
Works	2,754	Ditto London School Board ...	3,148
Loans	22,000	New Offices.....	6,865
Temporary Loan (Treasurer's).....	2,000	All other charges	5,282
Other sources of Income..	7,364	1875. March 25. Cash Balance	3,966
	<u>£76,036</u>		<u>£76,036</u>

The greatly increased expenditure thus shown to have been made during the year, included sums amounting to £8100, paid in discharge of temporary loans, thereby reducing the actual expenditure for the year from £72,070 to £63,970.

It will also be observed, on comparing the above statement with the similar one in the Board's last Report, that nearly one-half of the increased expenditure is due to the increase in the Precepts, both of the Metropolitan Board and the School Board for London, and a large sum has been expended for the New Offices.

The Table appended to the Board's Report for the past year, for comparing the expenditure for the years 1872-3 and 1873-4 is also repeated and extended to the past year, thus affording a similar comparison between the three years.

Of the total sum of £74,963, shown to have been received by the Board during the year, only £40,845 was raised by rate, but this sum necessitated an increase in the average rating of the previous three years, from 3s. 10d. to 4s. 4d. in Lewisham, and from 3s. 9d. to 4s. in Penge.

The amount of rates for the past year, is, however, believed to be considerably below the average of Metropolitan Parishes.

Of the sum of £22,000, shown to have been raised by mortgage, one-half has been borrowed for the New Offices, at the joint cost of Lewisham and Penge; and the other half for paving works, of which £7,300 has been for Lewisham, and £3,700 for Penge.

A Table is appended, showing the total sums borrowed by the Board from its constitution in 1856 to Lady-day last, amounting in all to £90,522; of this sum £34,818 has been paid off, and £55,704 only remained outstanding at Lady-day last; the rateable value of the District, according to the Valuation Lists in force at that time, being £418,556.

The Board are therefore again enabled, unhesitatingly, to submit to the Inhabitants of the District that their Financial position is sound and healthy, and that the beneficial results of the improved condition of the District abundantly justify the increased expenditure they have necessarily incurred.

By Order,

SAM^L. EDWARDS,

Clerk to the Board.

TABLE I.

Showing the Classes of Disease causing Death, and the periods of life at which it occurred, in the three years 1872 to 1874, inclusive; with the per centage of the Deaths in each year caused by each class of disease, and occurring in each period of life.

Classes of Disease, &c., causing Death.	1872.								1873.								1874.							
	Ages at Death.						Total.	Per centage.	Ages at Death.						Total.	Per centage.	Ages at Death.						Total.	Per centage.
	Under 1 year.	From 1 to 5.	From 5 to 20.	From 20 to 40.	From 40 to 60.	From 60 upwards.			Under 1 year.	From 1 to 5.	From 5 to 25.	From 25 to 45.	From 45 to 65.	From 65 upwards.			Under 1 year.	From 1 to 5.	From 5 to 25.	From 25 to 45.	From 45 to 65.	From 65 upwards.		
1. Zymotic	65	60	29	9	6	6	175	22.21	42	35	16	10	1	6	110	13.90	74	39	16	15	10	1	155	18.41
2. Constitutional	14	12	14	53	34	23	150	19.04	18	7	33	37	29	12	136	17.20	15	12	21	56	42	21	167	19.83
3. Local	69	24	16	28	65	98	300	38.07	78	49	27	54	86	95	389	49.18	77	38	27	44	92	99	377	44.78
4. Developmental	55	26	1	5	2	44	133	16.88	70	19	3	5	1	46	144	18.20	67	10	1	4	1	46	129	15.32
5. Deaths by violence	14	2	3	5	3	3	30	3.80	2	...	3	4	3	...	12	1.52	2	...	2	2	5	3	14	1.66
Total	217	124	63	100	110	174	788	100.00	210	110	82	110	120	159	791	100.00	235	99	67	121	150	170	842	100.00
Per centage.....	27.54	15.74	7.99	12.69	13.96	22.08		100.00	26.55	13.91	10.37	13.90	15.17	20.10		100.00	27.91	11.76	7.96	14.37	17.81	20.19		100.00

NOTE.—This Table is (except as to the columns of per centages) condensed from Table III. in the annexed Report of the Medical Officer, and the similar Tables of his Reports for the two previous years. The ages for the year 1872 are not identical with those for the two subsequent years, but sufficiently near for general comparison.

TABLE II.

Of comparison of Expenditure between the years 1872-3, 1873-4, and 1874-5.

	1872-3.	1873-4.	1874-5.
LEWISHAM.			
General Purposes—	£	£	£
Highways	6413	8408	7272
New Streets	2099	2412	2154
London School Board	1166	853	2168
Establishment Expenses (apportionment) ...	792	869	1308
Other Expenses	421	83	260
Gen. Purposes (159th Sect. Met. Man. Act.)—			
Highways (Tar Paving)	1072	1017	747
Watering	2034	2307	2487
Road Improvements	271	1770	2777
Dust Collecting	922	925	971
Loans and Interest	686	1431	1711
Other Expenses	44	...	...
Establishment Expenses (apportionment) ...	...	...	828
Paving (Loans)	2547	4402	6166
Lighting	3988	4206	5002
Sewerage Purposes—			
Repairs and Cleansing	293	306	335
Private Sewers (including Frontage Drains)	242	298	230
Establishment Expenses (apportionment) ...	792	869	294
Loans and Interest	1697	1648	1796
Other Expenses	93	16	12
Sewers Construction	3442	686	1140
Former Greenwich Separate Sewerage District	160	154	985
Do. Ravensbourne do. do. ...	175	873	
Metropolitan Consolidated Rate	2894	2963	5015
PENGE.			
General Purposes—			
Highways	1352	1802	1427
Do. Tar Paving	501	397	770
New Streets	930	1833	63
London School Board	539	392	980
Watering	651	674	679
Dust Collecting	184	167	245
Loans and Interest	250	353	970
Establishment Expenses (apportionment) ...	381	400	873
Other Expenses	464	199	374
Paving (Loans)	1187	1474	917
Lighting	1146	1187	1416
Sewerage Purposes—			
Repairs and Cleansing	129	395	156
Private Sewers (including Frontage Drains)	83	50	70
Establishment Expenses (apportionment) ...	381	400	236
Loans and Interest	984	966	932
Other Expenses	19	...	...
Surface Drainage .....	...	316	139
Sewers Constructn.—Penge & Bell Green Sewer	...	1968	138
Do. Ventilators .....	...	...	70
Metropolitan Consolidated Rate	1389	1347	2257
THE WHOLE DISTRICT.			
Suspense Accounts—			
Beckenham Sewerage Act.....	...	878	734
New Offices .....	...	1079	6865
Temporary Loans (Treasurers) .....	...	...	8100
Total Expenditure, exclusive of Balances ...	42813	52773	72069
SUMMARY.			
Lewisham	32243	36496	43658
Penge	10570	14320	12712
The whole District .....	...	1957	15699
Total Expenditure, exclusive of Balances ...	42813	52773	72069

TABLE III.

OF

Loans raised from the 1st January, 1856, to Lady-day, 1875.

No. on Register of Mortgages.	Date of Loan.	Amount borrowed.			Rate of Interest per cent.		Term for repayment.	Amount repaid to Lady-day, 1875.			Balance outstanding, Lady-day, 1875.			Purpose for which borrowed.	
		£	s.	d.	£	s.		d.	Years.	£	s.	d.	£		s.	d.
1	1856. July 10	6000	0	0	5	0	0	*	6200	0	0	1800	0	0	Sewerage Works, Lewisham.
2	" December 2	2000	0	0	5	0	0								
3	1857. May 3	2000	0	0	6	0	0	...	2000	0	0	.....		Do. do. do.	
4	1858. October 28	2000	0	0	5	0	0	20	1600	0	0	400	0	0	Do. do. Penge.
5	1859. February 17	1500	0	0	5	0	0	...	1500	0	0	.....		Do. purposes, Greenwich Sep. Sewerage District.	
6	" March 31	2000	0	0	5	0	0	...	2000	0	0	.....		Do. do. Ravensbourne do.	
†	" May 14	7000	0	0	varying			...	7000	0	0	.....		†
7	1861. November 7	2000	0	0	5	0	0	20	1300	0	0	700	0	0	Sewerage Works, Lewisham.
8	1862. August 14	1722	12	11	5	0	0	20	1214	18	11	507	14	0	Do. do. Penge.
9	1863. November 19	1000	0	0	5	0	0	20	550	0	0	450	0	0	Do. do. Lewisham.
10	1864. July 14	4000	0	0	5	0	0	20	2000	0	0	2000	0	0	Do. do. Penge.
11	1865. June 15	1000	0	0	5	0	0	10	900	0	0	100	0	0	Paving, &c., Works, Lewisham.
12	1867. January 24	6000	0	0	5	0	0	20	2400	0	0	3600	0	0	Sewerage Works, Lewisham.
13	" " "	4000	0	0	5	0	0	20	1600	0	0	2400	0	0	Do. do. Penge.
14	1869. March 18	1500	0	0	5	0	0	10	900	0	0	600	0	0	Paving, &c., Works, Penge.
15	1870. February 3	3000	0	0	4	15	0	20	750	0	0	2250	0	0	Sewerage Works, Lewisham.
16	" November 10	3000	0	0	4	15	0	20	600	0	0	2400	0	0	Paving, &c., Works do.
†	1871. October 11	800	0	0	†			8	300	0	0	500	0	0	Do. do. Penge.
17	" " 26	3500	0	0	4	10	0	20	525	0	0	2975	0	0	Sewerage Works, Lewisham.
18	1872. June 20	3000	0	0	4	15	0	20	300	0	0	2700	0	0	Paving, &c., Works do.
19	" August 15	2000	0	0	4	15	0	20	200	0	0	1800	0	0	Do. do. Penge.
20	1873. March 13	3000	0	0	4	15	0	20	300	0	0	2700	0	0	Do. do. Lewisham.
21	" " "	1500	0	0	4	15	0	7	428	11	6	1071	8	6	Do. do. do.
22	" August 14	5000	0	0	3	17	6	20	250	0	0	4750	0	0	Do. do. Lewisham and Penge.
23	1874. August 4	9900	0	0	3	18	6	55	.....			9900	0	0	New Offices.
24	" October 8	900	0	0	4	15	0	6	.....			900	0	0	Paving, &c., Works, Lewisham.
25	" " "	1200	0	0	4	15	0	6	.....			1200	0	0	Do. do. Penge.
26	" " "	3500	0	0	4	15	0	7	.....			3500	0	0	Do. do. Lewisham.
27	" " "	2900	0	0	4	15	0	20	.....			2900	0	0	Do. do. do.
28	" " "	2500	0	0	4	15	0	20	.....			2500	0	0	Do. do. Penge.
29	" " "	1100	0	0	4	15	0	30	.....			1100	0	0	New Offices.
Total		£90,522 12 11							£34,818 10 5			£55,704 2 6			

NOTE.—* Loans 1 and 2 were effected for indefinite periods, but in November, 1861, they were amalgamated with Mortgage No. 7, then effected, and an Agreement made for paying the balance then due on Loans 1 and 2, by instalments of £400 per annum, and the £2,000 (No. 7) Mortgage by instalments of £100 per annum.

† This sum was lent by the Treasurers on security of the Board's Bond, and was borrowed to meet instalments on debt of the late Metropolitan Commissioners of Sewers.

‡ This sum was borrowed from the Sinking Fund for repayment of the £1,722 12s. 11d. Loan, and without interest.

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This is a list of names and ages, possibly from a census or a school register. The names are mostly illegible due to fading, but the structure is clear. The table contains 100 rows, numbered 1 to 100. The columns are labeled 'No.', 'Name', and 'Age'.

1874—75.

The Board of Works for the
Lewisham District.

STATEMENT

OF

RECEIPTS AND EXPENDITURE

DURING

The Year ended 25th March, 1875,

AND OF

ASSETS AND LIABILITIES

ON

The 25th March, 1875.

The Board of Works for the Lewisham District.

Statement of the Receipts and Expenditure of the Board during the year ended 25th March, 1875,
Of which detailed particulars are comprised in the Schedules referred to

RECEIPTS.		£	s.	d.	£
1874.					
March 26.	Cash balance in the hands of the Treasurers (Current account)				
	Ditto Book-keeper	1035	16	7	
		37	6	2	
					1073
LEWISHAM.					
General Purposes (Schedule A)—					
	For this Board's Expenditure	£11197	6	9	
	For the School Board for London	2168	8	1	
					13365 14 10
General Purposes, 159th Sec. Metropolis Management Act, 1855					
	Lighting	10429	0	0	
	*Sewerage Purposes	4641	0	5	
	*Sewers Construction	2484	0	6	
	*Former Greenwich and } Separate Sewerage Districts (Schedule H ₁)	1496	12	2	
	*Former Ravensbourne }	816	13	11	
	Kerbing and Channelling—Paving (Schedule F)	2900	0	0	
	Asphalte and Concrete ditto	3500	0	0	
	Tar Paving ditto	900	0	0	
	New Streets	1824	3	0	
	Private Works	26	0	6	
	The Metropolitan Consolidated Rate—For the Metropolitan Board of Works	5015	8	6	
					47398 10 8
PENGE.					
General Purposes (Schedule A)—					
	For this Board's Expenditure	£2192	16	10	
	For the School Board for London	979	11	10	
					3172 8 8
	Lighting	1937	0	11	
	Sewerage Purposes	2216	14	1	
	Sewers Construction	979	16	2	
	Kerbing and Channelling—Loans	2500	0	0	
	Tar Paving ditto	1200	0	0	
	New Streets	632	1	3	
	Private Works	58	4	11	
	The Metropolitan Consolidated Rate—For the Metropolitan Board of Works	2257	0	2	
					14953 6
	New Offices (Loans)	11000	0	0	
	Beckenham Sewerage Act—(Costs)	1611	3	0	
					£76,036 6

LEWISHAM.		PAYMENTS.		£	s.	d.	£	s.	d.
General Purposes (Schedule A)—		For this Board's Expenditure		£8840	2	8			
		For the School Board for London		2168	8	1	11008	10	9
General Purposes, 159th Sec. Metropolis Management Act, 1855		Lighting		10773	15	3			
		Sewerage Purposes		5002	2	2			
		Sewers Construction		2625	13	9			
		Former Greenwich and } Separate Sewerage Districts...		1140	3	11			
		Former Ravensbourne }		984	11	1			
		Kerbing and Channelling—Paving		3127	5	4			
		Asphalte and Concrete ditto		3038	19	4			
		Tar Paving		746	16	0			
		New Streets		2154	4	6			
		Private Works		40	12	10			
		The Metropolitan Consolidated Rate—For the Metropolitan Board of Works		5015	8	6	45658	3	5
PENGE.									
General Purposes (Schedule A)—									
		For this Board's Expenditure		£4558	18	10			
		For the School Board for London		979	11	10	5538	10	8
		Lighting		1416	4	6			
		Sewerage Purposes		1491	15	11			
		Sewers Construction		207	18	3			
		Kerbing and Channelling—Paving		917	3	0			
		Tar Paving		770	9	2			
		New Streets		62	12	9			
		Private Works		51	11	0			
		The Metropolitan Consolidated Rate—For the Metropolitan Board of Works		2257	0	2	12713	5	5
		New Offices					6865	8	10
		Beckenham Sewerage Act—(Costs)					733	13	4
		Suspense Account (Temporary Loans—Treasurers)					6100	0	0
1875.									
March 25. *Cash Balance in the hands of the Treasurers (Current Account)									
		Ditto ditto		£3854	19	2			
		Ditto ditto Book-keeper		110	15	11	3965	15	1
							£76,036	6	1

GEO. BEAVIS, Book-keeper.

* The sum of £1411 2s. 6d., Cash on Deposit, mentioned in the Statement of Receipts and Expenditure for the year ended Lady-day, 1874, as approved by the Auditors of the Accounts of the Board, with £10 3s. 2d. Interest thereon, has been withdrawn from Deposit and paid to the Current Account of the Board, and placed to the credit of the Accounts of the Greenwich and Ravensbourne Separate Sewerage Districts; Sewers Construction, Lewisham; Sewerage Purposes, Lewisham; and Establishment, in accordance with the resolutions of the Board of the 16th July, 1874 (Mins. pp. 1 and 199), and in the sums stated in Schedule H₁.

We the undersigned, being two of the Auditors elected by the Board, have caused to be prepared and do allow the above Account in abstract of the Receipts and Payments of the Board, for the year ended 25th March, 1875.

31st May, 1875.

SAM'L EDWARDS,
Clerk to the Board.

* In addition to the above Balance, there is a sum of £714 18s. 11d. on Deposit with the London and Westminster Bank, in the names of Messrs. Brooker, Gibson, and Griffin, as Trustees of the Board for the Penge Gravel Allotment Fund (see Note to Schedule J, part 1), being the sum of £15 3s. 6d., mentioned in the Statement of Receipts and Expenditure for the year ended 25th March, 1874, with £13 15s. 6d. Interest thereon, and £100 and £86 additions thereto.

ALFD. THOS. LAYTON, }
H. CRISTALL, } *Auditors.*

The Board of Works for the Lewisham District.

Statement of the Monies owing to and the Debts and Liabilities of the Board on the 25th March, 1875,

Of which detailed particulars are comprised in the Schedules referred to.

LIABILITIES.			
MORTGAGES.			
LEWISHAM.	£	s.	d.
*General Purposes—159th Section Metropolis Management Act, 1855..... (Schedule J)	26270	8	6
Sewerages Purposes (ditto)	11775	0	0
	38045	8	6
PENGE.			
General Purposes (ditto)	12351	0	0
Sewerage Purposes (ditto)	5307	14	0
	17658	14	0
	£55704		

CURRENT ACCOUNTS.			
LEWISHAM.	£	s.	d.
General Purposes..... (Schedule K)	549	18	1
Ditto 159th Section Metropolis Management Act, 1855 (Schedule L)	469	7	7
Lighting (Schedule M)	1189	19	11
Sewerage Purposes (Schedule N)	113	14	3
Sewers Construction (Schedule O)	112	13	9
New Streets (Schedule P)	1325	17	0
Private Works (Schedule Q)	127	10	11
Paving—Kerbing and Channelling (Schedule R)	474	4	8
Ditto Asphalte and Concrete (ditto)	312	11	5
	4675	17	0
PENGE.			
General Purposes..... (Schedule K)	456	2	11
Lighting (Schedule M)	333	2	7
Sewerage Purposes (Schedule N)	234	9	8
Sewers Construction (Schedule O)	80	8	0
New Streets (Schedule P)	511	6	5
Private Works (Sewers, &c.)..... (Schedule Q)	26	7	11
Paving—Kerbing and Channelling (Schedule R)	249	17	1
New Offices	1891	14	0
	20	0	0
Balance of Assets over Liabilities (exclusive of Mortgages)	6587	12	0
	4429	14	0
	£11,017	6	0

* See Note to Schedule J, Part 2.

GEO. BEAVIS, *Book-keeper.*

ASSETS.			
MORTGAGES.			
LEWISHAM.	£	s.	d.
Lewisham..... (Schedule J)	38045	8	6
Penge (Ditto)	17658	14	0
	£55,704	2	6

CURRENT ACCOUNTS.			
LEWISHAM.	£	s.	d.
General Purposes..... (Schedule K)	964	12	9
Ditto 159th Section Metropolis Management Act, 1855..... (Schedule L)	437	11	0
Lighting (Schedule M)	236	4	11
Sewerage Purposes (Schedule N)	135	6	6
Sewers Construction (Schedule O)	97	1	1
New Streets (Schedule P)	1245	7	10
Private Works (Schedule Q)	229	4	9
	3345	8	10
PENGE.			
General Purposes..... (Schedule K)	2881	18	5
Lighting (Schedule M)	69	8	5
Sewerage Purposes (Schedule N)	72	5	5
Sewers Construction (Schedule O)	79	4	2
New Streets (Schedule P)	580	12	3
Private Works (Schedule Q)	19	14	0
Paving (Schedule R)	3	0	0
	3706	2	8
Cash Balances in hands of Treasurer and Book-keeper	7051	11	6
	3965	15	1
	£11,017	6	7

SAML. EDWARDS,
Clerk to the Board.

Summary Statement of the Receipts and Expenditure for the Year ended 25th March, 1875,
And of the Cash Balances at the commencement and end of the Year.

Names of Account.	Balances, 25th March, 1874.		Receipts.	Expenditure.	Balances, 25th March, 1875.	
	In Credit.	In Debt.			In Credit.	In Debt.
	£ s. d.	£ s. d.			£ s. d.	£ s. d.
LEWISHAM.						
General Purposes—For this Board's Expenditure.....		2379 11 8	11197 6 9	8840 2 8		22 7 7
Ditto ditto For the School Board for London			2168 8 1	2168 8 1		
Ditto ditto 159th Section Metropolis Management Act, 1855	593 4 1		10429 0 0	10773 15 3	32 3 7	
Lighting	786 8 8		4641 0 5	5002 2 2	425 6 11	
Sewerage Purposes	419 13 10		2484 0 6	2625 13 9	278 0 7	
Sewers Construction		595 2 1	1496 12 2	1140 3 11		219 3 11
Former Greenwich Separate Sewerage District		1580 16 11	±216 5 3	±196 15 4		
Ditto Ravensbourne ditto	1748 14 1		816 13 11	984 11 1		
Paving—Kerbing and Channelling.....		11 19 5	2900 0 0	3127 5 4	701 2 2	
Ditto Asphalte and Concrete			±940 6 11	3038 19 4		479 6 3
Tar Paving.....			3500 0 0	±940 6 11		
New Streets	452 3 0		900 0 0	746 16 0	153 4 0	
Private Works (Sewers, &c.)		87 1 6	1824 3 0	2154 4 6	122 1 6	
Metropolitan Consolidated Rate—For the Metropolitan Board of Works			26 0 6	40 12 10		101 13 10
PENGE.			5015 8 6	5015 8 6		
General Purposes—For this Board's Expenditure.....	167 3 9		2192 16 10	4558 18 10		2198 18 3
Ditto ditto For the School Board for London			979 11 10	979 11 10		
Lighting		294 13 11	1937 0 11	1416 4 6	226 2 6	
Sewerage Purposes		284 3 3	2216 14 1	1491 15 11	124 9 10	
Sewers Construction			979 16 2	±316 5 1		999 0 3
Kerbing and Channelling—Paving	1462 0 3		2500 0 0	±1770 18 2		
Tar Paving.....			1200 0 0	917 3 0	3044 17 3	
New Streets		1182 12 7	632 1 3	770 9 2	429 10 10	613 4 1
Private Works			58 4 11	62 12 9		
Metropolitan Consolidated Rate—For the Metropolitan Board of Works				51 11 0	6 13 11	
Suspense Account	1859 16 5		2257 0 2	2257 0 2		
New Offices			±4240 3 7	6100 0 0		
Beckenham Sewerage Act.....			11000 0 0	6865 8 10	3055 16 2	
			1611 3 4	±1078 15 0		
				733 13 4		
				±877 10 0		
	7489 4 1	6416 1 4	74963 3 4	72070 11 0	8599 9 3	4633 14 2
Balances (see Note*)		±1073 2 9	±5396 15 9	±5396 15 9		±3965 15 1
			±1073 2 9	±3965 15 1		

of Expenditure on the 25th March, 1875.

Names of Account.	Cash Balances, 25th March, 1875.		Assets.	Liabilities.	Financial Condition of the Board.	
	In Credit.	In Debt.			In Credit.	In Debt.
LEWISHAM.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.
General Purposes .....	.....	22 7 7	964 12 9	549 18 1	392 7 1	.....
Ditto ditto 159th Section Metropolis Management Act, 1855.....	32 3 7	.....	437 11 0	469 7 7	0 7 0	.....
Lighting	425 6 11	.....	236 4 11	1189 19 11	.....	528 8 1
Sewerage Purposes	278 0 7	.....	135 6 6	113 14 3	299 12 10	.....
Sewers Construction .....	.....	219 3 11	97 1 1	112 13 9	.....	234 16 7
New Streets	122 1 6	.....	1245 7 10	1325 17 0	41 12 4	.....
Private Works .....	.....	101 13 10	229 4 9	127 10 11	.....	.....
Kerbing and Channelling—Paving	701 2 2	.....	.....	312 11 5	388 10 9	.....
Asphalte and Concrete—ditto .....	.....	479 6 3	.....	474 4 8	.....	953 10 11
Tar Paving.....	153 4 0	.....	.....	.....	153 4 0	.....
PENGE.	.....	2198 18 3	2881 18 5	456 2 11	226 17 3	.....
General Purposes .....	.....	.....	69 8 5	333 2 7	.....	37 11 8
Lighting	226 2 6	.....	72 5 5	234 9 8	.....	37 14 5
Sewerage Purposes.....	124 9 10	.....	79 4 2	80 8 0	.....	1000 4 1
Sewers Construction .....	.....	999 0 3	580 12 3	511 6 5	.....	543 18 3
New Streets .....	.....	613 4 1	19 14 0	26 7 11	.....	.....
Private Works	6 13 11	.....	3 0 0	249 17 1	2798 0 2	.....
Kerbing and Channelling—Paving	3044 17 3	.....	.....	.....	429 10 10	.....
Tar Paving.....	429 10 10	.....	.....	.....	.....	.....
New Offices.....	3055 16 2	.....	.....	20 0 0	3035 16 2	.....
Balances (see Note *)	8599 9 3	4633 14 2	7051 11 6	6587 12 2	7765 18 5	3336 4 0
.....	.....	£3965 15 1	£3965 15 1	£4429 14 5	.....	£4429 14 5
.....	£8599 9 3	£8599 9 3	£11017 6 7	£11017 6 7	£7765 18 5	£7765 18 5

* A.—Balance of Assets in excess of Liabilities.

B.—Balances in hand 25th March, 1875.

GEO. BEAVIS, *Book-keeper.*

SAM^L. EDWARDS, *Clerk to the Board.*

Schedules referred to in the foregoing Statements.

SCHEDULE A.—General Purposes.

*Detailed Particulars of the Receipts and Expenditure comprised under
General Purposes.*

RECEIPTS.		£	s.	d.	£	s.	d.
LEWISHAM.							
Overseers in payment of Precepts.....		13200	0	0			
Sydenham Hill—Camberwell Vestry, Contribution to main- tenance of Road		70	14	2			
The Board's Horses Account—Balance, Lady-day, 1874		7	1	4			
Highways—Road Scrapings, &c.		33	8	0			
Establishment Sundries Apportionment..... (Schedule I)		54	11	4			
					13365	11	
PENGE.							
Overseers in payment of Precepts.....		3000	0	0			
Penge Gravel Allotment Fund—Interest.....		86	0	0			
Contribution to compensation of Miss Monjé		50	0	0			
Establishment Sundries Apportionment..... (Schedule I)		36	8	8			
					3172	18	
PAYMENTS.							
LEWISHAM.							
Highways—Maintenance	£6808	4	7				
Sydenham Hill Road—ditto	116	1	1				
The Board's Horses	347	16	11				
Payments by Order of Vestry.....	65	15	0				
Parish Survey	66	5	6				
Sundry Payments—Costs of Mortgages £60 8 9							
Gas Company Nui- sance—Costs 64 2 2							
Sundries	3	9	2				
Establishment Expen. Apportionment (Schedule I)	128	0	1				
	1307	19	6				
The School Board for London—Precept	8840	2	8				
Ditto ditto —Election expenses	2071	13	11				
	96	14	2				
	2168	8	1				
					11008	10	
PENGE.							
Highways—Maintenance	1426	16	2				
Dust Collecting	244	10	0				
Watering Roads	679	5	1				
Loans—Instalments.....	625	0	0				
Ditto—Interest and Income Tax	345	1	4				
Improvements—Dulwich Road, &c.	970	1	4				
Vestry Expenses—Clerk's Salary (5 quarters)	118	6	5				
Compensation of Miss Monjé.....	100	0	0				
Sundry Payments—Costs of Mortgages 30 12 8							
Drinking Fountains 15 5 9							
Sundries	0	19	0				
Establishment Expenses Apportionment (Sched. I)	46	17	5				
	873	2	5				
The School Board for London—Precept	4558	18	10				
Ditto ditto —Election Expenses	935	18	1				
	43	13	9				
	979	11	10				
					5538	10	

CHEDULE B.—General Purposes, 159th Sec. M. M. Act, 1855.

Detailed Particulars of the Receipts and Expenditure comprised under General Purposes, within the provisions of the 159th Sect. of the Metropolis Management Act, 1855.

RECEIPTS.

	£	s.	d.	£	s.	d.
LEWISHAM.						
Overseers in payment of Precept	6415	0	0			
Sydenham Hill—Camberwell Vestry, contribution for Watering Road	45	7	10			
Improvements—						
Sydenham Hill Road drain—Camberwell Vestry, contribution to cost of.....	108	2	8			
Forest Hill Road—						
Temporary Loan	£2000	0	0			
Sale of Surplus Land.....	1479	15	4			
	3479	15	4			
Park End Footbridge—contribution to cost of	130	0	0			
Brockley Lane ditto ... (Metropolitan Board)	157	0	0			
	3874	18	0			
Sale of Dust	59	2	9			
Establishment Sundries—apportionment..... (Schedule I)	34	11	5			
	10429	0	0			

LEWISHAM.

PAYMENTS.

Loans—Instalments	889	5	9			
Ditto—Interest and Income Tax	821	8	0			
	1710	13	9			
Dust Collecting.....	970	15	11			
Watering Roads	2398	17	9			
Ditto—Sydenham Hill Road	87	19	4			
Improvements—						
Forest Hill Road—						
Temporary Loan (Repaid) ...£2000	0	0	0			
Purchase of Land.....	2091	8	9			
Improvement Works	237	9	5			
Costs of Sale of Surplus Land	66	3	0			
	4395	1	2			
Perry Hill (Sabin's Estate)	58	10	7			
Ditto (Winterbotham's premises)	35	16	2			
Blythe Hill Road	56	8	6			
Church Vale Road.....	38	18	2			
Havelock Street	21	17	8			
Brockley Lane.....	24	3	6			
Ditto (Webb's Estate).....	85	9	0			
Forest Hill—Eliza Place	30	1	0			
Park End Footbridge.....	9	10	6			
Sundry minor Improvements	21	3	8			
	4776	19	11			
Establishment Expenses—apportionment..... (Schedule I)	828	8	7			
	10773	15	3			

NOTE—The provisions of the 159th Sect. of the Metropolis Management Act, 1855, are not applied upon in the Hamlet of Penge; this account is, therefore, confined to the Parish of Lewisham.

SCHEDULE C.—Lighting.

Detailed Particulars of the Receipts and Expenditure for the purpose of Lighting

RECEIPTS.

LEWISHAM.

	£	s.	d.	£	s.	d.
Overseers in payment of Precept	4560	0	0			
Sydenham Hill—Camberwell Vestry, contribution to Lighting	56	5	0			
Establishment Sundries—apportionment (Schedule I)	24	15	5			
				4641		

PENGE.

Overseers in payment of Precept	1927	10	0			
Establishment Sundries—apportionment (Schedule I)	9	10	11			
				1937		

PAYMENTS.

LEWISHAM.

Gas and additional Lamps (The Crystal Palace District Gas Company)	2105	2	2			
Ditto—Sydenham Hill	112	10	0			
Ditto (The Phoenix Gas Company)..... ditto.....	2190	7	9			
Sundries		11	0			
Establishment Expenses—apportionment (Schedule I)	593	11	3			
				5002		

PENGE.

Gas and additional Lamps (The Crystal Palace District Gas Company)	1183	5	6			
Sundries (London, Brighton, and South Coast Railway Company)	4	3	4			
Establishment Expenses—apportionment (Schedule I)	228	15	8			
				1416		

SCHEDULE D.—Sewerage Purposes.

Detailed particulars of the Receipts and Expenditure comprised under Sewerage purposes, exclusive of the Construction of Sewers.

RECEIPTS.

EWISHAM.

	£	s.	d.		£	s.	d.
Overseers in payment of Precept	2290	0	0				
Frontage Drains	162	18	11				
Cash on Deposit (part of £1411 2s. 6d.) .....(Schedule H ¹)	18	16	7				
Establishment Sundries—apportionment(„ I)	12	5	0				
					2484	0	6
					2484	0	6

ENGE.

Overseers in payment of precept.....	2180	0	0				
Frontage Drains	26	16	9				
Establishment Sundries—apportionment (Schedule I)	9	17	4				
					2216	14	1
					2216	14	1

PAYMENTS.

EWISHAM.

Sewers Cleansing	248	18	1				
Ditto Repairs	85	12	10				
Frontage Drains	189	4	4				
Loans—Instalments..... £1175 0 0							
Ditto—Interest and Income Tax	621	0	3				
					1796	0	3
Urinals	5	12	6				
Sundries.....	6	15	7				
Establishment Expenses—apportionment (Schedule I)	293	10	2				
					2625	13	9
					2625	13	9

ENGE.

Sewers Cleansing	112	1	8				
Ditto Repairs	44	3	0				
Frontage Drains	27	11	3				
Surface Drainage	139	6	4				
Loans—Instalments..... 586 0 0							
Ditto—Interest and Income Tax	346	3	10				
					932	3	10
Establishment Expenses—apportionment .....(Schedule I)	236	9	10				
					1491	15	11
					1491	15	11

SCHEDULE E.—Sewers Construction.

*Detailed particulars of the Receipts and Expenditure for the purpose of
Constructing Sewers.*

		RECEIPTS.					
		£	s.	d.	£	s.	d.
LEWISHAM.							
Beckenham Sewerage Act—							
Bromley Guardians—apportionment of £1062							
10s. in respect of Penge and Bell Green							
Sewer (Mins. 16 Dec., 1874, par. 4)							
		106	5	0			
Metropolitan Board of Works—							
apportionment of £1062 10s.							
in respect of Ravensbourne							
and Sydenham Sewer							
	£	618	6	2			
Interest on same							
		11	9	0			
		629 15 2					
Mr. Desvignes—Contribution to Hither Green Lane Sewer							
					736	0	2
Mr. Shorter and others—ditto Honor Oak Estate							
					35	0	0
Cash on Deposit (part of £1411 2s. 6d.)							
					150	0	0
					575	12	0
					1496 12 2		
PENGE.							
Beckenham Sewerage Act—							
Bromley Guardians—apportionment of £1062 10s. in res-							
pect of Penge and Bell Green Sewer (Mins. 16 Dec.,							
1874, par. 4)							
		956	5	0			
Beverley and Selby Road Sewers (Buckmaster and Agar).....							
		23	11	2			
		979 16 2					
		PAYMENTS.					
LEWISHAM.							
Sewerage Works in the following localities—							
Bird's Cottages, &c.							
					6	18	5
Penge and Bell Green Sewer (apportionment of cost of							
reconstruction							
					15	5	10
Kent House Road.....							
					31	10	0
Three Tuns Passage (Blackheath).....							
					141	14	4
Dartmouth Road							
					220	12	11
Honor Oak Estate							
					358	18	2
Sydenham Hill Road and Eliot Bank							
					87	16	6
Laurie Road.....							
					121	5	0
Hither Green Lane							
					57	12	4
Abbott's Cottages (Roadway).....							
					57	6	9
Side Entrances to Sewers							
					41	3	8
		1140 3 1					
PENGE.							
Penge and Bell Green Sewer (apportionment of cost of							
reconstruction)							
					137	12	3
Sewer Ventilators.....							
					70	6	0
		207 18					

SCHEDULE F.—Paving, &c., Works—Loans.

Detailed particulars of the Receipts and Expenditure for the purpose of Paving.

RECEIPTS.		£	s.	d.	£	s.	d.
WISHAM.							
Loan—Kerbing and Channelling (Provident Clerks' &c., Association)		2900	0	0			
Ditto—Asphalte and Concrete ditto ditto.....		3500	0	0			
Ditto—Tar Paving ditto ditto.....		900	0	0			
					7300	0	0
NGE.							
Loan—Kerbing and Channelling (Provident Clerks' &c., Association)		2500	0	0			
Ditto—Tar Paving ditto ditto.....		1200	0	0			
					3700	0	0
PAYMENTS.							
WISHAM.							
Kerbing and Channelling—							
Mowlem & Co.	3075	7	7				
Cole, G. W.	36	4	3				
Beevers, E. & H.	15	13	6				
				3127	5	4	
Asphalte and Concrete—							
The Limmer Asphalte Paving Company, Limited	2500	0	0				
Wilkinson, W. B. and Co.	311	14	0				
Mowlem and Co.	55	7	0				
Sundry Persons.....	74	1	6				
The Board's Horses	18	6	4				
Wages	79	10	6				
				3038	19	4	
Tar Paving—							
Stimpson, W. (Cartage and Gravel)	170	7	10				
The Crystal Palace District Gas Company (Tar and Breeze)	105	10	0				
The Bromley Gas Company—ditto.....	13	2	6				
Lane, Thomas (Cartage and Gravel).....	58	16	6				
Sundry Persons.....	96	5	8				
Rent of Field.....	30	0	0				
The Board's Horses	15	8	7				
Wages	257	4	11				
				746	16	0	
					6913	0	8
NGE.							
Kerbing and Channelling—							
Beevers, E. and H.	871	1	11				
Sundry Persons.....	46	1	1				
				917	3	0	
Tar Paving—							
Shackell, Thomas (Gravel)	160	16	0				
Winniffrith, R. (Cartage, &c.).....	87	11	6				
The Crystal Palace District Gas Company (Tar and Breeze)	111	18	4				
The Croydon Gas Company—ditto.....	105	4	2				
Sundry Persons.....	48	3	9				
Wages	256	15	5				
				770	9	2	
					1687	12	2

SCHEDULE G.—New Streets.

Detailed particulars of the Receipts and Expenditure in the Formation and Pavement of New Streets.

LEWISHAM.	RECEIPTS.	£	s.	d.	£
Abbott's Cottages Road		210	0	0	
Bradford Road		153	17	0	
Brockley Place		85	2	0	
Canterbury Road		39	3	0	
Court Hill Road		142	11	0	
David's Road.....		76	3	0	
East Down Park Road.....		11	18	8	
Eliot Park Road		110	0	0	
Horton Street		97	18	0	
Jerrard Street		44	14	0	
Park Road, Forest Hill		13	11	0	
Prospect Road		94	4	6	
Raglan Street		28	2	0	
Thornford Road.....		152	2	0	
Thurston Road		77	6	0	
St. German's Road		350	10	0	
St. Stephen's Road		71	17	6	
St. Stephen's Terrace		65	3	4	
					1824
PENGE.					
Anerley Grove		51	8	0	
Anerley Park Road		324	11	0	
Arpley Road.....		18	12	3	
Belvedere Road.....		68	0	0	
Clarina Road.....		23	10	0	
Crystal Palace Station Road		131	0	0	
Howard Road		15	0	0	
					632
LEWISHAM.					
	PAYMENTS.				
Abbott's Cottages Road		91	2	10	
Bradford Road		75	11	6	
Eliot Park Road		377	19	11	
Horton Street		190	4	5	
Jerrard Street		141	5	10	
Prospect Road		54	6	0	
Thornford Road.....		518	17	0	
Thurston Road		255	12	6	
St. German's Road		289	15	4	
St. Stephen's Road		73	17	0	
St. Stephen's Terrace		85	12	2	
					2154
PENGE.					
Anerley Park Road		21	7	0	
Belvedere Road.....		3	3	0	
Crystal Palace Station Road		30	12	9	
Howard Road		7	10	0	
					62
					12

SCHEDULE H.—Private Works.

etailed Particulars of the Receipts and Expenditure in the construction of Private Sewers and other Private Works.

WISHAM.	RECEIPTS	£	s.	d.	£	s.	d.	
Mr. Hatfield (Diverting Sewer, Kent House, Blackheath Hill)...		8	5	0				
Mr. Gray (Draining Shaw's Cottages, and Perry Rise)		9	7	0				
Messrs. Seddon and Praetor (Orchard Place, Water Supply)		6	6	0				
Sundry Persons (Sundry Works)		2	2	6				
						26	0	6
PENGE.								
Mr. Tucker (Drainage of Houses, Elmer's End Road)		28	0	0				
Birkbeck Building Society (Cleansing, &c., Penge Boundary Ditch)		20	5	11				
The North Surrey District School (Footpaths Anerley Road) ...		6	0	0				
Sundry Persons (Sundry Works)		3	19	0				
						58	4	11
WISHAM.								
PAYMENTS.								
Constructing Drain, Wigton Villas, for Mrs. Sullivan.....		10	7	9				
Altering Drain, 9, Hanover Terrace, for Mrs. Symes		8	5	0				
Diverting Sewer, Kent House, Blackheath Hill, for Mr. Hatfield		7	10	0				
Draining Shaw's Cottages, &c., for Mr. Gray		8	10	0				
Sundry Works for Sundry Persons.....		6	0	1				
						40	12	10
PENGE.								
Draining Houses in Elmer's End Road, Mr. Tucker		23	15	0				
Cleansing, &c., Penge Boundary Ditch, for The Birkbeck Build- ing Society		18	9	0				
Tar Paving Footpath, Anerley Road, for The North Surrey District School		6	0	0				
Sundry Works for Sundry Persons.....		3	7	0				
						51	11	0

SCHEDULE H¹.—Cash on Deposit.

WISHAM.	RECEIPTS.	£	s.	d.	£	s.	d.	
Cash on Deposit with the London and Westminster Bank, applied as follows, and in accordance with the Resolutions of the Board of the 16th July, 1874 (Mins. pp. 199 and 177)—								
Debt on Former Greenwich Separate								
	Sewerage District.....	£1728	5	8				
Less Credit on Former Ravensbourne								
	Separate Sewerage District	911	11	9				
					816	13	11	
Debt on Sewers Construction Account		575	12	0				
Sewerage Purposes Account		18	16	7				
						1411	2	6
Establishment (Interest on Cash on Deposit)						10	3	2
						1421	5	8
						1421	5	8

SCHEDULE I.—Establishment Expenses.

Detailed Particulars of Receipts and Payments comprised under Establishment Expenses, and apportioned in the first instance between the Parish of Lewisham and Hamlet of Penge, and subsequently between the several rates levied.

RECEIPTS.		£	s.	d.	£
Police Court Fines and Fees		18	3	11	
Interest on Current Account, &c.	£120 19 0				
Ditto Deposit Account	(Schedule H ¹) 10 3 2				
		131	2	2	
The Board's Hospital—from Patients		24	10	6	
Sundries		8	3	6	
					£182
PAYMENTS.					
Rents, Rates, and Taxes.....		87	19	4	
Salaries, Superannuation Allowances, and Wages of Officers(Salaries, 1½ Years)		2553	19	10	
Stationery and Printing.....		429	16	8	
Adulteration of Food, &c., Act		211	7	9	
The Board's Hospital		199	3	8	
Tools		112	17	9	
Interest on Temporary Loan		174	6	7	
Beckenham Sewerage Act—Preliminary Costs		104	18	4	
Office Expenses, &c., and Sundries		487	7	6	
					£4361 17 5
LEWISHAM. APPORTIONMENT OF RECEIPTS.					
General Purposes Account	(Schedule A)	54	11	4	
Ditto (159th Sect. Metropolis Management Act, 1855) Account	(Schedule B)	34	11	5	
Lighting Account.....	(Schedule C)	24	15	5	
Sewerage Purposes Account	(Schedule D)	12	5	0	
					126 3 3
PENGE.					
General Purposes Account	(Schedule A)	36	8	8	
Lighting Account.....	(Schedule C)	9	10	11	
Sewerage Purposes Account	(Schedule D)	9	17	4	
					55 16 11
					£182 0 1
LEWISHAM. APPORTIONMENT OF PAYMENTS.					
General Purposes Account	(Schedule A)	1307	19	6	
Ditto (159th Sect. Metropolis Management Act, 1855) Account	(Schedule B)	828	8	7	
Lighting Account.....	(Schedule C)	593	11	3	
Sewerage Purposes Account	(Schedule D)	293	10	2	
					3023 9 2
PENGE.					
General Purposes Account	(Schedule A)	873	2	5	
Lighting Account	(Schedule C)	228	15	8	
Sewerage Purposes Account	(Schedule D)	236	9	10	
					1338 7 5
					£4361 17 5

NOTE.—The Establishment Receipts and Expenses of the Board are in the first instance apportioned between the Parish of Lewisham and Hamlet of Penge, on the basis of rateable value, and such receipts and expenses are further apportioned between the several rate-purposes levied in the Parish and Hamlet respectively in proportion to the net expenditure for the year on each. The Rateable value adopted as the basis of apportionment is the same as adopted by the Metropolitan Board of Works and the School Board for London for the year 1875, viz.,

Parish of Lewisham	£290,126
Hamlet of Penge	128,430
	418,556

SCHEDULE J.—Mortgages—(Part 1.)

Detailed Statement of Mortgages outstanding on the 25th day of March, 1875.

THE UNITED KENT LIFE ASSURANCE AND ANNUITY INSTITUTION OR COMPANY (LIMITED), (FORMERLY THE KENT OFFICE).											
No. on Register.		£	s.	d.	£	s.	d.	£	s.	d.	
1, 2, & 7	Balance of Loan of	9000	0	0				2500	0	0	
9	Ditto ditto	1000	0	0				450	0	0	
10	Ditto ditto	4000	0	0				2000	0	0	
11	Ditto ditto	1000	0	0				100	0	0	
					15000	0	0				
									5050	0	0
<p>NOTE.—The sum of £1411 2s. 6d., stated in the accounts for the year ending Lady-day, 1874, to be applicable towards the redemption of Mortgages Nos. 1, 2, and 7, has, as to £1392 5s. 11d., been applied (See Min., 2 July, 1874, page 177) in discharge of an old debt on the Greenwich Separate Sewerage District; and of a debt incurred in constructing Sewers in Lewisham, and the balance of £18 16s. 7d. has been carried to the account of Lewisham Sewerage Purposes. (See Schedule H1.)</p>											
THE UNITED KINGDOM TEMPERANCE AND GENERAL PROVIDENT INSTITUTION FOR MUTUAL LIFE ASSURANCE.											
4	Balance of Loan of	2000	0	0				400	0	0	
14	Ditto ditto	1500	0	0				600	0	0	
17	Ditto ditto	3500	0	0				2975	0	0	
					7000	0	0				
									3975	0	0
THE PENGE GRAVEL ALLOTMENT FUND.											
8	Balance of Loan of				1722	12	11				
									507	14	0
THE PENGE GRAVEL ALLOTMENT FUND SINKING FUND.											
	Balance of Loan of				800	0	0				
									500	0	0
THE ATLAS ASSURANCE COMPANY.											
12	Balance of Loan of	6000	0	0				3600	0	0	
13	Ditto ditto	4000	0	0				2400	0	0	
					10000	0	0				
									6000	0	0
THE PROVIDENT CLERKS' MUTUAL LIFE ASSURANCE ASSOCIATION.											
15	Balance of Loan of	3000	0	0				2250	0	0	
16	Ditto ditto	3000	0	0				2400	0	0	
18	Ditto ditto	3000	0	0				2700	0	0	
19	Ditto ditto	2000	0	0				1800	0	0	
20	Ditto ditto	3000	0	0				2700	0	0	
21	Ditto ditto	1500	0	0				1071	8	6	
24	Ditto ditto	900	0	0				900	0	0	
25	Ditto ditto	1200	0	0				1200	0	0	
26	Ditto ditto	3500	0	0				3500	0	0	
27	Ditto ditto	2900	0	0				2900	0	0	
28	Ditto ditto	2500	0	0				2500	0	0	
29	Ditto ditto	1100	0	0				1100	0	0	
					27600	0	0				
									25021	8	6
THE METROPOLITAN BOARD OF WORKS.											
22	Balance of Loan of	5000	0	0				4750	0	0	
23	Ditto ditto	9900	0	0				9900	0	0	
					14900	0	0				
									14650	0	0
					£77,022	12	11		£55,704	2	6

NOTE.—The Penge Gravel Allotment Fund is held by the Board as Trustees for Penge, and the Instalments of Loan from it are re-funded from time to time, as a Sinking Fund for its redemption. From such redemption fund a further sum of £800 has been borrowed, and is being similarly redeemed.
The redemption fund now amounts to £714 18s. 11d., which, together with the above balances of £507 14s., and £500, makes up the amount of the original fund of £1722 12s. 11d.

SCHEDULE L.—General Purposes, 159th Sec. M. M. Act, 1853

Detailed particulars of Assets and Liabilities comprised under General Purposes within the provisions of the 159th Section of the Metropolis Management Act, 1853

LEWISHAM.	ASSETS.	£	s.	d.	£	s.	d.	£	s.
Sydenham Hill Road (moiety of cost of Watering due by the Camberwell Vestry)					43	19	8		
Dust, sale of—Bates		12	2	0					
Catling		10	7	6					
Champion		15	5	6					
Chapman, Mrs.		8	10	0					
Downie, Laird, and Laing		9	18	6					
Holdsworth		20	8	0					
Stumps		53	13	3					
Sundry persons (under £5 each)		12	2	3					
					142	7	0		
Establishment Sundries—Apportionment..... (Schedule S)					251	4	4		
								£437	1
LEWISHAM.	LIABILITIES.	£	s.	d.	£	s.	d.	£	s.
Dust Collecting—Grant, M.		31	16	0					
Jewkes, T.		13	4	0					
					45	0	0		
Watering—Ingersoll, F. R.		0	8	0					
Major & Sons		10	10	6					
Stimpson, W.		8	13	3					
					19	11	9		
Improvements, Brockley Lane (Webbs' Estate)—									
Cole, G. W.		6	9	8					
Church Vale Road—Mowlem & Co.		2	2	0					
Forest Hill Road—Edwards, S.		19	0	0					
Havelock Street—Beevers, E. & H.	3	0	0						
Lacey, C. J.	0	6	1						
Stimpson, W.	9	1	6						
					12	7	7		
Park End Footbridge—Amer, G.	53	3	9						
Head, Williams & Co.	257	0	0						
Lon. B., & S. C. R. Com.	1	7	0						
					311	10	9		
Plantations, Lewisham High Rd.—Maller, B.		2	3	1					
					353	13	1		
Income Tax on Loans.....					5	11	9		
Establishment Expenses—apportionment..... (Schedule S)					45	11	0		
								£469	7

NOTE.—See note to Schedule B.

SCHEDULE M.—Lighting.

Detailed Particulars of Assets and Liabilities for the purpose of Lighting.

LEWISHAM.	ASSETS.	£	s.	d.	£	s.
Sydenham Hill Road (moiety of cost of Lighting due by the Camberwell Vestry)					56	5
Establishment Sundries—apportionment..... (Schedule S)					179	19
PENGE.					£236	4
Establishment Sundries—apportionment..... (Schedule S)						
					£69	8
LEWISHAM.	LIABILITIES.	£	s.	d.	£	s.
The Crystal Palace District Gas Company		553	17	4		
" Phoenix Gas Light and Coke Company (Sydenham Hill)		28	2	6		
Establishment Expenses—apportionment..... (Schedule S)		575	7	3		
					32	12
PENGE.						
The Crystal Palace District Gas Company		320	10	11		
Establishment Expenses—apportionment..... (Schedule S)		12	11	8		
					£1189	19
					£333	2

SCHEDULE N.—Sewerage Purposes.

*Detailed particulars of Assets and Liabilities for Sewerage purposes, exclusive of
the Construction of Sewers.*

ASSETS.

	£	s.	d.	£	s.	d.
WISHAM.						
Frontage Drains and Private Works, &c.	46	4	9			
Establishment Sundries—apportionment (Schedule S)	89	1	9			
			—————	£135	6	6
						=====
ENGE.						
Frontage Drains	0	12	5			
Establishment Sundries—apportionment (Schedule S)	71	13	0			
			—————	£72	5	5
						=====

LIABILITIES.

WISHAM.						
Frontage Drains	48	19	4			
Sewers Cleansing.....	3	7	10			
Surface Drainage.....	27	7	0			
Sewers Repairs.....	6	4	7			
Private Works, Orchard Place	6	6	0			
Income Tax on Loans.....	5	6	6			
Establishment Expenses—apportionment..... (Schedule S)	16	3	0			
			—————	£113	14	3
						=====
ENGE.						
Frontage Drains	13	18	9			
Surface Drainage—Williams, Alfred.....	17	10	0			
Penge and Beckenham Drainage—Williams, Alfred	186	12	0			
Income Tax on Loans.....	3	9	2			
Establishment Expenses—apportionment..... (Schedule S)	12	19	9			
			—————	£234	9	8
						=====

SCHEDULE O.—Sewers Construction.

Detailed particulars of Assets and Liabilities for the purpose of constructing Sewers.

ASSETS.		£	s.	d.	£	s.	d.	£	s.	d.
LEWISHAM.										
Honor Oak Drainage—Clark, E.		50	0	0						
Devonshire Road Sewer		23	17	9						
Court Hill Road, &c., Sewers		21	2	10						
Bromley Guardians—apportionment of Interest on £1062 10s....		2	0	6						
								£97		11
PENGE.										
Beverley Road Sewer		23	4	9						
Selby Road Sewer		32	2	11						
Weighton Road Sewer		5	11	10						
Bromley Guardians—apportionment of Interest on £1062 10s....		18	4	8						
								79		43
LIABILITIES.										
LEWISHAM.										
Honor Oak Drainage—Cole, G. W.		53	14	11						
Stimpson, W.		0	16	6						
Williams, A.		31	10	0						
								86	1	5
Sewer Ventilators—Cole, G. W.		3	16	0						
Giles, B.		22	16	4						
								26	12	4
								£112		13
PENGE.										
Sewer Ventilators—Cole, G. W.		64	2	0						
Stone & Co.		16	6	0						
								£80		8

SCHEDULE P.—New Streets.

Detailed particulars of Assets and Liabilities in the paving and forming New Streets, &c.

LEWISHAM.	ASSETS.	£	s.	d.	£	s.	d.
Bradford Road		34	16	2			
Canterbury Road		81	12	8			
Court Hill Road		312	1	0			
David's Road.....		69	16	6			
Eliot Park Road		174	13	6			
Jerrard Street		46	12	5			
Park Road, Forest Hill		27	2	4			
Prospect Road		40	0	10			
Raglan Street		93	18	0			
Ditto Street leading out of.....		10	12	0			
Ravensbourne Villas Road		88	0	6			
Ryecroft Road		0	12	0			
St. Germans Road, Forest Hill.....		97	11	11			
St. Germans Road, Lewisham		32	11	11			
St. Stephen's Terrace		40	16	4			
St. Stephen's Road		29	13	4			
Thornford Road.....		58	6	8			
Thurston Road		6	9	9			
					1245	7	10
<hr/>							
PENGE.							
Anerley Park Road		298	7	1			
Arpley Road.....		10	14	10			
Clarina Road.....		95	0	0			
Crystal Palace Station Road		5	10	6			
Howard Road		92	12	1			
Intermediate Road		48	0	0			
Penge Place		3	10	7			
Queen Adelaide Road		12	11	0			
Selby Road		7	2	0			
Thicket Road		7	4	2			
					580	12	3
<hr/>							
LEWISHAM.	LIABILITIES.						
Abbott's Cottages Road		118	17	2			
Bradford Road		36	1	10			
Brockley Place		85	2	0			
Canterbury Road		56	15	9			
Clyde Terrace		5	17	3			
Court Hill Road		165	16	6			
David's Road		56	13	4			
Eliot Park Road		108	14	0			
Horton Street		67	2	7			
Jerrard Street		29	11	7			
Prospect Road		44	15	3			
Raglan Street		28	4	0			
Ditto Street leading out of.....		16	13	2			
Ravensbourne Villas Road		125	12	10			
Ryecroft Road		29	12	0			
St. Germans Road		101	6	3			
St. Stephen's Terrace		26	7	3			
St. Stephen's Road		27	13	10			
Thornford Road		100	10	11			
Thurston Road		94	9	6			
					1325	17	0
<hr/>							
PENGE.							
Anerley Grove		70	10	2			
Anerley Park Road		98	19	8			
Arpley Road.....		44	8	8			
Belvedere Road.....		45	9	0			
Clarina Road.....		49	13	11			
Crystal Palace Station Road		105	17	9			
Howard Road		55	13	9			
Penge Place		5	12	6			
Queen Adelaide Road		35	1	0			
					511	6	5
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SCHEDULE S.—Establishment Expenses.

ASSETS.

	£	s.	d.	£	s.	d.
New Streets—Fines and Fees prior to Lady-day, 1874				2	10	4
Ditto Lewisham—Board's per centage, &c. 885 3 10	885	3	10			
Ditto Penge—Ditto ditto 288 13 2	288	13	2			
Sewerage Purposes—Lewisham—Ditto ditto 13 8 9	13	8	9			
Ditto Penge—Ditto ditto 2 2 8	2	2	8			
Private Works—Lewisham—Ditto ditto 16 11 5	16	11	5			
Ditto Penge—Ditto ditto 5 15 1	5	15	1			
				1211	14	11
The Board's Hospital—From Patients				41	2	6
The Bromley Guardians—Halfpenny in the £ on Rateable Value of Sewerage Area				32	12	4
The Lambeth Vestry—Copies of Gas Report				3	0	0
The Lewisham (Local) Guardians—Rent of Board Room				30	0	0
McLennan, G. J.—Interest on charge for New Streets				1	17	6
					1322	17 7

Apportionment of the above Assets.

WISHAM.

General Purposes Account	(Schedule K)	396	11	9
Ditto 159th Sect. Metrop. Man. Act, 1855, Account.....	(Schedule L)	251	4	4
Lighting Account	(Schedule M)	179	19	11
Sewerage Purposes Account	(Schedule N)	89	1	9
				916 17 9

NGE.

General Purposes Account	(Schedule K)	264	18	5
Lighting Account.....	(Schedule M)	69	8	5
Sewerage Purposes Account	(Schedule N)	71	13	0
				405 19 10
				£1322 17 7

LIABILITIES.

Stationery, &c.—Crockford, W. H.	58	18	3
Sundry persons (under £5 each) ...	9	5	8
			68 3 11
Salaries—Cutchey, C. G.	5	5	0
The Board's Hospital—Whitewood, W.	2	0	9
Tools—Sundry persons	4	8	2
			79 17 10
Carried forward.....			

SCHEDULE S.—Continued.

LIABILITIES—CONTINUED.

	£	s.	d.	£	s.	d.	£
Brought forward				79	17	10	
Adulteration of Food, &c., Act—Heisch, C.....	44	0	0				
Stevens, Mrs. ...	0	2	6				
				44	2	6	
Rents, Rates, &c.—The Leathersellers' Company...	7	6	3				
The Phoenix Gas Light and Coke Company	7	3	11				
				14	10	2	
Superannuation Allowance—Treverton, W. H.				25	4	2	
Office Expenses, &c., and Sundries:—							
Fielding, W. E.	8	13	0				
Hinder, J.....	19	10	10				
Nelson, J., & Sons	33	10	0				
Rutley, W.	5	5	0				
Sundry persons (under £5 each).....	9	3	0				
				76	1	10	
							239 16

Apportionment of the above Liabilities.

LEWISHAM.							
General Purposes Account	(Schedule K)			71	18	0	
Ditto 159th Sect. Metrop. Man. Act, 1855, Account.....	(Schedule L)			45	11	0	
Lighting Account.....	(Schedule M)			32	12	10	
Sewerage Purposes Account	(Schedule N)			16	3	0	
							166 4
PENGE.							
General Purposes Account	(Schedule K)			48	0	3	
Lighting Account.....	(Schedule M)			12	11	8	
Sewerage Purposes Account	(Schedule N)			12	19	9	
							73 11
							£239 16

NOTE.—The Assets and Liabilities for Establishment Expenses are apportioned on the same basis as the Receipts and Payments for the like purpose. (See Note to Schedule I.)

Alphabetical List of the Accounts, &c., embodied in the foregoing Statement of Assets on Current Accounts (page 5.)

		£	s.	d.	£	s.	d.
Ams, P. D.	Private Works, Lewisham				108	2	5
Arley Park Road	New Streets, Penge				298	7	1
Aley Road	Ditto ditto				10	14	10
Echelor, G.	Establishment (Board's Hospital)				8	7	0
Ees, Mr.	General Purposes, Lewisham, 159th Sec.				12	2	0
Herley Road Sewer	Sewers Construction, Penge				23	4	9
Edford Road	New Streets, Lewisham				34	16	2
Emley Union Guardians	Establishment	32	12	4			
	Sewers Construction, Lewisham	2	0	6			
	Ditto ditto Penge	18	4	8			
					52	17	6
Chaberwell Vestry	(Sydenham Hill)						
	General Purposes, Lewisham (Highways)	58	0	6			
	Ditto ditto, 159th Sec. (Watering)	43	19	8			
	Lighting, Lewisham	56	5	0			
					158	5	2
Eden Cottages	Private Works, Lewisham				50	9	0
Etterbury Road	New Streets, Lewisham				81	12	8
Eling, Mr.	General Purposes, Lewisham, 159th Sec.				10	7	6
Empion, C.	Ditto ditto ditto				15	5	6
Epman, Mrs.	Ditto ditto ditto				8	10	0
Erina Road	New Streets, Penge				95	0	0
Erk, E.	Sewers Construction, Lewisham				50	0	0
Ert Hill Road	New Streets, Lewisham				312	1	0
Ert Hill Road, &c., Sewers	Sewers Construction, Lewisham				21	2	10
Estal Palace Company	Private Works, Penge				16	14	0
Estal Palace District Gas Co.	General Purposes, Lewisham				124	0	3
Estal Palace Station Road	New Streets, Penge				5	10	6
Eres Road Sewer	Private Works, Lewisham				17	19	0
Erid's Road	New Streets, Lewisham				69	16	6
Ironshire Road Sewer	Sewers Construction, Lewisham				23	17	9
Lynie, Laird, and Lang	General Purposes, Lewisham, 159th Sec.				9	18	6
List, Sale of (sundry persons)	Ditto ditto ditto				8	1	9
Lbrton, W.	General Purposes, Lewisham				14	5	0
Lbt Park Road	New Streets, Lewisham				174	13	6
Lntage Drains, (sundry persons)	Sewerage Purposes, Lewisham	33	11	1			
Lto ditto	Ditto ditto Penge				12	5	
					34	3	6
Lher Green Drainage	Private Works, Lewisham				18	15	2
Lldsworth, J.	General Purposes, Lewisham, 159th Sec.				20	8	0
Lward Road	New Streets, Penge				92	12	1
Lrmediate Road	Ditto ditto				48	0	0
Lrard Street	New Streets, Lewisham				46	12	5
Lnt Justices	General Purposes, Lewisham				270	0	0
Lnt Waterworks Company	Ditto ditto				44	19	0
Lmbeth Waterworks Company	General Purposes, Lewisham				23	19	3
Lwisham (Local) Guardians	Establishment (Rent)				30	0	0
Lrsden, F. M.	Establishment (Board's Hospital)				8	7	0
Lw Streets, Lewisham	Ditto (Board's Commission)	885	3	10			
	Ditto (Fines and Fees)	2	8	4			
					887	12	2
Lw Streets, Penge	Ditto (Board's Commission)	288	13	2			
	Ditto (Fines and Fees)				2	0	
					288	15	2
	Carried forward				3630	5	11

Alphabetical List of Accounts, &c.—Continued.

		£	s.	d.	£	s.	d.
		Brought forward.....			3630	03	8
Park Road, Forest Hill.....	New Streets, Lewisham.....				27		
Penge Overseers.....	General Purposes, Penge				2617		
Penge Place	New Streets, Penge				3		
Price, W.	Establishment (Board's Hospital).....				5		
Private Works, Lewisham	Ditto (Board's Commission) ...	16	11	5			
	Sewerage Purposes, Lewisham.....	12	13	8			
					29		
Private Works, Penge	Establishment (Board's Commission) ...	5	15	1			
	Paving, Penge.....	3	0	0			
					8	1	8
Prospect Road.....	New Streets, Lewisham.....				40		
Queen Adelaide Road.....	Ditto Penge				12	1	
Raglan Street.....	Ditto Lewisham.....				93	1	
Raglan Street (Street leading out of)	Ditto ditto				10	1	
Ravensbourne Villas Road	Ditto ditto				88		
Road Scrapings (sundry persons)...	General Purposes, Lewisham				32		
Ryecroft Road	New Streets, Lewisham						
St. Germain's Road, Forest Hill ...	Ditto ditto				97		
St. German's Road, Lewisham.....	Ditto ditto				32		
St. Stephen's Road	Ditto ditto				29		
St. Stephen's Terrace	Ditto ditto				40		
School Board for London	Private Works, Lewisham.....				5		
Selby Road.....	New Streets, Penge				7		
Selby Road Sewer	Sewers Construction, Penge				32		
Sewerage Purposes, Lewisham.....	Establishment (Board's Commission on Frontage Drains	13	8	9			
	Private Works, Lewisham.....	6	6	0			
					19	14	9
Sewerage Purposes, Penge	Establishment (Board's Commission on Frontage Drains)				2	28	
Shillito, B.	Establishment (Board's Hospital)				15	35	
Stumps, Mr.	General Purposes, Lewisham, 159th Sec.				53	13	3
Sullivan, E.	Private Works, Lewisham.....				11	8	
Symes, Mrs.	Ditto ditto				9	1	
Thicket Road.....	New Streets, Penge				7	4	
Thornford Road.....	Ditto Lewisham				58	6	
Thurston Road	Ditto ditto				6	9	
Weighton Road Sewer	Sewers Construction, Penge				5	11	1
Sundry persons (under £5 each) ...	Sundry.....				17	3	8
					£7,051	11	11

Alphabetical List of the Persons to whom are owing the Monies comprised in the foregoing Statement of Liabilities. (page 4).

		£	s.	d.	£	s.	d.
Bott's Cottages	New Streets, Lewisham				86	12	5
er, G.....	General Purposes, Lewisham, 159th Sec. (Improvements)				53	3	9
erley Grove	New Streets, Penge				46	0	6
pley Road	Ditto ditto				17	11	4
kins, Henry	General Purposes, Lewisham (Vestry).....				20	0	0
evers, E. and H.	New Streets, Penge (Crystal Palace Station Road)	91	19	11			
	Private Works, Penge	15	3	8			
	General Purposes, Penge (Highways)...	121	12	2			
	Ditto ditto (Improvements)	54	12	2			
	General Purposes, Lewisham, 159th Sec. (Improvements)	3	0	0			
	Paving, Penge.....	249	17	1			
					536	5	0
Ivedere Road	New Streets, Penge				33	4	7
ockley Place	New Streets, Lewisham				21	10	5
the Burham Brick, Lime, and Cement Company	General Purposes, Lewisham (Highways)				9	0	0
Churchwardens of Lewisham Parish	Ditto ditto (Vestry).....				15	15	0
arina Road	New Streets, Penge				32	5	4
le, G. W.....	General Purposes, Lewisham (Highways)	20	8	7			
	Ditto ditto Penge ditto	0	17	0			
	Sewerage ditto Lewisham (Frontage Drains)	22	11	8			
	Ditto ditto Penge ditto	2	5	9			
	Ditto ditto Lewisham (Surface Drainage)	27	7	0			
	Private Works, Lewisham.....	76	5	11			
	Sewers Construction, Lewisham	57	10	11			
	Ditto ditto Penge	64	2	0			
	Sewerage Purposes, Lewisham (Sewers Repairs)	3	2	6			
	General Purposes, Lewisham, 159th Sec. (Improvements)	6	9	8			
					281	1	0
ockford, W. H.	Establishment (Stationery, &c.)				58	18	3
ystal Palace District Gas Co. ...	Lighting, Lewisham	553	17	4			
	Ditto ditto (Sydenham Hill)...	28	2	6			
	Ditto Penge.....	320	10	11			
					902	10	9
atchey, C. G.	Establishment (Salaries)				5	5	0
alake, E.	General Purposes, Penge (Highways).....				57	12	0
wards, S.	Establishment (Sundries)	2	2	0			
	General Purposes, Lewisham, 159th Sec. (Improvements)	19	0	0			
	General Purposes, Lewisham (Vestry)...	30	0	0			
					51	2	0
lkington, G.	New Offices.....				20	0	0
tablissement	New Streets, Lewisham (Board's Commission)	885	3	10			
	Ditto ditto (Fines and Fees)	2	8	4			
	Ditto Penge (Board's Commsn.)	288	13	2			
	Ditto ditto (Fines and Fees)...	0	2	0			
	Carried forward				2247	17	4

Alphabetical List of Persons, &c.—Continued.

		£	s.	d.	£
		Brought forward.....			2247
Establishment	Sewerage Purposes, Lewisham (Board's Commission)	13	8	9	
	Ditto ditto Penge (Board's Commission)	2	2	8	
	Private Works, Lewisham (Board's Commission)	16	11	5	
	Ditto ditto Penge (Board's Commission)	5	15	1	
					1214
Fielding, W. E.....	Establishment.....		8	1	
Fox, Thomas	General Purposes, Lewisham (Board's Horses).....		36	1	
Frontage Drains, Lewisham (sundry persons)	Sewerage Purposes, Lewisham.....		12		
Ditto Penge ditto	Ditto ditto Penge		1		
Fuller, Thomas	General Purposes, Penge (Dust Collecting)		16	10	
Giles, B.	Sewers Construction, Lewisham		22	10	
Grant, M.	General Purposes, Lewisham, 159th Sec. (Dust Collecting)		31	10	
Greenwich District Board of Works	General Purposes, Lewisham (Highways)		89		
Head, Williams, and Co.	General Purposes, Lewisham 159th Sec. (Improvements)		257		
Heisch, C.	Establishment (Adulteration of Food, &c.).....		44	0	
Hinder, J.	General Purposes, Lewisham (Highways)	1	4	0	
	Establishment (Office Repairs).....	19	10	10	
	Sewerage Purposes, Lewisham (Frontage Drains).....	0	10	0	
					21
Horton Street.....	New Streets, Lewisham		23	0	
Ingersoll, F. R.	General Purposes, Lewisham (Highways)	2	12	0	
	Ditto ditto ditto (Board's Horses)	13	0	2	
	Ditto ditto ditto 159th Sec. (Watering)	8	0		
					16
Inland Revenue.....	General Purposes, Lewisham, 159th Sec. (Income Tax)	5	11	9	
	Ditto ditto Penge ditto ...	1	6	7	
	Sewerage Purposes, Lewisham ditto ...	5	6	6	
	Ditto ditto Penge ditto ...	3	9	2	
					15
Jewkes, Thomas	General Purposes, Lewisham 159th Sec. (Dust Collecting)		13	4	
Leathersellers' Company	Establishment (Rent).....		7	6	
Limmer Asphalte Paving Company, Limited	Paving, Lewisham.....		396	6	
Major and Sons	General Purposes, Lewisham, 159th Sec. (Watering)		10	10	
Mowlem and Co.	New Streets, Lewisham (Brockley Place)	57	16	0	
	Ditto ditto (Abbott's Cottages Road).....	21	0	5	
	Ditto ditto (St. Germans Road)	66	9	9	
	Ditto ditto (St. Stephen's Terrace)	16	14	7	
	Ditto ditto (St. Stephen's Road)	18	9	3	
					4485
Carried forward					5

Alphabetical List of Persons, &c.—Continued.

		£	s.	d.	£	s.	d.
	Brought forward.....				4485	5	8
Awlem and Co.	General Purposes, Lewisham, 159th Sec. (Improvements)	2	2	0			
	Paving, Lewisham.....	312	11	5			
					495	3	5
Enson, J., and Sons	Establishment (Sanitary)				33	10	0
Evport, G.	General Purposes, Lewisham (Highways)	2	12	11			
	Sewerage Purposes, Lewisham (Sewers Repairs)	2	17	1			
					5	10	0
Four Streets, Lewisham	General Purposes, Lewisham				36	16	6
Four Streets, Penge	Ditto ditto Penge	94	0	0			
	Sewerage Purposes, Penge	8	7	8			
					102	7	8
Fenix Gas-light and Coke Co. ...	Lighting, Lewisham	575	7	3			
	Establishment (Rates)	7	3	11			
					582	11	2
Grate Works, Lewisham	Sewerage Purposes.....				6	6	0
Hlett, W.	General Purposes, Lewisham (Highways)				50	16	0
Island Street.....	New Streets, Lewisham				6	18	6
Isle (Street leading out of).....	Ditto ditto				7	3	10
Kensbourne Villas Road	Ditto ditto				32	16	1
Kidell, C.	General Purposes, Lewisham (Parish Survey)				24	9	3
Kinson, J. and H.	Ditto ditto (Board's Horses)				7	16	0
Kley, W.	Establishment.....				5	5	0
Kin, G.	General Purposes, Lewisham (Highways)				9	3	9
Kerage Purposes, Lewisham.....	Private Works				12	13	8
Kickell, Thomas	General Purposes, Penge (Highways)				35	4	0
Kempson, W.	General Purposes, Lewisham (Highways)	56	3	4			
	Ditto 159th Sec. (Improve- ments)	9	1	6			
	Ditto ditto (Watering)	8	5	0			
	Ditto ditto (Watering, Sydenham Hill)		8	3			
	Sewers Construction, Lewisham		16	6			
					74	14	7
Kene, J. and Co.	Private Works, Lewisham	21	19	11			
	Sewers Construction, Penge	16	6	0			
	General Purposes, Lewisham (Highways)	18	12	3			
					56	18	2
Kenes, A.	General Purposes, Lewisham (Highways)				25	1	0
Kornford Road	New Streets, Lewisham				45	17	2
Kurston Road	Ditto ditto				33	16	3
Koverton, W. H.	Establishment (Superannuation)				25	4	2
Kilkinson, W. B., and Co.	Paving, Lewisham.....				77	18	5
Killiams, Alfred	Sewers Construction, Lewisham	31	10	0			
	Sewerage Purposes, Penge (Surface Drainage)	17	10	0			
	Ditto (Penge and Beckenham Drainage)	186	12	0			
					235	12	0
Kinniffrith, R.	General Purposes, Penge (Highways)...	19	5	8			
	Ditto ditto (Watering) ...	6	4	0			
	Establishment (Tools)		8	4			
					25	18	0
Kadry persons (under £5 each) ...	Sundry.....				46	15	11
					£6,587	12	2

NAMES AND ADDRESSES

OF THE

Members of the Board of Works and of their Officers,
IN JUNE, 1875.

Members.

- (b) ALLEN, Mr. JAMES, Southend, Catford.
- (b) BROOKER, Mr. JAMES, Brockley Park, Forest Hill.
- (a) BROWN, Mr. SAMUEL STANTON, High Street, Lewisham.
- (c) BURDETT, Mr. FRANCIS, Royal Parade, Blackheath.
- (b) CLUTTON, Mr. WILLIAM, Dulwich Road, Penge.
- (c) COUCHMAN, Mr. CHARLES, Catford House, Catford.
- (a) GATES, Mr. JOHN BROOK, Longton Grove, Sydenham.
- (c) GREEN, Mr. CHARLES, Croydon Road, Penge.
- (a) GRIFFIN, Mr. WILLIAM HUDSON, Anerley Road, Penge.
- (c) HENNELL, Mr. ALEX. GORDON, Mayow Road, Forest Hill.
- (b) HORTON, Mr. BENJAMIN, Jun., Homesdale, Lewisham.
- (b) HUGHES, Mr. HENRY, Lansdowne Lodge, Forest Hill.
- (c) INGERSOLL, Mr. FREDERICK HENRY, Lewisham.
- (a) JERRARD, Mr. SAMUEL JOHN, Homesdale, Lewisham.
- (c) JONES, The Rev. WM. TAYLOR, The College, Sydenham.
- (a) KEEN, Mr. ALFRED J., Result House, Croydon Road, Penge.
- (b) LEMON, Mr. WILLIAM GEO., Montpelier Lodge, Blackheath.
- (b) LEONARD, Mr. ABRAHAM PETER, St. Germain's Road,
West Hill, Forest Hill.
- (a) MURIEL, Mr. BROOKE, Peak Hill, Sydenham.
- (b) RIDDINGTON, Mr. STEPHEN, Lewisham.
- (c) ROBERTS, Mr. WM. BACHE, 4, Sunderland Villas, Forest Hill.
- (b) SMITH, Mr. THOMAS, Anerley Road, Penge.
- (c) STANGER, Mr. WM. W., Belvedere Road, Upper Norwood.
- (a) THOMPSON, Mr. CHAS. WM., 15, Rutland Park Villas,
Catford Bridge.
- (a) WHITTAKER, Mr. THOS. MILLER, Spencer Place, Blackheath.
- (a) WHOMES, Mr. ROBERT, Brook House, Lewisham.
- (c) WOUFF, Mr. RICHARD, Lewisham.

NOTE—The Members having (a) prefixed to their names will go out of office by rotation in June, 1876; those having (b) so prefixed in June, 1877; and those having (c) so prefixed in June, 1878.

Officers.

Treasurer and Banker.

The LONDON AND WESTMINSTER BANK (Southwark Branch).

Clerk.

Mr. SAML. EDWARDS, Lewisham.

Medical Officer.

Dr. FREDERIC EACHUS WILKINSON, Battle Cottage, Sydenham
Park.

Hospital Medical Officer.

Dr. C. W. STEEL, Southfield, Lewisham.

Public Analyst.

Mr. CHAS. HEISCH, 8, Savage Gardens, E.C.

Surveyor.

Mr. JOHN CARLINE, C.E., 6, Camps Hill Terrace, Ryecroft
Road, Lewisham.

Assistant Clerk.

Mr. EDWARD WRIGHT, Grove Place, Lewisham.

Book-keeper.

Mr. GEO. BEAVIS, Grove Place, Lewisham.

Inspectors of Nuisances.

Mr. WILLIAM BRIDGLAND, 17, Avenue Road, Lewisham,
For the Blackheath and Lewisham Division.

Mr. HENRY SHAW, 1, Ravensbourne Villas Road, Catford,
For the Sydenham and Forest Hill Division.

Mr. EDWARD BEADELL, Maple Road, Penge,
For the Hamlet of Penge.

Offices.

Grove Place, Lewisham, near the Church.

Committees of the Board.
GENERAL.

<i>Finance.</i>	<i>Works and General Purposes.</i>	<i>Sanitary.</i>
Mr. CLUTTON.	Mr. BURDETT.	Mr. ALLEN.
„ COUCHMAN.	„ COUCHMAN.	„ BROWN.
„ GATES.	„ GREEN.	„ GREEN.
„ GRIFFIN.	„ HENNELL.	„ HUGHES.
„ LEMON.	„ HORTON.	Rev. W. T. JONES.
„ LEONARD.	„ INGERSOLL.	Mr. KEEN.
„ RIDDINGTON.	„ JERRARD.	„ MURIEL.
„ ROBERTS.	„ STANGER.	„ WHITTAKER.
„ WHOMES.	„ THOMPSON.	„ WOOFF.

LOCAL

<i>Blackheath and Lewisham.</i>	<i>Sydenham and Forest Hill.</i>	<i>Penge.</i>
Mr. ALLEN.	Mr. COUCHMAN.	Mr. CLUTTON.
„ BROWN.	„ GATES.	„ GREEN.
„ BURDETT.	„ HENNELL.	„ GRIFFIN.
„ HORTON.	„ HUGHES.	„ KEEN.
„ INGERSOLL.	Rev. W. T. JONES.	„ SMITH.
„ JERRARD.	Mr. LEONARD.	„ STANGER.
„ LEMON.	„ MURIEL.	
„ RIDDINGTON.	„ ROBERTS.	
„ WHITTAKER.	„ THOMPSON.	
„ WHOMES.		
„ WOOFF.		

NOTE.—Mr. BROOKER is a Member of each of the Committees of the Board in addition to the above-named Members.

Committees of the Board
GENERAL

Chairman	Members and General Purposes	Finance
Mr. Arthur	Mr. Thompson	Mr. Carter
" "	" "	" "
" "	" "	" "
" "	" "	" "
Mr. W. T. Jones	Mr. Harris	" "
Mr. King	" "	" "
" "	" "	" "
" "	" "	" "
" "	" "	" "
" "	" "	" "

LOCAL

Chairman	Members and General Purposes	Finance
Mr. Carter	Mr. Thompson	Mr. Jones
" "	" "	" "
" "	" "	" "
" "	" "	" "
" "	" "	" "
" "	" "	" "
" "	" "	" "
" "	" "	" "
" "	" "	" "

There is a list of the names of the members of the Board in addition to the above named members.

ANNUAL REPORT

TO

The Board of Works of the Lewisham District

FOR THE YEAR 1874,

BY

F. EACHUS WILKINSON, M.D., &c.,

Medical Officer of Health for the District.

GENTLEMEN,

It again devolves upon me, in accordance with the provisions of the Metropolis Local Management Act, 25 and 26 Vict., chap. 102, to present to you my annual report upon the sanitary state of the Lewisham District during the year 1874.

In Table I., page 14, will be found the estimated population to the middle of the year 1874, the number of inhabited houses in the District at that time, and the births, deaths, and marriages which have taken place during the year.

In Table II., page 15, the annual rate of mortality per 1000 living persons, the death rates amongst children of various ages, and the per centage of deaths in public institutions during the last eleven years.

In Table III., pages 16 to 21, the deaths registered at several groups of ages, from different causes during the year 1874.

In Table IV., page 22, the mortality from certain classes of diseases, and the proportion to population, and to 1000 deaths in 1874.

In Table V., page 23, the number of deaths in the 10 years 1864-73, from the principal zymotic diseases, and the number in 1874.

In Table VI., page 24, the Reports of the Inspectors of Nuisances relative to the sanitary work effected during the year.

In Table VII., page 25, the number of inhabited houses, the estimated population, the number of births and deaths, with the birth and death rate in each of the Registrars sub-districts in Lewisham Parish and the Hamlet of Penge, together comprising The Lewisham District.

In Table VIII., page 26, the population and death rate in districts outside London; with the estimated population of the United Kingdom at the middle of 1874, and the annual rate of mortality of England and Wales.

In Table IX., page 27, the population, birth and death rate in London and 20 other large towns.

In Table X., page 28, the number of children between the ages of 3 and 13, attending schools under the supervision of the London School Board, with the situation of the schools.

MARRIAGES.

260 marriages took place during the year 1874 in the parish of Lewisham, of which 205 were solemnized in the several Church of England churches within the parish; 38 in Nonconformist chapels; and 17 at the Register Office, Lewisham.

69 marriages were solemnized at the several Church of England churches at Penge, 11 in Nonconformist chapels, and 3 at the Register Office; making a total of 343 in the Lewisham district, or an increase of 14 over those of the year 1873.

BIRTHS.

The registered births during the 52 weeks of the year 1874, amounted to 1,752, males 902, females 850, showing a diminution of 27 on the number registered in the year 1873.

The birth rate to population was 31.28 per 1000, or

about 1 birth to every 32 persons. The annual rate of births per 1000 in London was 35·7. For the birth rate in each Registrars sub-district, see Table VII., page 25.

In England the birth rate was 35·4 per 1000.

In the United Kingdom 34·5 per 1000.

The birth rate in 21 large towns was 37·2, see Table IX., page 27.

MORTALITY.

The number of deaths registered in the Lewisham District during the year 1874 was 842; of this number the deaths amongst males were 451, amongst females 391.

Notwithstanding the increase of population, the mortality, although a little higher than that of 1873, was below the average of the last 10 years; and whilst the rate of mortality in 1864 was 18·76, that of 1874 was only 15·03 per 1000—an exceedingly low rate.

The annual rate of mortality in London was 21·6 per 1000—16·9 in the outer ring, and 22·6 in the inner London.

The mortality was below 18 per 1000 in Rochester, Dover and Cheltenham; it was 32 in Stockport, 32 in Ashton-under-Lyne, 32 in Merthyr Tydvil, 36 in Preston, and 37 in Wigan.

The death rate in 21 large towns amounted to 25·4 per 1000.

The death rate for England and Wales was 22·27 per 1000.

By reference to Table III, page 16, which gives the mortality registered at several groups of ages, it will be seen that of the 842 deaths from all causes during the year 1874, 235, or nearly 28 per cent. (27·90) died under one year of age, and 99 between the ages of 1 and 5; so that 334 children, or nearly 40 per cent. (39·70) of the whole number of deaths were of children under the age of 5 years.

235	deaths took place under	1	year.
56	between the ages of	1	and 2.
43	„ „ „	2	„ 5.
29	„ „ „	5	„ 15.

39	between the ages of	15 and 25.
52	„ „ „	25 „ 35.
68	„ „ „	35 „ 45.
68	„ „ „	45 „ 55.
93	„ „ „	55 „ 65.
106	„ „ „	65 „ 75.
48	„ „ „	75 „ 85.
4	„ „ „	85 „ 95.
1	„ „ „	above 95.

Of the diseases which occasioned the mortality at the above-mentioned ages.

155	were attributed to zymotic diseases.
167	„ „ „ constitutional diseases.
377	„ „ „ local diseases.
129	„ „ „ developmental diseases.
14	„ „ „ violent deaths.

PREVENTABLE DISEASES.

Six of the seven principal zymotic diseases, viz., measles, scarlet fever, diphtheria, whooping cough, different forms of fever, and diarrhœa occasioned 114 deaths, a number considerably below the average of 10 years, 132·1, and less during the year 1874 than in any year, except 1865 and 1873, when 96 and 85 deaths were registered respectively from these causes.

The annual average number of deaths in London from these diseases, during the same 10 years, having been 196·61, and in the whole of England and Wales 182·52 per 1000.

SMALL-POX.—As during the year 1873, so this year, 1874, no deaths were registered from small-pox. This is greatly to be attributed to the vigilant manner in which the provisions of the Vaccination Act are enforced by the Boards of Guardians of the Lewisham and Croydon Unions, with the aid of most efficient Vaccination Officers.

Mr. Atkins, the Vaccination Officer of the Lewisham Parish, informs me that during the year 1874, 1,181 children were successfully vaccinated, and that after deducting for deaths of infants and certificates of insusceptibility to the

disease, the whole of the children born, with the exception of two or three were vaccinated. 340 children were vaccinated in Penge.

MEASLES.—25 deaths have occurred from measles, the annual average of 10 years being 14.

The largest mortality from this cause was in the year 1868, when 34 deaths occurred, and in 1871, when 26 deaths were registered.

SCARLET FEVER.—Scarlet fever was more or less prevalent during the year, notwithstanding which the deaths caused by this disease only amounted to 6, a number less than that of last year, when 10 only were registered, and considerably below the average of 10 years, viz., 33·1.

DIPHTHERIA.—Diphtheria occasioned 4 deaths, the average of 10 years being 9·2 per annum.

WHOOPIING COUGH.—25 deaths took place from whooping cough, the average rate of 10 years being 19·6.

FEVER.—The annual average number of deaths for 10 years from the different forms of fever is 18·7. 15 have been registered from this cause in 1874, viz.:—

1 from typhus, the highly contagious fever of starvation and overcrowding.

11 from typhoid or gastric fever, the fever produced by the inhalation of poisonous gases, or by the ingestion of poisonous germs conveyed in water, milk, &c.

1 from simple continued fever.

1 from remittent fever, and

1 from intermittent fever, or ague, a disease almost unknown in these elevated districts.

DIARRHŒA.—The annual average rate of mortality in the previous 10 years was 30·7. During the year 1874, 39 deaths were registered, the largest mortality from it in this district since 1870, when 48 deaths were registered from the same cause.

SEVEN PRINCIPAL ZYMOTIC DISEASES.—In London during the year 1874, 11,220 deaths, and in England and Wales 85,094 were registered from these diseases.

The proportion of deaths from zymotic disease to 1,000 deaths from all causes, having been in this District . 135·40
 Ditto ditto in London 146·46
 Ditto ditto in England and Wales . 161·56

The proportion of deaths from zymotic diseases to population in this district has been in 1874 2·03 per 1,000. Thus only 2·03 individuals out of every 1,000 have died from these diseases during the year.

PULMONARY DISEASES (not Phthisis).—157 deaths, a less number than that registered last year, were attributed to pulmonary diseases (other than phthisis); of which 98 (beside other pulmonary diseases) were attributed to bronchitis, and 53 to pneumonia; 3·04 in every 1,000 died from pulmonary diseases, and out of 1,000 deaths from all causes, 186·46 were caused by these diseases.

TUBERCULAR DISEASES.—124 persons or 2·21 in every 1,000 died from phthisis, scrofula, rickets, and tabes, or of 1,000 deaths 147·26 were attributed to these diseases.

WASTING DISEASES OF INFANTS.—74 or 1·32 per 1,000 population died from marasmus, atrophy, debility, want of breast milk, and premature birth. Out of every 1,000 deaths 87·88 were attributed to these causes.

CONVULSIVE DISEASES OF INFANTS, including hydrocephalus, infantile meningitis, convulsions, and teething, were fatal to 57 children, or 1·01 of the population. 67·70 out of every 1,000 deaths were attributed to these causes.

PUBLIC INSTITUTIONS.

SCHOOL BOARD SCHOOLS.

During the year 1874 the number of children upon the roll in the Lewisham district amounted to 5,799. Of these 696 did not attend in consequence of sickness, or from being considered by their parents too young, &c., and 11 were permanent absentees in consequence of being deaf and dumb, &c.

The highest attendance at the various schools in any one day amounted to 4,471, and the average attendance was 3,705.

Amongst such a large number of children sickness must

frequently occur, and it appears that during the year a great number of children were absent from this cause.

It is most important that schools should not be allowed to be a means of spreading disease, by receiving children affected with contagious diseases, or by admitting them too speedily after their apparent recovery, and it is satisfactory to know that children are not re-admitted to school after having had contagious diseases without a certificate from the medical man who has had such cases in charge, that recovery has taken place, and that there is no danger of communicating such diseases to the healthy.

But what a vast additional instrument for good the School Board might become if children were instructed in that most desirable of all information the means of preventing the causes and the spread of disease, if they were taught to fear the danger of want of personal cleanliness (of which many of them are the constant witnesses), the disadvantages and poison of intemperance; the danger of overcrowding, the necessity for pure water and pure air; in fact, if that sanitary knowledge which the poorer classes especially require were instilled into the plastic minds of young children. It strikes me that future generations would reap incalculable benefit from such a course, and upon the method of teaching in these schools will depend much of the future sanitary progress of the country.

A large quantity of nutritious provision is annually wasted amongst all classes in this country by careless and wasteful manipulation in the process of cooking, and by the rejection of articles of food which, if properly used, might afford nourishment in the form of soup or otherwise.

The cost of meat supply is rendered greater to all classes by the purchase of what are called "prime joints," whilst other parts of the same animal, which are not known to most householders by name, are termed inferior, but would afford an equal amount of nutriment if carefully and tastefully prepared.

Trades and arts are usually acquired by careful training under the instruction of skilled masters, but no instruction is

usually given in the art of preparing food in the most economical and healthful manner, other than by mistresses who, from having paid little or no attention to such matters themselves, are incompetent to teach, and cooking is commonly learned haphazard, at a large and constant cost for waste in private families; but the evil does not end here, for these same servants are by-and-bye married, and have probably to bring up families, and the same incompetence and wastefulness leads up to the formation of a miserable home, insufficient supply of nourishment, and unhealthy progeny.

The first necessity to overcome this difficulty would be to procure good teachers, and facilities are now offered by the National Training School for Cookery, where, by a comparatively small subscription of a few pounds, a person may be so instructed as to become a certified teacher, competent to instruct in the art of cookery for all classes.

These teachers should commence by teaching what to buy and how to cook for those with the humblest means, when they can afterwards extend their instruction to more advanced cookery.

NORTH SURREY DISTRICT SCHOOL.

This School receives pauper children from the parishes of Chelsea, Croydon, Kensington, Lewisham, Richmond, and Wandsworth and Clapham.

The average number of inmates in the School is about 767, a considerably smaller number than was accommodated some years ago.

The average cost of each child to the different parishes varies according to the rateable value of each parish and the number of children sent from each parish, thus the cost to Richmond is about £38 per annum per head, to the Lewisham Union about £42 per head, and to the Croydon Union, including Penge, about £27 per head per annum.

The School has been considerably enlarged, and a smaller number of children being accommodated, it is necessarily much less overcrowded.

The drainage has been remodelled, and the drains ventilated and cut off from all connection with the interior of the building, after the plan originally adopted at the Infirmary.

New reception and probationary wards have been erected.

The Schoolroom and dormitories have been ventilated, the old windows removed, and sash windows provided.

All cases of contagious diseases are sent away immediately to a Fever Hospital.

The practice of admitting sick children has been discontinued, and none are now allowed to enter the School.

Under these circumstances, the School, which always was healthy, must necessarily continue to be so, and only one death was registered as having taken place within the School during the year.

UNION WORKHOUSES.

The average resident population of the Lewisham Union Workhouse during the year 1874 was 170. The number of paupers who passed through the establishment numbered 783, besides the reception of 3,841 vagrants.

11 births took place (10 of which were illegitimate) and 39 deaths, 13 of which occurred to non-parishioners.

Penge is within the Croydon Union, but contributed only 61 inmates to the Croydon Workhouse.

THE BOARD'S HOSPITAL.

Six cases were admitted during the year to the Board's Hospital, at Hither Green, and were all discharged cured, viz. :—

Female, 27, typhoid fever; female, 13, scarlet fever; female, 10, scarlet fever; female, 20, scarlet fever; female, 38, roseola; male, 40, smallpox.

It has been determined by the Board that whenever space permits cases from neighbouring districts should be admitted to the Hospital, upon their complying with the rules of the Institution and paying for board and necessary medical attendance.

WATER SUPPLY.

The Act of 1871 makes it incumbent upon the Companies to give constant supply as and when the public authorities may see fit to require.

The two Companies which supply this District are the Kent and the Lambeth Companies.

The Kent Company are giving a constant supply in a portion of their district. The water supplied by this Company is taken from chalk wells, and is invariably clear and bright.

The Lambeth Company obtain their supply from the River Thames, and although every care with the filtering appears to be taken, the water must, from the source of the supply, be more or less turbid after heavy rainfall; but the new works are completed at Moulsey, and the large impounding reservoir will tend to make the supply more pure.

The purity of water, however, does not entirely depend upon the source of supply. Major Bolton, in his reports upon water supply, calls attention to a most important point which I have frequently mentioned to the Board, namely, the filthy state of cisterns. He says "that the contamination of water from the gases generated by sewage is of more frequent occurrence than is generally understood. The gases are extremely liable to flow back into the cisterns and become absorbed by the water, unless the overflow pipe is brought outside the house and the end exposed to the air, instead of being carried into the drain.

"The attention of all householders ought to be given to their cisterns, which should frequently be cleaned out, more especially after periods of flood or turbidity, and every care should be taken to prevent the contamination of the domestic water supply."

GAS SUPPLY.

Mr. Heisch, the gas examiner to the Lewisham Board of Works, has from time to time examined and reported upon the quality of the gas supplied by the Phoenix and Crystal Palace Companies.

The illuminating power of that supplied by both Companies has been generally found to be above the standard, but the sulphur compounds were at first greatly in excess of the maximum quantity allowed by Act of Parliament, being in the case of the Phœnix Company 31.5 per 100 feet, and of the Crystal Palace District Gas Company 49.04 per 100 feet.

Sulphur compounds when burnt in dwelling-houses are deleterious, and give rise to gases which irritate the lungs, and tend to injure books, furniture, &c., therefore the Act prescribes that the maximum quantity of sulphur should not exceed 20 grains per 100 feet. These sulphur compounds, however, are difficult to remove without expense; and without great care most offensive nuisances may arise from the process for their removal.

Both Companies were summoned to the Greenwich Police Court, and in the case of the Crystal Palace District Gas Company a nominal fine of 1s. and costs was imposed, and upon the Phœnix Company undertaking to do their best to remove cause of complaint the summons was withdrawn.

There was a most offensive nuisance in November last, for several days, causing great alarm in the neighbourhood of St. Germain's-road, Catford, and Lewisham, it was occasioned by large volumes of sulphuretted hydrogen gas which escaped from the sewer in the night, and were traced along the Ravensbourne and Sydenham main sewer, in the Bromley and Lewisham Road, from the turning to Ladywell to the Black Horse public house, Rushey Green, and from thence along the Catford road to the Crystal Palace Gas Works, Bell Green.

This gas entered the houses along the lines of sewers through the sink traps and pipes, and discoloured the white paint in many houses and turned the silver black, and some of the inhabitants had to turn out into the streets.

As soon as this disgusting nuisance was traced to its source proceedings were taken to stop it, both by the Metropolitan Board of Works and the Lewisham District Board of

Works, against the Crystal Palace Gas Company. The directors of the Company denied that anything had been done at their works to cause a nuisance; but upon being served with notice of the Lewisham Board's intention to apply to the Court of Chancery, the nuisance immediately ceased, and on the hearing of a summons, issued by the Metropolitan Board against the Company, the Magistrate inflicted a fine upon the Crystal Palace District Gas Company of 40s. and costs.

VENTILATION OF SEWERS, CESSPOOLS, AND DRAINS.

The ventilation of sewers is of great importance, as from the general construction of house drains, sinks, and waste pipes, if these ventilators did not exist, sewer air would necessarily be forced into dwelling houses; and this would be more especially the case when unventilated houses were warmed and the air within them thus rarefied. If, however, this is important as regards sewers, it is of equal or greater importance as regards cesspools, and no householder should allow an unventilated cesspool to remain upon his premises.

The best method of ventilating house drains, and the one which this Board has adopted and ordered to be applied to all new houses in the district, is to have the main drains ventilated by a pipe carried up a sufficient distance above the roof and out of the reach of windows, and into this pipe all waterclosets should open. This pipe should be bent at the top, or provided with a "Banner" cowl to prevent accidental stoppage, by birds, &c., and at the same time create draught. The larger the pipe is the more useful it would be, and the diameter should not be less than 3 or 4 inches.

If this plan were always adopted and fitted to every building, ventilating openings to sewers would probably become down shafts for the entrance of fresh air, and the ventilating pipes to house drains would form up shafts for the exit of foul air.

The pipes from sinks, overflow pipes from cisterns, the pipes from baths and lavatories should never be made to enter the drain, and thus form chimneys to the sewer. They should terminate freely in the open air, and discharge their contents into a trapped gully hole outside the house, in which case the pipes will not become stopped, and fresh air can only be admitted through them into the house.

The discharge of a small quantity of carbolic acid from every house would also prevent putrefactive fermentation occurring in sewers, and further prevent nuisances dangerous to health.

VENTILATION OF HOUSES.

Each room in a dwelling-house should be supplied with a ventilator opening into the fresh air, which should never be closed, but which may be covered with a piece of muslin to distribute the air if draughts should be felt in the winter. The ordinary outlets of the room will possibly be sufficient for the exit of foul, heated, or used-up air, but an Arnott's ventilator into the chimney, or a foul air flue built from the corner of the room to a distance above the roof, renders the ventilation more perfect.

DISINFECTING APPARATUS.

A disinfecting apparatus has been purchased by the Board, and will be shortly erected in some convenient part of the district, where it will be available for public use as a disinfectant of wearing apparel, bedding, &c.

I have the honour to be, Gentlemen,

Your obedient Servant,

F. E. WILKINSON

*To the Board of Works
for the Lewisham District.*

TABLE I.

Population, Inhabited Houses, Births, Deaths, and Marriages.

(GROSS NUMBERS.)

Population Estimated at the middle of the Year 1874.*		No. of Inhabited Houses in Parish or District.	Births.	Deaths.	Marriages.
1874.....	56002	9106	1752	842	343
1873.....	54462	8856	1779	791	329
1872.....	53085	8174	1693	788	
1871.....	50022	7644	1574	815	
1870.....	47422	7270	1568	806	
1869.....	47338	7177	1555	756	
1868.....	43727	6693	1513	761	
1867.....	43414	6637	1424	636	
1866.....	39525	6080	1314	675	
1865.....	33033	.....	1188	552	
1864.....	31875	.....	1118	598	
Average of 10 years, } 1864—1873 .....		.....	1472.6	717.8	

NOTES.

1. Population according to Census 1871, 49727.
2. Area in acres, 6544.
3. Average Number of Persons in each house according to Census 1871, 6.15.

* For statistical purposes the Registrar-General estimates the population to the middle of each year, taking as the basis the rate of increase ruling between the two preceding Census periods. The estimate of population here is calculated from the known number of inhabited houses at the middle of the year and the average number of inmates per house, as ascertained by the preceding Census of 1871.

TABLE II.

Annual Rate of Mortality, Death Rates among Children, and Deaths in Public Institutions.

Years.	Annual Rate of Mortality per 1000 living.	Deaths of Children under 1 year: percentage to Total Deaths.	Percentage of Deaths of Children under 1 year to Registered Births.	Deaths of Children under 5 years: per cent. to Total Deaths.	Percentage of Deaths in Public Institutions to Total Deaths.
1874.....	15·03	27·90	13·41	39·66	5·10
1873.....	14·52	26·55	11·80	40·45	5·82
1872.....	14·84	27·54	12·82	43·27	5·33
1871.....	16·29	28·83	14·93	44·17	4·17
1870.....	17·00	28·78	14·80	40·20	7·32
1869.....	15·97	33·46	16·27	47·09	6·75
1868.....	17·40	29·83	15·00	44·41	4·07
1867.....	14·65	32·55	14·54	44·34	8·18
1866.....	17·08	28·00	14·38	39·40	7·85
1865.....	16·71	29·71	13·80	41·67	9·96
1864.....	18·76	23·41	12·52	41·14	9·36
Average of 10 years, 1864—1873 }	16·32	28·86	14·08	42·61	6·88

TABLE III.

Deaths registered at several groups of ages from different causes during the year 1874.

Cause of Death. Classes.	AGES.														Total.	Males and Females.		
	0 to 1	1 to 2	2 to 5	5 to 15	15 to 25	25 to 35	35 to 45	45 to 55	55 to 65	65 to 75	75 to 85	85 to 95	95 & upwards.	Total under 5 years		Total.	M.	F.
	I. Zymotic Diseases	74	23	16	10	6	7	8	6	4	1			113	155	86	69
II. Constitutional Diseases ...	15	6	6	5	16	27	29	22	20	14	5	1	1	27	167	81	86	
III. Local Diseases	77	21	17	12	15	14	30	37	55	64	32	3	...	115	377	209	168	
IV. Developmental Diseases...	67	6	4	1	...	2	2	...	1	11	24	11	...	77	129	66	63	
V. Violent Deaths	2	...	...	1	1	2	...	2	3	3	...	...	...	2	14	9	5
TOTALS	235	56	43	29	38	52	69	67	83	93	61	15	1	334	842	451	391	
I. Zymotic Diseases.																		
<i>Order 1.—Miasmatic.</i>																		
Measles	9	8	7	1	...	...	...	...	...	...	...	...	...	24	25	13	12
Scarlet Fever	1	1	1	1	1	...	...	1	...	...	...	...	...	3	6	4	2
Diphtheria.....	...	...	2	2	...	...	...	...	...	...	...	...	...	2	4	3	1
Croup	1	3	2	1	...	...	...	...	...	...	...	...	...	6	7	4	3
Whooping Cough	14	11	...	...	...	...	...	...	...	...	...	...	...	25	25	15	10
Typhus Fever .....	...	...	...	1	...	...	...	...	...	...	...	...	...	...	1	1	...
Enteric or Typhoid.....	...	...	3	1	...	3	...	1	2	1	...	...	...	3	11	2	9
Simple Continued Fever	...	...	...	...	...	...	...	1	...	...	...	...	...	...	1	1	...
Erysipelas	2	...	...	...	...	...	1	1	1	...	...	...	...	2	5	2	3

Metria or Puerperal } Fever .....	...	...	...	...	1	2	1	...	...	...	...	...	...	...	4	...	4
Carbuncle .....	...	...	...	...	...	...	...	1	...	...	...	...	...	...	1	1	...
Dysentery	1	...	...	...	...	...	...	...	1	...	...	...	...	1	2	2	...
Diarrhœa.....	35	...	1	...	...	...	1	...	...	...	...	...	...	36	37	23	14
Ague .....	...	...	...	...	...	...	1	...	...	...	...	...	...	...	1	...	1
Remittent Fever.....	...	...	...	1	...	...	...	...	...	...	...	...	...	...	1	...	1
Rheumatism .....	...	...	...	2	4	2	2	...	...	...	...	...	...	...	10	6	4
<i>Order 2.—Enthetic.</i>																		
Syphilis	5	5	5	3	2
<i>Order 3.—Dietic.</i>																		
Want of Breast Milk ...	3	3	3	2	1
Alcoholism .....	...	...	...	...	...	...	2	1	...	...	...	...	...	...	3	2	1
<i>Order 4.—Parasitic.</i>																		
Thrush	3	3	3	2	1
II. Constitutional Diseases.																		
<i>Order 1.—Diathetic.</i>																		
Gout.....	...	...	...	...	...	...	...	...	1	...	...	...	...	...	1	1	...
Dropsy.....	1	...	...	...	...	1	1	1	1	4	...	...	...	1	9	5	4
Cancer .....	...	...	...	...	...	3	7	2	8	5	4	...	...	...	29	5	24
Mortification .....	...	...	...	...	...	...	...	...	1	1	...	1	1	...	4	3	1
<i>Order 2.—Tubercular.</i>																		
Scrofula .....	...	...	1	...	...	...	...	...	...	1	...	...	...	1	2	2	...
Tabes Mesenterica	4	3	2	...	...	...	...	...	...	...	...	...	...	9	9	5	4
Phthisis	3	1	1	5	16	23	21	19	10	2	1	...	...	5	102	56	46
Hydrocephalus	7	2	2	...	...	...	...	...	...	...	...	...	...	11	11	4	7

TABLE III.—CONTINUED.
Deaths registered at several groups of ages from different causes during the year 1874.

Cause of Death. Classes.	AGES.														Total.	Males and Females.		
	0 to 1	1 to 2	2 to 5	5 to 15	15 to 25	25 to 35	35 to 45	45 to 55	55 to 65	65 to 75	75 to 85	85 to 95	95 & upwards.	Total under 5 years		Total.	M.	F.
	III. Local Diseases.																	
<i>Order 1.—Nervous System.</i>																		
Cephalitis and Meningitis	1	...	2	3	1	...	...	1	...	...	...	...	...	3	8	4	4
Apoplexy	1	...	...	...	...	...	5	5	8	5	1	...	...	1	25	10	15
Paralysis	...	...	...	...	...	1	...	4	5	4	1	...	...	15	5	10	
Epilepsy	...	...	...	1	1	1	...	1	...	...	...	...	...	4	1	3	
Convulsions	29	4	1	...	1	...	...	...	...	...	...	...	...	34	35	14	21
Brain Disease	...	...	...	3	...	...	1	1	4	2	2	...	...	13	8	5	
<i>Order 2.—Organs of Circulation.</i>																		
Pericarditis	...	...	...	...	...	1	...	1	...	...	...	...	...	2	2	1	1
Aneurism	...	...	...	...	1	...	1	...	...	...	...	...	...	2	2	...	...
Heart Disease	...	...	2	...	4	2	5	10	7	15	3	...	...	2	48	31	17
<i>Order 3.—Respiratory Organs.</i>																		
Laryngitis	...	...	...	1	...	...	...	1	...	...	...	...	...	2	2	2	...
Bronchitis	23	11	6	1	...	2	3	3	14	18	15	2	...	40	98	54	44	

Pleurisy .....	...	...	...	...	...	...	1	1	...	...	...	...	...	2	1	1	
Pneumonia	18	6	5	2	2	...	2	4	5	8	1	...	...	29	53	35	18
Asthma .....	...	...	...	...	...	...	...	...	1	...	1	...	...	...	2	1	1
<i>Order 4.—Digestive Organs.</i>																	
Enteritis .....	...	...	1	...	...	...	...	...	...	...	...	...	...	1	1	1	...
Peritonitis	1	...	...	1	2	...	...	2	1	1	...	...	...	1	8	2	6
Ulceration of Intestines .....	...	...	...	...	1	...	...	...	1	...	...	...	...	...	2	1	1
Hernia .....	...	...	...	...	...	...	...	...	1	...	1	...	...	...	2	...	2
Intussusception	2	...	...	...	...	1	1	...	1	...	...	...	...	2	5	3	2
Stomach Disease .....	...	...	...	...	...	2	...	1	...	1	...	...	...	...	4	2	2
Pancreas Disease .....	...	...	...	...	...	...	2	...	...	...	...	...	...	...	2	2	...
Hepatitis .....	...	...	...	...	...	...	...	...	...	...	1	...	...	...	1	1	...
Jaundice .....	...	...	...	...	...	...	...	...	...	...	2	...	...	...	2	2	...
Liver Disease .....	...	...	...	...	...	1	3	5	2	5	...	...	...	...	16	9	7
Gall Stone .....	...	...	...	...	...	1	...	...	...	...	...	...	...	...	1	1	...
Spleen Disease .....	...	...	...	...	...	1	...	...	1	...	...	...	...	...	2	2	...
<i>Order 5.—Urinary Organs.</i>																	
Nephritis .....	...	...	...	...	...	...	...	...	1	...	...	...	...	...	1	1	...
Nephria .....	...	...	...	...	...	1	1	2	...	3	...	...	...	...	7	5	2
Diabetes .....	...	...	...	...	...	...	1	...	...	...	...	...	...	...	1	1	...
Cystitis .....	...	...	...	...	...	...	...	...	...	...	1	...	...	...	1	1	...
Kidney Disease .....	...	...	...	...	1	...	3	...	...	1	...	...	...	...	5	2	3
<i>Order 6.—Organs of Generation.</i>																	
Ovarian Dropsy .....	...	...	...	...	...	1	...	...	...	...	...	...	...	...	1	...	1

TABLE III.—CONTINUED.
Deaths registered at several groups of ages from different causes during the year 1874.

Cause of Death. Classes.	AGES.														Total.	Males and Females.		
	0 to 1	1 to 2	2 to 5	5 to 15	15 to 25	25 to 35	35 to 45	45 to 55	55 to 65	65 to 75	75 to 85	85 to 95	95 & upwards.	Total under 5 years		Total.	M.	F.
	<i>Order 7.—Organs of Locomotion.</i>																	
Synovitis	1	...	...	1	...	...	...	...	...	...	...	...	...	1	2	2	...
Spinal Curvature .....	...	...	...	...	1	...	...	...	...	...	...	...	...	...	1	0	1
<i>Order 8.—Integumentary System.</i>																		
Abscess	1	...	...	...	...	1	...	...	...	...	...	...	...	1	2	1	1
Phlegmon .....	...	...	...	...	...	...	...	...	1	...	...	...	...	...	1	1	...
IV. Developmental Diseases.																		
<i>Order 1.—Developmental Diseases of Children.</i>																		
Premature Birth.....	24	...	...	...	...	...	...	...	...	...	...	...	...	24	24	14	10
Spina Bifida	1	...	1	...	...	...	...	...	...	...	...	...	...	2	2	1	1
Hæmorrhage from Cord	1	...	...	...	...	...	...	...	...	...	...	...	...	1	1	1	...
Teething	4	3	1	...	...	...	...	...	...	...	...	...	...	8	8	7	1
<i>Order 2.—Diseases of Adults.</i>																		
Childbirth .....	...	...	...	...	...	2	1	...	...	...	...	...	...	...	3	...	3

<i>Order 3.—Diseases of Old People.</i>																	
Old Age .....	...	...	...	...	...	...	...	...	1	10	23	10	...	...	44	17	27
<i>Order 4.—Diseases of Nutrition.</i>																	
Atrophy and Debility...	37	3	2	1	...	...	1	...	...	1	1	1	...	42	47	26	21
V. Violent Deaths.																	
<i>Order 1.—Accidents or Negligence.</i>																	
Fractures and Contusions .....	...	...	...	...	...	1	...	1	1	2	...	...	...	...	5	3	2
Suffocation	1	...	...	...	...	1	...	...	...	...	...	...	...	1	2	2	...
Burns and Scalds	1	...	...	1	...	...	...	...	...	...	...	...	...	1	2	...	2
Drowning .....	...	...	...	...	1	...	...	...	...	...	...	...	...	...	1	1	...
<i>Order 2.—Homicide.</i>																	
<i>Order 3.—Suicide.</i>																	
Drowning .....	...	...	...	...	...	...	...	...	...	1	...	...	...	...	1	...	1
Sudden, cause not ascertained, or not specified .....	...	...	...	...	...	...	...	1	2	...	...	...	...	...	3	3	...
TOTALS	235	56	43	29	38	52	69	67	83	93	61	15	1	334	842	451	391

TABLE IV.

Showing Mortality from certain classes of Diseases, and proportions to Population, and to 1000 Deaths, 1874.

	Total Deaths.	Deaths per 1000 of Population.	Proportion of Deaths to 1000 Deaths.
1. Seven Principal Zymotic Diseases.....	114	2·03	135·40
2. Pulmonary Diseases ... (<i>Other than Phthisis</i>)	157	2·80	186·46
3. Tubercular Diseases ...	124	2·21	147·26
4. Wasting Diseases of Infants	74	1·32	87·88
5. Convulsive Diseases of Infants	57	1·01	67·70

NOTES.

1. Includes Smallpox, Measles, Scarlet Fever, Diphtheria, Whooping Cough, Fever, and Diarrhœa.
3. Includes Phthisis, Scrofula, Rickets, and Tabes.
4. Includes Marasmus, Atrophy, Debility, want of Breast Milk, and Premature Birth.
5. Includes Hydrocephalus, Infantile Meningitis, Convulsions, and Teething.

TABLE V.

Showing the number of Deaths in the 10 years, 1864 to 1873, from the seven principal Zymotic Diseases, and the number in 1874.

DISEASE.	1864.	1865.	1866.	1867.	1868.	1869.	1870.	1871.	1872.	1873.	Annual Average of 10 years, 1863--1872.	Proportion of Deaths to 1000 Deaths in 10 years, 1864--1873.	1874.	Proportion of Deaths to 1000 Deaths in 1874.
Smallpox.....	8	5	5	14	0	1	1	17	5	0	5·6	7·80	0	0·00
Measles	10	9	21	3	34	14	3	26	9	11	14·0	19·50	25	29·69
Scarlet Fever	36	13	12	9	77	40	70	25	39	10	33·1	46·11	6	7·12
Diphtheria	10	7	21	8	6	7	8	8	10	7	9·2	12·82	4	4·75
Whooping Cough..	15	14	32	16	8	27	14	16	35	19	19·6	27·30	25	29·69
Fever	19	16	11	26	25	28	22	17	14	9	18·7	26·05	15	17·81
Diarrhoea.....	29	32	23	25	29	15	48	41	36	29	30·7	42·77	39	46·32
Total	127	96	125	101	179	132	166	150	148	85	130·9	184·03	114	135·40
LONDON	16210	14299	14760	11817	14797	17476	16489	19454	12722	11385	14940·9	196·36	11220	146·46
Total Deaths } from all causes }	78238	73531	80453	70924	74798	78082	77634	80430	71355	75459	76090·4	.....	76606	.....
ENGLAND AND } WALES..... }	96279	92030	82692	72587	97352	91379	100527	103801	91743	68057	89644·7	181·15	85094	161·56
Total Deaths } from all causes }	495531	490909	500689	471073	480622	494828	515329	514879	492265	492320	494844·5	.....	526701	.....

TABLE VI.

Inspectors' Report of the Sanitary Work, &c., completed in the year ending December 31, 1874.

TOTAL.	SUB-DISTRICTS.					
	Black-heath. Lewis-ham.	Syden-ham.	Penge.			
9106	3407	3309	2390	No. of Inhabited Houses.		
228	92	109	27	No. of Complaints received during the year.		
2754	560	1444	750	No. of Houses and Premises, &c., inspected.		
223	59	102	62	Orders issued for Sanitary Amendments of Houses and Premises.	Results of Inspection.	
70	32	26	12	Houses and Premises, &c., Cleansed, Repaired and Whitewashed.		
24	5	4	15	Houses Disinfected after Infectious Diseases.		
133	36	44	25	Repaired, Cleansed, &c.	House Drains.	
	11	5	12	Trapped or Ventilated.		
114	17	13	—	Repaired, Cleansed, &c.	Privies and W. C.'s.	
	9	32	36	Supplied with Water.		
	7	—	—	New Provided.		
140	45	50	45	New Provided.	Dust Bins.	
12	8	—	4	Repaired, Covered, &c.		
58	8	20	30	Cisterns (new) erected.	Water Supply.	
19	7	7	5	Cisterns Cleansed, Repaired, and Covered.		
—	—	—	—	No. of Lodging Houses registered under 35th Clause of Sanitary Acts, 1866.	Miscellaneous.	
215	73	45	97	No. of Dust Complaints received and attended to.		
40	11	11	18	Removal of accumulation of Dung, Stagnant Water, Animal and other Refuse.		
16	4	2	10	Removal of Animals improperly kept.		
54	21	19	14	Bakehouses.		
44	18	20	6	Licensed Cowhouses.		Regularly Inspected.
29	12	12	5	Licensed Slaughterhouses.		
26	13	10	3	Other Proceedings, <i>e. g.</i> Legal Proceedings.		

TABLE VII.

The number of Inhabited Houses, the Estimated Population, 1874, with the Birth and Death Rate in the different Registrars' Sub-districts in Lewisham Parish and the Hamlet of Penge, together comprising "The Lewisham District."

Registrars' Sub-districts.	Number of Inhabited Houses, Mid-summer, 1874.	Estimated Population.	Number of Births, 1874.	Birth Rate per 1000.	Number of Deaths 1874.	Rate of Mortality per 1000.
BLACKHEATH, a part of Lewisham Parish in the Sub-district of Lee	1056	6494	164	25·25	88	13·55
LEWISHAM, a part of Lewisham Parish forming the Sub-district of Lewisham Village *	2351	14459	504	34·86	223	15·42
SYDENHAM CHAPELRY.....	3309	20350	660	32·43	311	15·28
PARISH OF LEWISHAM	6716	41303	1328	32·15	622	15·06
HAMLET OF PENGE †	2390	14699	424	28·84	220	14·97
THE LEWISHAM DISTRICT ...	9106	56002	1752	31·28	842	15·03

* 13 deaths of Non-Parishioners in Public Institutions within the Sub-district of Lewisham have been registered, and are deducted from the Mortality of Lewisham Village.

† Whilst 7 deaths of Inhabitants of the Hamlet of Penge have occurred out of the District, in the Croydon Union Workhouse Infirmary, and are added to the Mortality of Penge.

TABLE VIII.

The Area, Census Population in 1861 and 1871, Estimated Population in 1874, and Mortality in various Metropolitan Districts and in England and Wales, &c.

PLACES.	Area in Square Miles.	ENUMERATED POPULATION.		Population, estimated to the middle of 1874.	Average Annual Mortality per 1,000 in the 10 years 1861-70.	Annual Rate of Mortality in 1874.
		1861.	1871.			
Metropolitan and City Police Districts	705·9	3,223,942	3,887,469	4,124,319	23·6	21·6
Registration London	122·0	2,803,989	3,254,260	3,400,701	24·4	22·5
Districts outside Regis- tration London	583·9	419,953	633,209	723,618	18·7	16·9
England and Wales	58,319	20,066,224	22,704,108	23,648,609		22·27
Scotland	31,324	3,062,294	3,358,613	3,462,916		
Ireland.....	32,524	5,798,967	5,402,759	5,300,485		

Population; Persons to an Acre; Births and Deaths; Annual Birth and Death Rates; Mean Temperature and Rainfall, in the Year 1874, in London and Twenty other Large Towns of the United Kingdom.—(Registrar General's Annual Summary, 1874.)

CITIES AND BOROUGHES.	ESTIMATED POPULATION in the middle of the Year 1874.	PERSONS to an acre, middle 1874.	BIRTHS in 52 Weeks, ending 2nd Jan., 1875.	DEATHS in 52 Weeks, ending 2nd Jan., 1875.	ANNUAL RATE, per 1000 living, of					MEAN TEMPERATURE in 52 Weeks, ending 2nd Jan., 1875.	RAINFALL in inches in 52 Weeks, ending 2nd Jan., 1875.	
					BIRTHS in 52 Weeks, ending 2nd Jan., 1875.	DEATHS in 52 or 53 Weeks in each Year.			DEATHS in 52 Weeks, ending 2nd Jan., 1875.			
						1874.	1870.	1871.				1872.	1873.	1874.
In 21 Towns of the UNITED KINGDOM }	7,618,655	36.6	283,096	193,325	37.2	25.8	26.9	24.3	24.4	25.4	48.1	Inches. 26.35
LONDON	3,400,701	45.1	121,394	76,606	35.7	24.0	24.6	21.4	22.5	22.5	49.4	20.14
PORTSMOUTH	120,436	26.8	3,826	2,453	31.8	22.1	19.3	22.9	18.4	20.4	...	25.75
NORWICH	82,257	11.0	2,606	1,935	31.7	27.7	25.9	26.3	21.5	23.5	47.4	18.76
BRISTOL	192,889	43.3	7,030	4,382	36.4	28.4	23.2	22.0	23.1	22.7		
WOLVERHAMPTON	70,896	20.9	2,822	1,693	39.8	23.5	28.0	25.9	25.1	23.9	48.2	27.74
BIRMINGHAM	350,892	43.0	14,898	9,664	41.3	23.0	24.9	23.0	24.9	26.8	48.6	27.80
LEICESTER	106,202	33.2	4,353	2,560	41.0	27.9	26.8	26.8	24.4	24.1	48.3	21.37
NOTTINGHAM	90,894	45.5	3,204	2,255	35.2	24.9	26.0	25.3	23.2	24.8	47.9	18.56
LIVERPOOL	510,640	98.0	19,860	16,336	38.9	32.9	35.1	27.1	25.9	32.0	48.5	25.35
MANCHESTER	355,339	82.8	13,942	10,799	39.2	29.8	31.2	28.6	30.1	30.4	48.0	33.84
SALFORD	133,068	25.7	5,884	3,935	44.2	25.8	30.4	25.8	29.3	29.6	47.5	34.99
OLDHAM	86,281	18.5	3,557	2,564	41.2	27.0	24.9	31.1	25.8	29.7		
BRADFORD	168,036	22.6	6,528	4,395	40.0	27.5	25.5	26.3	24.7	27.0	47.5	23.33
LEEDS	278,798	12.9	11,578	8,001	41.5	28.7	26.4	27.9	27.6	28.7	48.2	21.70
SHEFFIELD	261,029	13.3	10,861	7,009	41.6	26.5	28.3	26.0	25.8	26.9	48.3	22.30
HULL	130,996	36.0	5,353	3,340	40.9	23.8	23.2	26.1	23.9	25.5	46.6	21.66
SUNDERLAND	104,378	31.6	4,257	2,443	40.8	20.9	36.5	26.5	22.8	23.4		
NEWCASTLE-ON-TYNE	135,437	25.2	5,533	3,959	40.9	25.4	32.2	26.3	30.1	29.2		
EDINBURGH	211,691	47.8	6,807	5,005	32.2	23.7	26.9	26.5	22.0	23.6		
GLASGOW	508,109	100.4	19,900	15,801	39.2	29.6	32.9	28.4	29.1	31.1		
DUBLIN	314,666	31.3	8,903	8,190	28.3	24.9	26.2	28.5	25.7	26.0	49.1	26.75

TABLE X.

Number of Children between the Ages of 3 and 13 attending Schools under the supervision of the London School Board in the Lewisham District, during the year ending 31st December, 1874, with the situation of the Schools.

SCHOOLS, AND WHERE SITUATE.	Number on Roll.	Highest in any one day.	Average.
St. Stephen's, Horton-street, Lewisham	314	290	244
Board School, Lewisham Bridge	353	322	272
Wesleyan, Avenue-road, Lewisham	157	136	120
Lewisham National, High-road	448	405	354
Old English, High-road	50	48	44
Board School, Rushey Green	106	96	78
Episcopal, Southend	32	32	30
Day Schools, Bell Green	101	94	78
St. Michael's, Lower Sydenham	245	230	194
Roman Catholic, Lower Sydenham	64	59	48
St. Bartholomew's, Kirkdale, Sydenham	335	310	264
Board School, Dartmouth-road	68	52	52
Holy Trinity, Dartmouth-road.....	234	206	164
Board School, Sydenham Hill-road.....	436	381	328
St. Phillip's, Wells-road	125	119	101
Board School, Grove-road, Forest-hill...	535	477	364
Christ Church, Perry Vale.....	213	198	157
Mrs. Miller's, South-road, Forest-hill ...	30	28	25
St. Paul's, Hadlow-place	165	154	119
St. John's, Penge	796	795	631
Miss French's, Woodbine-grove, Penge...	40	39	38
Attending "Uncertified" Schools	245	...	...
Total.....	5,092	4,471	3,705
Not attending any Schools from sick- ness, and considered by parents too young, &c.....	696	...	or $7\frac{1}{4}$ attend- ances to each child
Permanent absentees, being deaf and dumb, &c.	11	...	per week.
	<u>5,799</u>		

SURVEYOR'S REPORT

Of Work executed from Lady-day, 1874, to Lady-day, 1875.

GENTLEMEN,

I beg to submit my sixth Annual Report upon work carried out in my department during the past year.

HIGHWAYS.

The following material was used in the maintenance of the Highways.

DIVISION.	Granite.	Granite Spalls.	Port Philip.	Land Picked Flints.	Dug Flints.	Croydon Gravel.	Perry Hill Gravel.	Rushey Green Gravel.	Hard Core.	Total.
Lewisham, cubic yards..	1396	200	160	1328	2422	692	242	677	194	7311
Penge, cubic yards	100	...	...	941	...	1517	...	...	...	2558
Total	1496	200	160	2269	2422	2209	242	677	194	9869

A much smaller quantity of material has been used than last year.

The roads are in good condition and are improving. In the maintenance of the principal roads of the district I am gradually substituting *granite* for broken flints. The whole of the roads in Sydenham Park have been coated with granite during the year, also portions of the London Road, Forest Hill, and the Anerley Road, Penge. I consider slopping a very important part of the maintenance of roads, particularly in populous places. Those who have resided in the District for some time must have noticed a gradual improvement in this direction. At present I have nine slop carts for use in Lewisham, and one for use in Penge. This number is often insufficient to remove the slop as quickly as I should wish. In wet weather, to have the slops removed as fast

as I can sweep the roads with a sweeping machine, I should require ten carts to each machine.

Twenty-one new gullies were constructed in Lewisham, and nine in the Hamlet of Penge. Some of the roads at present are not well drained, but in a large district like Lewisham such improvements must necessarily be carried out by degrees, on account of the large outlay it would involve to carry out the work at once. The total cost of the Highways in Lewisham, including gullies, &c., during the year, was £7,876, and in Penge it was £1,638.

The rainfall during the year, from the 26th March, 1874, to the 25th March, 1875 (inclusive), was as follows:—

				Inches.
1874.	March	...	...	·100
	April	...	...	1·120
	May	...	...	1·150
	June	...	...	4·400
	July	...	...	·720
	August	...	...	6·000
	September	...	...	1·990
	October	...	...	5·590
	November	...	...	1·570
	December	...	...	1·510
1875.	January	...	...	3·050
	February	...	...	·790
	March	...	...	·400
				28·390
				28·390

Rain fell upon 129 days, and the rainfall was 8·210 inches more than the corresponding period last year.

ROAD WATERING.

The watering of the roads in Blackheath and the greater portion of Lewisham Parish was done by the Board's horses and men. In Sydenham and Forest Hill, Mr. William Stimpson supplied horses and men at a contract price of 8s. 3d. per day. In the Hamlet of Penge Mr. Winnifrith supplied horses and men at a contract price of 7s. 9d. per day. The cost of the watering

in Lewisham during the year was £2,458, and in the Hamlet of Penge £680.

During the hot weather the supply of water from the Lambeth Water Company was deficient, particularly at Perry Hill, Church Road, Forest Hill, &c. The whole of the stand posts are now fitted with swan-neck pipes. One of Bailey's Hydrostatic Vans was purchased and did good service in Lewisham. These vans are nothing more than large water carts with improved distributors. The chief advantage attached to them is, in their holding about 500 gallons of water, and thereby reducing the time lost in going over the road with an empty water cart. Some of the water carts are old, and new ones will soon have to be purchased in place of them. There were $27\frac{1}{2}$ miles of road watered in Lewisham, and 8 miles in Penge, during the year, being an increase on last year's watering.

LIGHTING.

There are at present 540 lamps in the Parish of Lewisham lighted by the Crystal Palace District Gas Company, at a contract price of £4 3s. 4d. per lamp per annum, and 433 lighted by the Phoenix Gas Company, at a contract price of £5 per lamp per annum. In the Hamlet of Penge there are 291 lamps lighted by the Crystal Palace District Gas Company, at a contract price of £4 3s. 4d. per lamp per annum.

The following gives the additional lamps erected during the year in the district.

LEWISHAM.

Meadowcroft, Perry Hill	1
Montem Road	3
Devonshire Road	1
Wynell Road	1
Mayow Road	1
Panmure Road	1
Herschell Road	1
Sydenham Park to Forest Hill Station (Footpath)	3
Brockley Park	4

LEWISHAM—CONTINUED.

Silverdale	1
Duncombe Hill	1
Lewisham Road	1
Jerrard Street	1
Loampit Hill	2
Brookbank Road	2
Drysdale Road	1
Gilmore Road	2
Harvard Road	2
Eastdown Park	1
Thornford Road	1
Camden Road	1
Mount Pleasant Road	1
Dartmouth Terrace	1
Total	<u>34</u>

PENGE.

Belvedere Road	1
Penge Lane	2
Crystal Palace Station Road	2
Thornsett Road	1
Forbes Road	1
Kingswood Road	2
Total	<u>9</u>

The actual cost of the Lighting in Lewisham for the year was £4,431 5s. 2d., and in the Hamlet of Penge £1,210 1s. 5d.

KERBING AND CHANNELLING.

The following Tables will show the Footpaths and Roads throughout the District, where Kerbing and Channelling has been laid during the year.

LEWISHAM.

LOCALITY.	DESCRIPTION OF WORK.
Sydenham Park (north side)	Granite Kerbing and Channelling.
Longton Grove	Ditto ditto
Jew's Walk (a small portion)	Ditto ditto
Grote's Place	Ditto ditto
Eliot's Cottages	Ditto ditto
Grote's Buildings	Kerbing and small portion of Channelling.
Landsdowne Place (near Dr. Purvis')	Kerbing and Channelling.
Stanstead Lane, from the "Raven" to the Blythe Hill Road	Ditto ditto
Bridge Place, Lewisham	Ditto ditto
Forest Hill Railway Station	Granite Cab Stand.
West Hill (at foot of)	Granite Road Crossing.
Catford Bridge	Ditto ditto
Hanover, Cross, and Silver Streets, Shrubbery Row, and Mill Lane, Lewisham	Portion of Kerbing and Channelling re-laid to lay Asphalte.

The cost of the work amounted to £1640, and it was executed by Messrs. Mowlem & Co., of Grosvenor Wharf, Westminster.

PENGE.

LOCALITY.	DESCRIPTION OF WORK.
Clay Lane (one side)	Purbeck Kerbing and Kentish Rag Channelling.
Anerley Road, from Croydon Road to Maple Road	Ditto ditto ditto
Maple Road, from Dulwich Road to Anerley Road (side)	Ditto ditto ditto
Anerley Station Road	Ditto ditto ditto
Anerley Road (near the Thicket Hotel) ...	Ditto ditto ditto
Penge Railway Station (near the)	Granite Cab Stand and Crossing.
Crystal Palace	Paved Granite Entrance top of Dulwich Road.
Anerley Road	Staffordshire Blue Brick Crossings to Gate Entrances.

Some other small crossings were laid during the year. Messrs. E. and H. Beevers, of Borough Road, Southwark, were the Contractors, and the total cost of the work was £792.

TAR PAVEMENT.

Tar Pavement was laid during the year as follows, the work being done by the Board:—

LEWISHAM.

	Sq. Yards.
Dartmouth Hill, one side	837
Blackheath (near Dr. Purvis'), ditto ...	134
Blackheath Hill, from the "Green Man" Hotel down the Hill, ditto	382
Stanstead Lane, from near the "Raven" to Blyth Hill Road, ditto	944
West Hill, ditto	4042
Total	<u>6339</u>

The cost was £694 16s. 8d.

PENGE.

Seymour Villas Road	698
Derwent "	460
Beverley "	565
Weighton "	701
Elmers End "	830
Anerley "	540
Jesamine Grove	783
Hawthorn "	876
Woodbine "	838
Laurel "	883
Oakfield Road	1000
Dulwich "	343
Total	<u>8517</u>

The cost was £740 13s. 5d.

ASPHALTE AND CONCRETE FOOTPATHS.

The following Tables will shew the quantities of Limmer Asphalte footpaths and Concrete footpaths laid during the year.

LIMMER ASPHALTE FOOTPATHS.

	Yards, Superficial.
LEWISHAM.	
Hanover Street	767
Silver Street	703
Cross Street	291
Shrubbery Row.....	553
Lewis Grove	105
Mill Lane	135
FOREST HILL AND SYDENHAM.	
Brockley Lane	2045
Forest Vale	1160
Dartmouth Road	891
Sydenham Park.....	1084
Longton Grove	2294
Jew's Walk	1024
	10982

The work was executed by The Limmer Asphalte Co., at a cost of £2896.

CONCRETE WORKS.

LEWISHAM.		
Perry Hill, Footpaths	yards, superficial	1024
Ditto Gate Entrances.....	" "	68
Ditto Kerb	feet run	1432
Ditto Channel		1382

The Concrete was laid by Messrs. W. B. Wilkinson & Co., of Newcastle-on-Tyne.

IMPROVEMENTS.

In Lewisham the new road near Forest Hill Station was completed. The roadway is 45 feet between fences; it has been well

bottomed with bushes and chalk. I was engaged in making detail drawings of girders for widening the Railway Bridges, near Sydenham Station, and near Hamlet Terrace, in the Anerley Road, Penge. I obtained the sanction of the Metropolitan Board of Works to my drawings. In the case of the Sydenham Railway Bridge, a difficulty presented itself on account of the little depth available for the girders, which necessitated an extravagant section of girder. The Bridge as designed will consist of eight new longitudinal girders. I have made use of the two old girders. The roadway will be 45 feet wide between parapets, and carried upon brick arches. Widening the Railway Bridge near Hamlet Terrace is a more simple matter. The design consists in adding two footways to the present bridge.

I also made the detail drawings for the new footbridge across the London, Brighton, and South Coast Railway at Park End, Sydenham. The contract for the ironwork was let to Messrs. Head, Williams, & Co., and for the stonework, brickwork, and timberwork to Mr. Amer, of Perry Hill. The bridge consists of two wrought iron lattice girders resting upon two brickwork piers, the footway being pitch pine planking. The Bridge has, I believe, given great satisfaction; it has a light appearance, and will be most convenient to the inhabitants of the neighbourhood. A small road improvement was carried out at the bottom of Granville Park, Lewisham; also near Clarke's Lane, Perry Hill, and near the Rutland Tavern, Perry Hill. The road near the Deptford boundary, Brockley Lane, was also widened. A very great improvement was effected by planting the triangular piece of ground at the Crooked Billet, Dulwich Road, Penge. This piece of ground was a great nuisance before the Board purchased it. I prepared plans of a road improvement near the Wynnell Road, Perry Vale.

The following Table will show the improvements carried out during the year, also those projected but not carried out.

IMPROVEMENT.	REMARKS.
LEWISHAM.	
New Road near Forest Hill Station	Road made.
Park End Foot Bridge	Completed.
Road Improvement in Granville Park	Completed.
Widening Road near Clark's Lane, Perry Hill ...	Completed.
Ditto ditto near Rutland Tavern, Perry Hill	Completed.
Widening Brockley Lane to fifty feet along Brockley Hurst Brickfield	Completed so far.
Continuation of this Improvement to the Brockley Jack P.H.	Adjourned until next year.
Widening South End Lane	Ditto ditto.
Widening Road near Wynell Road, Perry Vale...	In hand.
Sydenham Green Improvement, and widening Railway Bridge	Ditto ditto
Raising Road near Ladywell Railway Station ...	In hand.
Park Road, Dartmouth Park (corner of).....	Ditto.
PENGE.	
Improvement near Crooked Billet	Completed.
Widening Railway Bridge near Hamlet Terrace	In hand.
Road Improvement, near Railway Bridges, Dul- wich Road, Penge	Completed.

I prepared plans and specification for a Committee Room, &c., in the Stone Yard, Forest Hill, and made drawings for two Urinals to be erected in Forest Hill, but they were not built. We have now a good Stone Yard at Forest Hill, but it is quite open at present. It should be enclosed. The re-construction of Hocum Pocum Bridge was commenced during the year; I made the necessary drawings, and obtained the sanction of the Plumstead Board, and am now carrying them out.

Drawings were prepared for the road improvement near the Railway Bridges, Dulwich Road, Penge. The work has been carried out. Drawings were also made for improving the Park Road approach to the New Road near Forest Hill Station.

NEW STREETS.

The work of Paving and forming the following new Streets, under the 105th Section of the Metropolis Local Management Act, was completed.

NEW STREETS.

NAME OF STREET.	LENGTH.	COST.			REMARKS.
LEWISHAM.					
	yds.	£	s.	d.	
St. Stephen's Terrace	147	102	6	9	Completed.
St. Germain's Road	183	356	5	1	Completed.
* St. Stephen's Road	118	92	6	3	Completed.
Abbott's Cottages.....	140	112	3	3	Completed.
Brockley Place.....	75	57	16	0	Completed.
Thornford Road	200	546	18	1	Completed.
PENGE.					
Crystal Palace Station Road	42	122	12	8	Completed.
	905				

The work of paving and forming the following Streets, under the 106th Section of the Metropolis Local Management Act, was completed.

LEWISHAM.					
Blyth Hill.....	250	56	8	6	Gravel off Asphalted paths used.
Church Vale	133	41	0	0	Old Kerbing used.
Havelock Mews	133	34	3	0	Ditto
PENGE.					
Road near "Crooked Billet"	50	172	0	0	New Kerbing and channelling used.
	566				

Making an addition of 1471yards to the roads already maintained by the Board. 18 gullies were constructed in the whole of these roads.

DUSTING.

The cost of collecting dust, ashes, &c., in the Parish of Lewisham was £986 15s. 11d., and the sale of dust amounted to £201 9s. 9d.

In Lewisham the Board employed their own men and boys,

* The footpath only on the North side including kerbing and channelling of this road was made up by the Board.

and contracted for the supply of horses and carts. There were 5814 loads of dust, &c., collected during the year. The contractors for the supply of horses were Mrs. Grant, Lewisham, and Mr. Jewkes, Lower Sydenham.

In Penge the dust, &c., was collected under contract with Mr. William Fuller, and cost £261. The Board have resolved to do the work themselves as in Lewisham next year.

SEWERAGE.

The Board completed the undermentioned sewers during the year:—

Locality.	Length Feet run.	Size in inches.	Cost.	Remarks.
Eliot Bank	710	9	£ s. d. 87 16 6	Pipe Sewer.
Honor Oak, from Gabriel-street to Messrs. Shorter's & Leggott's houses .....	.....	12, 9, and 6	444 19 7	Ditto.
Hither Green Lane extension to corner of George Lane	350	12	57 12 4	Ditto.

The following Sewers were re-laid by the Board, the sewers being very old:—

Locality.	Length Feet run.	Size in inches.	Cost.	Remarks.
Three Tuns Passage, Blackheath	100	12	£ s. d. 141 14 4	
Abbott's Cottages, Lewisham	264	12	57 6 9	

The following sewers were applied for by owners of private property. Plans and sections being first submitted to your Board, and afterwards to the Metropolitan Board of Works:—

Locality.	Length Feet run.	Size in inches.	Remarks.
LEWISHAM.			
New Road out of Drysdale Road, Loat's Pits	409	12	Completed.
Church Road, Dartmouth Park, Forest Hill	848	12	Ditto.
Montem Road, Stanstead Lane	250	15	Ditto.
PENGE.			
New Road leading out of Croydon Road	912	15	Ditto.
Wheathill and Thornsett Roads ...	1994	12	Nearly completed.

The Bromley Board of Guardians constructed 2,430 feet run of 3 feet by 2 feet egg-shaped sewer under the Beckenham Sewerage Act, part of which is in the Lewisham District, consent having been given by the Lewisham District Board and also by the Metropolitan Board for its construction. The following Table will give sewers projected during the year and have not been carried out :—

Locality.	Length.	Size.	Remarks.
Extension of Sewer from Lewisham Cemetery Gates through Ivy Lane to the boundary with Deptford ...	} 2873	{ 3-ft. by 2-ft. Brick Sewer }	}
Extension of Sewer from West Hill along Sydenham Hill .....				} 850	} 15-in. pipe	{ Abandoned for the present.
Extension of Sewer from Coomb Road northward in the valley line	} 1178	{ 2-ft. barrel }	}

The following Tables show the number of houses sanctioned by the Board to be built and drained, also the number of gullies, ventilating shafts and man-holes constructed during the year :—

Locality.	No. of Houses sanctioned to be built and drained.	No. of Houses sanctioned to be drained.	No. of additions to Buildings sanctioned.	No. of Dwelling Houses and Public Buildings completed within the year.
LEWISHAM	195	37	37	163
PENGE.....	65	24	3	39

Locality.	No. of frontage-drains laid.	No. of shaft-ventilators put into public sewers.	No. of gullies constructed in Highways.	Man-holes constructed.
LEWISHAM	49	6	21	1
PENGE.....	9	51	9	2

During the year some attention has been paid to improving the ventilation of the public sewers. The following list will show where the 57 ventilators were constructed:—

LEWISHAM.

Ryecroft Road	...	...	...	1
Court Hill Road	...	..	...	1
Near Taylor's Lane	...	...	...	1
Perry Rise	...	...	...	2
Devonshire Road	...	...	...	1
				<hr/>
				6
				<hr/>

PENGE.

Versailles Road	...	...	...	2
Belvedere Road	...	...	...	5
Tudor Road	...	...	...	2
Anerley Grove	...	...	...	2
Palace Road	...	...	...	1
Cintra Park	...	...	...	3
Anerley Road	...	...	...	2
Anerley Vale	...	...	...	1
Hamlet Road	...	...	...	1

PENGE—CONTINUED.

Amberley Road	...	...	...	2
Lullington Road	...	...	...	3
Anerley Park	...	...	...	1
St. Hugh's Road	...	...	...	2
Ridsdale Road	...	...	...	3
South Laurie Park	...	...	...	4
Dulwich Road	...	...	...	2
Forbes Road	...	...	...	2
Kingswood Road	...	...	...	1
Park Road	...	...	...	1
Avington Grove	...	...	...	1
Selby Road	...	...	...	2
Queen Adelaide Road	...	...	...	1
Beverley Road	...	...	...	2
Derwent Road	...	...	...	2
Harcourt Road	...	...	...	2
Seymour Villas	...	...	...	1

 51

I regret exceedingly I cannot report favourably as to the charcoal ventilators. Charcoal as at present used offers a great impediment to free ventilation. In constructing most of the above ventilators I have taken the precaution of providing an air chamber, apart from the mud or dirt receptacle, so that at any time I can apply charcoal. I hope to see at some future time such a valuable property as charcoal possesses of absorbing or oxidizing sewer gas put to a good practical use, at the present time, however, my experience warrants my not being favourable to its use. Theory does not always hold good in practice, and I do not think I need be ashamed to say I have learnt more by crawling through sewers and becoming practically acquainted with the channels to be ventilated than by the theoretical books I have read. The large sewers under my charge have been regularly cleansed during the year, and I look upon this as a very important matter, tending to the health of the district. At the present time I am considering the advisability of regularly flushing some of the sewers, but in a report of this nature I cannot go

thoroughly into the matter. On the 22nd October (Min., p. 275, par. 33), I reported to the Board that I found the invert of the Stanstead Lane Sewer from the "Raven" public house, Catford, to the "Telegraph" public house, Forest Hill, very defective. The sewer is egg shaped, 3 feet 9 inches by 2 feet 3 inches. On account of the great expense of re-construction I determined to make the attempt to cut the defective portions out, and make such good without stopping the working of the sewer. The work is being carried out at night, and I have every reason to believe will be brought to a successful issue. At the present time there are several parts of the district without an outfall sewer, viz., the Southend Road from Rushey Green to the boundaries with Bromley and Beckenham, Brockley Lane from the boundary with Deptford to the "Chandos Arms" Public House. There is a large estate now being laid out near the Deptford boundary. There is not a sewer in part of Peckham Road and Sydenham Hill. We have not a sewer in the valley from Hocum Pocum Bridge, near Weardale Road, Lee, to our boundary. There is a large number of houses in Nightingale Grove and Maythorn Cottages drained into cesspools in this neighbourhood. The West Kent Drainage Scheme was projected during the year (see my Report, Min., p. 311, par. 21). The Crystal Palace District Gas Company gave a great deal of trouble by allowing gas refuse to flow into the sewers. By a resolution of the Board I received instructions to correct the 25-inch Ordnance Map of the Parish up to the present time; this is a large work and entails a great deal of labour.

I have the honour to be, Gentlemen,

Your most obedient Servant,

JOHN CARLINE, CIVIL ENGINEER,

Surveyor to the Board.

*To the Board of Works
for the Lewisham District.*

THE
BOARD OF WORKS
FOR
The Lewisham District.

STATEMENT OF THE QUESTION

RAISED BY

THE PHŒNIX GAS COMPANY

AS TO

THE STANDARD OF PURITY OF THE GAS TO BE
SUPPLIED BY THEM IN

THE LEWISHAM DISTRICT,

AND

R E P O R T

THEREON BY

CHARLES HEISCH, Esq.,

*Superintending Gas Examiner for the
City of London.*

PRINTED BY ORDER OF THE BOARD.

PRINTED BY

W. H. CROCKFORD, JUN., LEWISHAM, AND BLACKHEATH ROAD,

—
1874.

BOARD OF WORKS

THE AMERICAN BANK

STATEMENT OF THE QUESTION

THE PROPOSED BANK

THE BOARD OF WORKS

THE AMERICAN BANK

REPORT

CHARLES HENRY

THE BOARD OF WORKS

The Board of Works for the Lewisham District.

STATEMENT OF QUESTION.

GROVE PLACE, LEWISHAM,
21st October, 1874.

Mr. Heisch is requested to report to the Board on a question which has arisen between them and the Phœnix Gas Company; and which may be shortly stated as follows:—

Whether the Board may be reasonably required—having regard as well to the interests of the public in the vicinity of the Company's Gas Works supplying this District, as to that of the gas consumers within the District—to agree with the Company upon any other or different test by which to ascertain the purity of the gas, or to vary the amount of ammonia or sulphur in any form in pursuance of the provisions of the 25th Sec. of the Metropolis Gas Act, 1860.*

The circumstances under which the question has arisen are as follows, and although the question at issue is not anywhere precisely stated (see the Company's letter of 30th July, as quoted on the Board's Minutes), it is assumed to be whether the amount of sulphur should be allowed to be increased from the maximum prescribed by the Act above-mentioned, viz.:—
20 grains in 100 cubic feet of gas.

† Mr. Heisch reported to the Board on the 5th May, 1874, that the quality of the gas supplied by the Company on that day was as follows:—

Illuminating power	- - -	16 candles
Sulphuretted Hydrogen	- -	None
Ammonia	- - - - -	None
Sulphur, on 5th and 6th	- -	31·5 grains in 100 cubic feet

* NOTE.—See Appendix, page 29, for copy Section.

† The Report referred to was made by Mr. Heisch in his capacity as Gas Examiner for the Lewisham District, to which office he was appointed on the 12th February, 1874.

The Report was laid before the Board at their meeting on the 21st May, when they resolved that a copy of it should be forwarded to the Company, with a request to them to make such observations thereon as they might desire.

On the 18th June, a letter from the Company was submitted to the Board acknowledging the receipt of the Board's letter with a copy of the Gas Examiner's report, and expressing the Company's thanks for the same, but being altogether silent as to the excess of sulphur found in their gas beyond the maximum allowed by the Act; the Board, therefore, resolved that in the absence of any explanation by the Company of the impurity of their gas, proceedings be taken against them for the recovery of the penalty incurred.

A summons was accordingly issued against the Company, which brought the letter from the Secretary of the 25th June (see below).

In view of the summons, Mr. Heisch made a further examination of the gas supplied. The following is the entry on the Minutes of the Board of 2nd July, as to letter from the Company and second examination of gas.

"The Clerk reported the issue of a summons and the receipt of a letter from the Company (25th June) stating that he had submitted to the Directors the letter communicating the resolution of this Board at their last Meeting, and in reply giving his assurance that every effort was being made to reduce the sulphur compounds to the lowest possible percentage which the existing apparatus could effect, and that the Directors would be happy if a Committee of this Board would favor them with a visit to their Works at Greenwich, from which the Parish of Lewisham was supplied, where the whole apparatus and means adopted for extracting the sulphur would be explained.

"And stating that the Directors admitted the possibility of keeping the quantity of sulphur within the prescribed maximum of 20 grains, but it was feared it could only be done by a most costly re-arrangement of the existing plant, and the Directors were anxious to avoid an outlay which might

necessitate an increase in the price of gas; and reminding this Board that practically the difference between the 20 grains of sulphur permitted and the quantity the gas usually contained was in effect of the most insignificant importance; and stating that the Company's Engineer was specially engaged in bringing, if possible, the quantity within the prescribed limits, and it was hoped with some chance of success; and stating that the Directors trusted the explanation given would so far satisfy this Board as to induce them to withhold resorting to any hostile proceedings, adding that the Directors had no idea a reply to this particular point of the Board's letter was expected, or the present explanation would have been at once given.

“The Clerk further reported that he had deemed it desirable as affecting the issue of the summonses, that a further examination of the gas supplied by the Company should be made, and had requested such an examination to be made accordingly.”

The Board approved the proceedings which had been taken, and directed that the summons should be prosecuted.

The following is a copy of Mr. Heisch's report on his second examination of the Company's gas:—

Report on the quality of the Gas supplied by the Phoenix Gas Company, July 1st, 1874.

Illuminating power	- - -	16·85 candles.
Sulphuretted hydrogen	- -	0·0
Ammonia	- - - - -	0·0
Sulphur, July 1st and 2nd,		
per 100 cubic feet	- - -	16·7 grains.

On the hearing of the summons, the Magistrate, having regard to the endeavours which were being made by the Company to reduce the quantity of sulphur in the gas, and to Mr. Heisch's second report, showing that a considerable reduction had been effected, expressed a strong opinion that the proceedings ought not to be further prosecuted, and in deference to such opinion, the summons was withdrawn.

At such hearing reference was made to the provisions of the 25th Sec. of the Metropolis Gas Act, 1860, enabling Local Authorities and Gas Companies to agree for varying the amount of sulphur in any form from the standard fixed by the Act. And a letter was some time afterwards received from the Secretary of the Company on the point, as to which the following is the entry on the Board's Minutes of the 13th August, 1874:—

“Read a letter (30th July) from the Secretary of the Phoenix Gas Company referring to the withdrawal of the summons recently issued against the Company on the complaint of this Board of the quality of gas supplied by them, and stating that he was desired by the Board of Directors to express their readiness to discuss the question with a view to arriving at an agreement thereon, as provided by Sec. 25 of the Metropolis Gas Act, 1860.

“Resolved that the Secretary of the Company be informed that this Board are not aware of any circumstance rendering it desirable to have recourse to the provisions of the section referred to enabling them and the Company to enter into an agreement on the subject of the quality of gas to be supplied, and that without declining such a conference as suggested, the Company be requested in the first instance to furnish this Board with a statement of the grounds upon which they seek to alter the quality of the gas, as expressly enacted by the Section mentioned.”

This resolution resulted in the receipt of a further letter from the Secretary of the Company, as to which the following is the entry on the Board's Minutes of the 24th September, 1874.

“Read a letter from the Phoenix Gas Company, of which the following is a copy:—

The Phoenix Gas Light and Coke Company,
70, Bankside, S.E.,

August 20, 1874.

DEAR SIR,

Bi-Sulphide of Carbon.

I submitted your letter of the 14th inst. to the Board

of Directors, and I am directed to state in continuation of our letter of the 25th June last, that the Directors find that the hopes therein expressed have not been fulfilled.

As stated, every effort has been made to reduce the sulphur to the lowest per centage, and temporarily with success, but after a while the eccentric variations again occurred, and it may now be fairly admitted that the *certainty* of eliminating this compound can only be effected by a costly re-arrangement of plant, and the creation of a terrible nuisance in the neighbourhood, from which the adjacent Parish of Greenwich would be the greatest sufferers.

In juxtaposition with this state of things, the Directors wish to place the opinions of the most eminent chemists as to the real character of the compound now under discussion. (Copies are sent herewith.)

From these opinions it will be seen that there is really nothing in the question which need cause the Local Board any anxiety, nor induce them to take any further action in respect to it.

The Clause of the Act of 1860 restricting the quantity of sulphur to 20 grains *has never before been acted upon*, and is practically obsolete.*

I am, &c.,

I. A. CROOKENDEN,

Secretary.

Saml. Edwards, Esq.,

Board of Works, Lewisham.

“The Clerk then stated that the opinions sent were those of Dr. Odling, Mr. Thos. Wm. Keates, Consulting Chemist to the Metropolitan Board of Works, and Mr. Thos. Wills, Lecturer upon Chemistry at the Royal Naval College, Greenwich; and that as regarded Dr. Odling, the statement of opinion sent appeared to have been made in a Lecture delivered by him to the Metropolitan Association of Medical

* NOTE.—In the Appendix, page 28, is an extract from a Report to the Commissioners of Sewers of the City of London, explaining why the Clause is “practically obsolete” within their jurisdiction.

Officers of Health, in February, 1869; but as regarded Mr. Keates' and Mr. Wills' opinions, it did not appear when or under what circumstances they had been expressed, and the statements sent were obviously merely extracts.

“Resolved that previously to the consideration of the question raised by the Company, their Secretary be requested to inform the Board at what dates, and under what circumstances the opinions furnished had been expressed, and to refer the Board to any complete published reports of the same, and that upon the required information being furnished, the subject be referred to Mr. Heisch, as Gas Examiner of the Board, for report thereon to them.”

On a communication being made to the Secretary, in accordance with the resolution, the further correspondence took place between him and the Clerk to the Board, of which the following is a copy:—

Phoenix Gas Coy.,
70, Bankside,
Oct. 5th, 1874.

DEAR SIR,

In reply to your letter of the 29th ult., I have pleasure in furnishing you herewith the full report of Dr. Odling's Lecture, from which our extracts were made. You will find it on page 81 of the Gas Journal, of Feb. 2, 1869.* The opinions of Mr. Keates and Mr. Wills were furnished to the Board upon the Directors' request, as the outline of evidence to be given at trial in July last, and do not appear in any printed form.

I take this opportunity of correcting an erroneous impression that appears to have been formed upon the part of my letter referring to the nuisance which must necessarily be

* NOTE.—In the Appendix is contained a much fuller extract from Dr. Odling's Lecture than was furnished by the Phoenix Gas Company with the letter from their Secretary, of the 20th August, 1874; and also an extract from a statement (to which particular attention is requested) made by Dr. Letheby (the Company's Consulting Chemist) in the discussion which ensued upon the Lecture.

created were we compelled to remove this compound. It can only be taken out by the aid of sulphide of calcium, and it is *this material* which would create a nuisance, while the quantity of *Bi-sulphide of Carbon* to be removed is perfectly harmless, for the reason stated by the chemist already quoted.

I have again to repeat our willingness to attend your Board, either at your office or upon our Works, to offer the fullest and freest explanation upon the question.

I remain, Dear Sir,

Yours faithfully,

I. A. CROOKENDEN,

Secretary.

Saml. Edwards, Esq.

THE BOARD OF WORKS FOR THE LEWISHAM DISTRICT,
Grove Place, Lewisham,
6th Oct., 1874.

DEAR SIR,

I am in receipt of your favour of yesterday, with enclosure, and shall be glad to know if I am to understand the document forwarded with your letter of the 20th ult. to be a complete copy of those furnished to your Board by Mr. Keates and Mr. Wills, as the outline of evidence to be given at the trial you refer to, and if not, whether you have any objection to supply me with a copy?

Yours faithfully,

SAM^L. EDWARDS,

Clerk to the Board.

I. A. Crookenden, Esq.

Phoenix Gas Company,

70, Bankside,

9th Oct., 1874.

DEAR SIR,

In reply to yours of the 6th inst., the document to which you refer, is a complete copy of those furnished to us by Mr. Keates and Mr. Wills.

Yours truly,

I. A. CROOKENDEN.

S. Edwards, Esq.

The document containing the opinions mentioned, as received from the Company, and also the copy of the Gas Journal mentioned, are sent herewith.

COPY DOCUMENT REFERRED TO FORWARDED BY THE
COMPANY TO THE BOARD ON THE 20TH AUGUST, 1874.

Dr. Odling, in his lecture delivered to the Metropolitan Association of Medical Officers of Health, says:—*

“Now let us consider the injurious effects likely to arise from the sulphurous acid so produced. The Act of Parliament says that coal gas shall not contain more than 20 grains of sulphur absolutely, and we find that—estimating it from the amount of sulphurous acid produced—it does not contain more than that quantity, although, estimating it according to the absolute amount of sulphur, it does contain more. What is the absolute amount ordinarily contained in coal gas I cannot tell you, although it certainly exceeds 20, and I believe even 25 grains in the 100 cubic feet; but we will make a very liberal assumption.

“We will assume that coal gas habitually contains 40 grains of sulphur in 100 cubic feet, and then consider how much sulphurous acid that amount of sulphur will produce. Sulphurous acid consists of exactly half its weight of sulphur; therefore, if the whole of these 40 grains were completely burnt, we should have 80 grains of sulphurous acid, but in reality a proportion of the 40 grains would not be so burnt. This 80 grains of sulphurous acid gas, however, corresponds to a little over the 1-15th part of a cubic foot, so that as 100 feet of gas, on the assumption we have made, would yield us 1-15th of a cubic foot, 1,500 feet of coal gas would be required to yield us one cubic foot of sulphurous acid; but when we burn 1,500 feet of coal gas we produce something also besides sulphurous acid—

* NOTE.—Dr. Odling's Lecture here quoted was delivered in January, 1869. In the Appendix, p. 22, a further part of it is given, affecting the question of Sulphur, not included in the Extract furnished by the Company.

the carbon and other constituents furnish their products to the atmosphere—our 1,500 cubic feet of coal gas required to produce one cubic foot of sulphurous acid, would, at the same time, produce some 1,000 cubic feet of carbonic acid; and, in addition to other far more abundant sources of dilution, the sulphurous acid would be diluted with 1,000 times its volume of carbonic acid. Accordingly, if you could measure the proportion of carbonic acid gas in a room lighted by coal gas, and take the 1,000th part of that proportion, you might form some idea of the proportion of sulphurous acid gas existing in the room. The highest result obtained by Professor Roscoe, as I have told you, amounted to $\cdot 32$ per cent. of carbonic acid, but how much of that was produced by the gas burnt, and how much by the respiration of the persons present at the Theatre, I cannot tell you; but you may form some notion of it by referring to the results of other experiments made in crowded sleeping rooms with the windows shut, and also in some barracks. In these cases the proportion of carbonic acid, where no gas was burning, approximated very closely to the amount found in the gallery of the Theatre, where it was furnished alike by the breaths of the individuals and the combustion of the gas.

“Moreover, we can form some notion of it another way. Speaking in round numbers again, every one of us produces about two-thirds of a cubic foot of carbonic acid an hour, which is the amount of carbonic acid gas that would be produced by the combustion of one foot of coal gas, so that every three individuals produce about as much as would be produced by one burner burning 3 feet an hour. I think we may take it for granted, therefore, that this $\cdot 32$ per cent. found by Dr. Roscoe, was contributed as largely by the individuals present as by the gas. We will assume, however, that of the proportion found by Dr. Roscoe $0\cdot 2$, or nearly two-thirds of the whole, was produced by the combustion of the gas, and the remainder by the breaths of the people present.

“Assuming then that the atmosphere acquired 0·2, or one-fifth of a per cent. of carbonic acid, by the combustion of gas, and on our original basis, that the sulphurous acid produced amounts to the 1,000th part of the carbonic acid, we should have present in the air of the room, 1-500,000th—or a half-millionth—part of sulphurous acid: a proportion utterly insignificant. Further, to produce a cubic foot of sulphurous acid would require an hour’s combustion of 300 burners consuming 5 feet of gas apiece; while to have a cubic foot of sulphurous acid existing at any moment in the air of any room, of whatever size, would necessarily require a much more abundant gas consumption, owing to the great change of atmosphere taking place every moment, even in the worst ventilated room.”*

Mr. Thomas William Keates, Consulting Chemist to the Metropolitan Board of Works, says:—

He has given great attention to the subject of gas and its chemical compounds. Sulphur is one of these, and is the most difficult of all to eliminate from the gas. He is aware that under the Metropolis Gas Act, 1860, 20 grains per 100 cubic feet was the maximum Companies were permitted to allow.

He does not consider that the public are practically any sufferers by a certain excess of this limit; the following are his reasons:—Twenty grains of sulphur produce when burned 40 grains of sulphurous acid, which in bulk rather equal more than 58 cubic inches; so that 100 cubic feet of gas containing 20 grains of sulphur produce in burning 58 cubic inches of sulphurous acid gas. An ordinary fish-tail gas burner consumes about 4 cubic feet of gas per hour,

* NOTE.—For the further part of Dr. Odling’s Lecture immediately following the part extracted by the Company, see Appendix, p. 24; and at p. 25 of the Appendix is given an Extract from the remarks made by Dr. Letheby in the discussion which followed Dr. Odling’s Lecture.

consequently, in a long evening, say 6 to 12, it would consume 24 feet of gas. Two such burners afford light sufficient for a good-sized room, and would consume 48 cubic feet of gas in six hours, producing in the atmosphere of such a room nearly 28 cubic inches of sulphurous acid gas. Supposing the room to be only 12 feet square and 10 feet in height, its contents would be 1,440 cubic feet of air. The 28 cubic inches of sulphurous acid gas are less than 1-60th of a cubic foot, or 1-86,000th part of the cubical contents of the room.

Moreover, it must be remembered that this quantity is only thrown into the atmosphere gradually during six hours, and that during that time some change in the air of the room must be taking place. It will then be seen that the talk which is made about the 'Sulphur in Gas' is after all raised upon what is practically a thing of very little, if any, importance from a sanitary or economical point of view.

It will be further seen how utterly trifling this is when it is considered that common house coal contains from 2 to 3 per cent. of sulphur, which is converted into sulphurous acid during its combustion. Every 100 lbs. of such coal yields, consequently, say 25 lbs. of sulphur, which produces in burning 5 lbs. of sulphurous acid, which is equal to no less than 50.940 cubic inches of this gas. It is a moot question whether small quantities of sulphurous acid may not be wholesome rather than the reverse in an atmosphere charged, as that of the Metropolis must always be, with organic exhalation; but however that may be, the quantity produced in the combustion of common gas is far too small to permit of its producing any sanitary effect, noxious or otherwise.

Mr. Thomas Wills, Lecturer upon Chemistry, at the Royal Naval College, Greenwich, says:—

There are three special points to be insisted on:—

1st.—The character of the Sulphur Impurity in Coal Gas.

2nd.—The insignificance of its amount—even when abnormally high.

3rd.—The undue importance, and the mistaken idea in the public mind respecting the amount of the evil done by its means

1st.—The Sulphur impurity in Coal Gas is of a two-fold nature, each kind having fundamental and characteristic differences.

Sulphuretted Hydrogen, Bisulphide of Carbon.

Sulphuretted Hydrogen, an exceedingly *poisonous* and *offensive* gas.

Bisulphide of Carbon (forming the residual sulphur), the vapour of a highly volatile liquid, neither so injurious or offensive as sulphuretted hydrogen.

The removal from the coal gas of the more noxious sulphuretted hydrogen, is comparatively easy, and *invariably accomplished* by the Companies before its supply to the public.

Much greater difficulty in removing the bisulphide of carbon (*i.e.* the matter now under discussion); it is in some cases, at present impossible, without considerable expense and space, and also at the risk of creating a nuisance.

The subject of the purification of gas from bisulphide of carbon, one that is being at the present time investigated, and upon which many experiments are being made, hence, until something satisfactory has been arrived at, it would be manifestly injudicious and unwise for any Company to incur any considerable expense, in the matter of plant or space, in the present uncertainty and without some addition to their present knowledge. The bisulphide of carbon present in the gas is inflammable, and is burnt with the gas, the products of its combustion being carbonic acid gas and sulphurous acid gas; this latter substance contains the whole of the sulphur present in the bisulphide. *Under no circumstances whatever* can the bisulphide of carbon, either

during its passage from the works or during its combustion be converted into the more objectionable *sulphuretted hydrogen*. No sample of coal gas is absolutely free from the presence of sulphur, in the form of bisulphide of carbon, the quantity usually varying from about 10 to 30 or 40 grains per 100 cubic feet of gas.

2nd.—The great insignificance of the presence of even the higher amount when reasonably considered.

It is evident that the correct way of speaking of this impurity, when the effects it produces are being considered, is as of sulphurous acid gas—this product being the one into which the whole of the sulphur present in the gas at once goes on combustion, and the form in which the supposed evil is done.

It appears likely to mislead to speak of an impurity as so many *grains per cubic feet*. It should rather be *grains in grains or cubic inches in cubic feet*, and as it is with volume and not weight we have most to do, the latter is preferable. One grain of sulphur contained in the coal gas as bisulphide of carbon, when burnt, produces 2·8 cubic inches of sulphurous acid gas; so that 3·3 cubic feet of coal gas containing 30 grains of sulphur per 100 cubic feet would have to be burnt in order to produce this amount, or an ordinary fish-tail burner for the space of nearly an hour. Further, the quantity of sulphurous acid gas produced is related, not so much to the quantity of gas in which it occurs, but to the capacity of the apartment in which the gas is burnt.

Taking about the smallest habitable room in which a gas jet would be burned, one say, 6ft. by 6ft. by 8ft.; this would give the infinitesimal amount of ·00056 per cent. in volumes of sulphurous acid gas spread over the space of one hour, a quantity that need not be considered.

Again. Two fish-tail burners, burning gas for six hours continuously, at the rate of 4 cubic feet each per hour, will give off during that time 43·6 cubic inches of sulphurous acid gas, a quantity equal to ·0009 per cent. of the volume

in a room 15ft. by 15ft. by 12ft., or 9 parts per 1,000,000. A room of this size will contain $1\frac{3}{4}$ cwt. of air, and in this weight of air 15 grains of sulphur will be diffused.

In both these cases it is presumed that the whole of the sulphurous acid gas remains *as such*, and also the whole of it in the room, two things which it is known do not take place.

Carbonic acid gas is a gas of a noxious character and also deleterious to health, yet there is present in the atmosphere, under normal circumstances and in the most open situations, a quantity equal to more than 40 times the amount of sulphurous acid gas mentioned above, and it is yet imperceptible to our senses.

Also it should be remembered, that ventilation is constantly taking place and reducing the amount even in the closest rooms.

The ill effects upon the system generally complained of, as the result of remaining in close and badly ventilated rooms where fires or gas-lights are burning, are headache, languor, and nausea. These all arise from the presence of carbonic acid gas, and not from sulphurous acid gas, the effect of which, if inhaled, is felt in the mucous membranes of the nose and mouth, and produces the signs of catarrh.

3rd.—The extent of the evil produced by the presence of bisulphide of carbon in the gas has been much exaggerated and has given to it undue prominence, partly from a misconception on the part of the public that all sulphur compounds are alike in character, and that therefore bisulphide of carbon is as bad as sulphuretted hydrogen, and partly by placing to the account of sulphurous acid effects which in reality are not due to it. Rooms lighted by any artificial means should be well ventilated, more for the sake of getting rid of the carbonic acid gas and the moisture produced than of the sulphurous acid.

Doubtless, if the sulphur could be all removed it would be a good thing, but the presence of a few grains more or less of sulphur, as bisulphide of carbon, in a hundred cubic feet of gas is of very small consequence.

REPORT OF MR. HEISCH.

CITY GAS EXAMINER'S OFFICE,
8, SAVAGE GARDENS, E.C.,
November 4th, 1874.

To the Lewisham District Board of Works.

GENTLEMEN,

I have carefully considered the various documents transmitted to me by your orders concerning the Sulphur in the Phoenix Gas, and beg to report thereon as follows:—

I would first remark that the lecture of Dr. Odling is of somewhat old date; and that in a lecture delivered before the Association of Gas Managers some years later on a kindred subject as the one sent you, none of the statements therein contained are re-produced. The outline of Mr. Keates' evidence is mainly taken from a paper written by him many years ago, when he was Consulting Chemist to the City of London Gas Works. Mr. Wills was for some time Dr. Odling's Assistant, and what he says is mostly a copy of Dr. Odling's statements.

The subject may be considered under three heads:—

1st—Is an excess of sulphur injurious?

2nd—Can the sulphur be removed?

3rd—Will its removal create a nuisance?

1st.—The evidence of Dr. Odling, Mr. Keates, and Mr. Wills, is, for all practical purposes, the same, and is founded on an error which would have been exposed by a few minutes' cross-examination by a well-instructed counsel.

All three gentlemen speak of the result of the combustion of the sulphur in gas as sulphurous acid gas. When sulphur is burnt in *dry air*, or dry oxygen, this gas is produced, but when burnt even in a slightly moist atmosphere, part is converted into sulphuric acid, and when burnt with a large

quantity of hydrogen (as in coal gas), the oxidation of which produces water in large quantities, the amount of sulphurous acid formed is quite insignificant, nearly all the sulphur being converted into sulphuric acid, not a gas but a vapour, readily condensed on all the walls of, and articles contained in, a room, and most difficult to remove, even by a strong draught through the room, much less by the ordinary means of ventilation. Even if the sulphur, as it issues from the burner, were in the state of sulphurous acid, in the presence of the quantity of water simultaneously formed, it would be oxidized into sulphuric acid long before it could be removed from the room, and the corrosive and destructive effects thus go on accumulating. That such is the fact the experience of everyone who notices the effect of burning gas on metal articles, plants, &c., abundantly proves. Let me now set against the statements of Messrs. Odling, Keates, and Wills, the following statement of what experience proves to be the fact. Each grain of sulphur in burning, as it does in gas, gives rise to the production of just over three grains of sulphuric acid. 100 cubic feet of gas, if it contain 30 grains of sulphur (a very common amount), would in burning produce 90 grains of sulphuric acid, and three burners each burning 4 cubic feet per hour, would produce between 3 and 4 grains of sulphuric acid per hour, or about 20 grains in 6 hours, which would in great part be condensed on the contents of the room in which the gas is burned. Such a process repeated every day fully accounts for the destruction which occurs when gas is burned. I may remark, in passing, that carbonic acid and water are both as much produced by any other light (oil lamps for instance) as by gas light, yet the same destructive effects are not produced. Anyone who will take the trouble to examine the corrosion occurring on metal-work where gas is burnt will find it to consist of sulphate of the metal. All tradesmen are only too well acquainted with the rotting effects produced by gas on their goods. One most instructive instance in proof of the above assertion I may mention. Some years since gas was introduced at the Royal

Observatory in place of camphine lamps for the photographic registration of magnetic variations, &c. In a very short time the surface of every reflector was destroyed, and the draw-tubes of the telescopes quite corroded. It was found necessary to place a tube over each burner, and to connect all these with a central chimney in which a strong draught was maintained to carry off the products of combustion. These tubes were, for cheapness, made of zinc. In a few days all the lamps were found extinguished by a crystalline substance which dropped on the burners from the tubes. This proved to be sulphate of zinc. I recommended the substitution of tinned copper tubes, but the price was objected to, and a contrivance was resorted to by which the condensed matter was run into a vessel at the side of the chimney. In one of these vessels I collected, in six weeks, from a burner consuming about half-a-foot per hour, $\frac{3}{4}$ -lb. sulphate of zinc. In this case unusual means were used to carry off the acid in the state of vapour, but with what effect the result showed. This result fully confirms all the statements made by boot-makers and others of the rotting effects of the products of gas combustion. It will be observed that at the Observatory there was simply the substitution of one combustible for another (gas for camphine), no greater number of burners being employed after gas was introduced, and the flames of both the gas and the camphine being of the same size. Carbonic acid and water must have been as abundantly produced by the camphine as by the gas, yet no ill effects were produced, though it was burnt for at least a year, while a week sufficed to show the destructive effects of the gas. Dr. Odling makes much of the difference between gas burned slowly and at the ordinary rate, and might, perhaps, attribute some of the above results to the smallness of the flames employed. If so, I would reply, that as these flames were required to give as much light as possible, the supply of air was certainly not more abundant than in an ordinary gas flame; so that no greater amount of oxidation was likely to take place. I will further state, that I examined the liquid which condensed in

the pipe of a gas stove burning 7 or 8 feet per hour, and found that it contained large quantities of sulphuric acid, and was very corrosive, at least as much so as that produced by the small flame. It will be observed that neither of the three gentlemen quoted by the Gas Company produce any practical proof of their assertion that sulphurous acid gas is the product of the combustion of the sulphur in coal gas. I have searched for it in vain, while the sulphuric acid is always abundant. Dr. Odling's theory that the air contains ammonia enough to neutralize all sulphuric acid formed, even if true, of very crowded rooms, is certainly not so of ordinary sitting rooms.

I would call especial attention to Dr. Letheby's reply to Dr. Odling, reported in the same journal as the lecture, showing that even at that time, practical men did not agree with his theories.*

2nd.—Can the sulphur be removed? The best answer to this is, that at the present time the gas with which the City of London is supplied contains on an average only 12 grains of sulphur per 100 cubic feet. That which for many years was supplied by the Great Central Company contained even less. The question of what can be done with the present plant of the Company, is not one on which I think we are bound to enter. In 1860 the Company entered into an agreement to supply gas containing only 20 grains of sulphur to 100 cubic feet, and during all the succeeding years they might have quietly made the necessary alterations in their plant without any undue pressure; that they have not made the attempt to carry out their agreement is no reason for now sparing them. The assertion that the Act of 1860 has never been acted upon is only partly true. The City took action against one of the Companies supplying it, shortly after the Act came into full operation, and Dr. Letheby (the Gas Examiner to the City at that time) was prepared with abundant proof of the corrosive effects of the sulphuric acid generated.

* NOTE.—The reply is given in Appendix, p. 25.

The case, however, fell through, owing to its being ruled that the Aldermen were the only magistrates in the City, and thus prosecutor and judge were virtually the same person, which could not be permitted. This defect of jurisdiction alone prevented the Act of 1860 being enforced. Before concluding this part of the subject, I would add that the Metropolitan Gas Referees in their Sulphur Report, 1872, state that they are now sure that lime, properly used, is a perfect means of taking out the sulphur from gas, and that its removal can be effected with as great certainty as that of ammonia or sulphuretted hydrogen.

3rd.—Does the removal of the sulphur necessarily produce a nuisance? That if the purifiers be simply opened and emptied, a nuisance is produced, no one can doubt, but that it is impossible to prevent it is not by any means proved. Dr. Letheby (the Consulting Chemist of the Phoenix Company) has repeatedly said that it is not, and most chemists will agree with him; trouble and expense it may cause, but the result is worth the cost. Any one observing the difference in the destructive effects of the gas now supplied to the City and that which was supplied three years ago, or is still supplied to many places outside the City, will have no doubt on this point. The present Metropolitan Gas Referees, though more lenient to the Gas Companies than their predecessors, permit 25 grains of sulphur in gas made at Urban works, only for a time, till the requisite alterations are made, so that they, even, manifestly do not admit the impossibility of the removal of the sulphur without producing a nuisance if proper means are taken to prevent it.

I remain, GENTLEMEN,

Your obedient Servant,

CHAS. HEISCH, F.C.S.,

*Superintending Gas Examiner to the Corporation
of the City of London.*

APPENDIX.

Further extracts from Dr. Odling's Lecture.

* "So much, then, with regard to the ammonia as existing in coal gas; and now to consider the sulphur. As all gas contains ammonia, so all gas contains sulphur in greater or less proportion. When this sulphur burns it gets converted into what is termed sulphurous acid, and when this sulphurous acid is exposed for a sufficient length of time to the air it takes up more oxygen, and gets converted into sulphuric acid, which, in a concentrated form, is known as oil of vitriol. But no matter under what circumstances you burn sulphur, it does not burn directly into sulphuric acid—it only burns into sulphurous acid. No matter at what temperature you burn the gas, you get sulphurous acid produced, and not sulphuric; but when this sulphurous acid is exposed to the air and to moisture, under these circumstances it absorbs oxygen, and gets converted into sulphuric acid, and it is possible that, under certain circumstances, supposing the sulphuric acid to be so formed, it might get to a reasonable degree of concentration.

"One word as to the character of this sulphurous acid. It is a substance which, in a concentrated state, is very irritating. Now-a-days we do not meet with sulphur matches, they are generally tipped with paraffin, though most of us know the irritating effect upon the nose of sulphurous acid; but, though very irritating, it is not at all corrosive. As medical men, we all understand the difference, that such a thing as cantharides or snuff, for instance, is extremely irritating, but yet not corrosive. Just so with sulphurous acid. Chemically speaking, it is one of the weakest acids with which we are acquainted, and corresponds, in respect to acidity, most nearly with that very feeble acid, carbonic acid.

* NOTE.—The following part of Dr. Odling's Lecture immediately preceded the part extracted by the Company, and given at p. 10.

You know that sulphurous acid is used for the bleaching of silk, straw, &c., and for the preservation of catgut and things of that kind, which, if corrosive, it would be quite unfit for. Therefore, *per se*, it is not a corrosive substance, except in a concentrated form, and then but very feebly.

“With regard to the amount of sulphur produced in the combustion of gas, the Act of Parliament says that 100 cubic feet of gas shall not contain of sulphur, in any form, more than 20 grains. Now, the ordinary mode of estimating the amount of sulphur in gas, consists in burning the gas somewhat in this form [illustrating], and then collecting the products of combustion, and estimating the sulphate of baryta obtainable therefrom. The process is based upon the assumption that the whole of the sulphur in the gas gets burnt. But we know that the whole of the carbon does not, and neither does the whole of the sulphur; so that in a process of this kind we only estimate, so to speak, so much of the sulphur in the gas as in the burning of the gas gets converted into sulphurous acid. But in an experiment of this kind the gas is burnt under very different conditions to those under which it is burnt when we use it as an illuminating agent, and, so far as I know, no experiments have been made to show the amount of sulphurous acid produced by a certain number of cubic feet of gas when burnt in the ordinary way. A great many experiments have been made with the gas burnt in one small jet, or from a Leslie's burner burning at a very slow rate; but, so far as I know, there have been no experiments, at any rate not satisfactory experiments, where gas has been burnt at the rate of 5 cubic feet an hour, under the ordinary conditions; and it must not be assumed that the amount of sulphurous acid produced per cubic foot of gas is the same when the gas is burnt in two such different manners. It may be very different. So far, then, as regards the amount of sulphurous acid produced, all I can tell you is, that when gas is burnt somewhat in this way it gives rise to an amount of sulphurous acid which corresponds to about the 20 grains of sulphur allowed by the Act of Parliament. Very frequently

it is two or three grains over; very frequently a few grains under. At the same time, when we perform the experiment, not in this way, but in a strictly chemical way, in a way in which it would be performed in a laboratory, under these circumstances we find the sulphur habitually to exceed the 20 grains allowed by the Act of Parliament; although, as I have said, when we have regard to the products of combustion yielded when the gas is burnt in an apparatus of this kind, we find it affords an amount of sulphurous acid or sulphate of ammonia corresponding with the average amount of 20 grains allowed by the Act of Parliament, and sometimes less.*

* * * *

† “But now comes the question of the conversion of the sulphurous into sulphuric acid. That, first of all, is not a rapid process. It is very rapid indeed so far as regards a partial conversion, for it is very difficult to have sulphurous acid in the air without a proportion of it being converted into sulphuric acid; but you must remember, when dealing with these minute proportions, that the minute proportions of other substances existing in the atmosphere become similarly important, and particularly the proportion of ammonia. It would appear that the amount of ammonia existing even in the open atmosphere is sufficient to neutralize the amount of sulphuric acid formed under the circumstances of gas combustion; but in a room where a large amount of gas is burning—a room crowded with human beings—the exhalations give out an excess of ammonia, which would be sufficient to far more than neutralize any amount of sulphurous acid that might chance to get converted into sulphuric acid. Of course, if you set to work with a view to convert the sulphurous acid gas into sulphuric acid, you can readily do it. If you cause such a burner as this to burn under a vessel which is kept cold by having a free current of water passing through

* NOTE.—Here follows the part of Dr. Odling's Lecture extracted by the Company. See p. 10.

† This part of Dr. Odling's Lecture immediately followed the part extracted by the Company. See p. 13.

it, the bottom of the vessel is constantly covered with a layer of moisture; the sulphurous acid gets condensed in this moisture, and a portion of it converted into dilute sulphuric acid, which gradually becomes concentrated acid. In this way you may produce a certain quantity of sulphuric acid by the combustion of gas; but, when gas is burnt under ordinary conditions, so as to diffuse its products into the atmosphere, the produced sulphurous acid can only form about a thousandth part of the carbonic acid gas existing in the room as a product of gas combustion, even upon the excessive assumption that the gas contains double the amount of sulphur allowed by the standard of the Act of Parliament."

In the discussion which followed Dr. Odling's Lecture, Dr. Letheby is reported in the same Gas Journal to have said on the subject of sulphur, as follows:—

"And now I am desirous of making a few remarks on the effects of the sulphur in coal gas. Dr. Odling has directed your attention to this matter from a statistical point of view, and has shown you how, by a mathematical process, the amount of sulphur acids in the products of burning gas may be reduced to a vanishing point, and that, therefore, they must be insignificant and wholly harmless; but I will ask you to look at the subject from another point of view, and to examine it by the light of facts as well as of figures. About 15 or 20 years ago, when I began to enquire into this matter, I was struck with a circumstance which is now, as it was then, very remarkable—namely, that wherever gas is burnt continuously, and in large quantity, it causes a rapid destruction of textile fabrics, with a very acid condition of them. This is notably so in our public libraries, and in warehouses and shops. I obtained so many striking proofs of this, especially from the libraries of the Athenæum Club-House, the London Institution, the College of Surgeons, and elsewhere, that I made them the subject of a special report to the City authorities in 1854; and here you will see the specimens of

covers of books which were furnished to me at that time. If you apply a little piece of the leather to your tongue, you will taste its acidity; and if it be treated with water or spirit of wine and tested with a solution of baryta, it will be found that the acid is sulphuric acid. These effects were observed many years ago in the library of the Athenæum Club-House, and they were growing to be so serious that the managers requested a commission of chemists—including Mr. Faraday, Mr. Brande, Dr. Prout, Mr. Aiken, and others—to inquire into it, and I have before me a copy of their report on the subject. It is to the effect that the mischief is clearly due to the presence of sulphuric acid which had come from the burning gas; and they state that the mischief will continue so long as gas is used in the library without proper ventilation. Mr. Faraday thereupon designed the system of ventilation which is still used in the library. As to the effects of the products of burning gas on shop goods, they are notorious, for such goods are regularly disposed of as damaged or gassy things. It has been remarked, too, that plants are quickly killed by the products of burning gas, for they are peculiarly susceptible of injury from the presence of sulphurous acid in the air. According to Drs. Christison and Turner, as little as one part in 10,000 of air will kill plants in less than 24 hours. And you cannot use gas in a conservatory, either for heating or for illuminating purposes, unless the products of combustion are entirely removed. Dr. Christison has written to me very strongly on this subject, and he attributes the absence of flowers and plants from the rooms of Edinburgh to the circumstance that gas is universally used in them. Advancing a step further, in my inquiries, I ascertained that the water produced by burning gas, collect it how you will, is always acid, and will rot leather, paper, cotton, and linen. Here are specimens of such tissues, which have been dipped in the condensed liquid products of gas combustion, and you will observe that they are as rotten as tinder. Lastly, I contrived a plan whereby the amount of sulphur in coal gas could be estimated. I had thought that the instrument was suffi-

ciently well known, and the *rationale* of its action thoroughly understood; but the instrument which Dr. Odling has placed upon the table, and has described to you as my ingenious contrivance, is so different in all its essential particulars from my instrument, that I disown it, and call it an ingenious perversion of the apparatus which bears my name. I know from experience that such an instrument will not discover half the amount of sulphur that is really present in coal gas; and I have no doubt that the discrepancies which have lately been referred to by writers on this subject have been occasioned by the use of such an instrument as is now upon the table. The particulars of my instrument, the measurements of the several parts of it, and the mode of using it, are fully described in Mr. Sugg's book on gas manipulation, and if it be used in a proper manner it will discover all the sulphur of the gas; and thus it will be found that the amount of sulphur may reach to from 30 to 40 grains per 100 cubic feet of gas. If the presence of sulphur in such quantity in coal gas was an unavoidable necessity, and could not be reduced by any reasonable process of manufacture or purification, it would be folly to complain of it, other than to show the necessity for good ventilation where gas is burnt; but this is not the case, for there are processes of purification which will easily diminish the amount of sulphur to less than half the usual quantity. Mr. Hawksley—whose presence this evening will, I hope, be useful to us, by his giving us the results of his large experience in this matter—has shown that, by copiously washing raw gas with ammoniacal liquor, it is possible to remove a large proportion of the sulphur compounds of gas without injuring in the slightest degree its illuminating power. After this treatment the gas should be deprived of its sulphuretted hydrogen by means of hydrated oxide of iron; and then, while a little ammonia is still remaining in it, it should be further purified by passing it through dry lime, which is the slightly moistened hydrate of lime. In this way the ammoniacal liquor is strengthened to a high degree—it being rarely less than of 10-oz. strength—by the absorp-

tion of ammonia compounds, and by the removal of sulphur in other forms than that of sulphuretted hydrogen. The hydrated oxide of iron is also less foul than it usually is, and is capable of revivification without causing annoyance; while the hydrate of lime is actually inoffensive, for it contains nothing but carbonic acid and sulphocyanogen, with a little sulphide—the carbonic acid being absorbed from the gas, and the sulphocyanogen and sulphide produced by the reaction of ammonia on bisulphide of carbon in the presence of caustic lime. Mr. Hawksley will tell you, what I also know from experience, that by these means the amount of sulphur in coal gas is easily and certainly reduced to about 10 or 12 grains per 100 cubic feet of gas. It is easy, as I have said, to meet this question by a numerical argument, and to show, by a mathematical process of reasoning, that the amount of sulphur in gas may be made to vanish to almost nothing; but I would rather examine the practical or experimental facts, and endeavour to remedy what is, among practical men, an acknowledged evil, by applying those remedies which are clearly within our reach.”

Extract from the Report of Mr. A. J. Baylis to the Commissioners of Sewers, dated 25th February, 1866.

TO THE COMMISSIONERS OF SEWERS OF THE CITY OF
LONDON.

GENTLEMEN,

GREAT CENTRAL GAS COMPANY.

I have the honour to report that, having in pursuance of your instructions, taken proceedings against the above Company for supplying gas of a quality inferior to that prescribed by the Metropolis Gas Act, 1860, the case came on for hearing before Mr. Alderman Stone, at the Guildhall Justice Room, on the 23rd instant. The proceedings were taken according to the invariable practice, in the name of

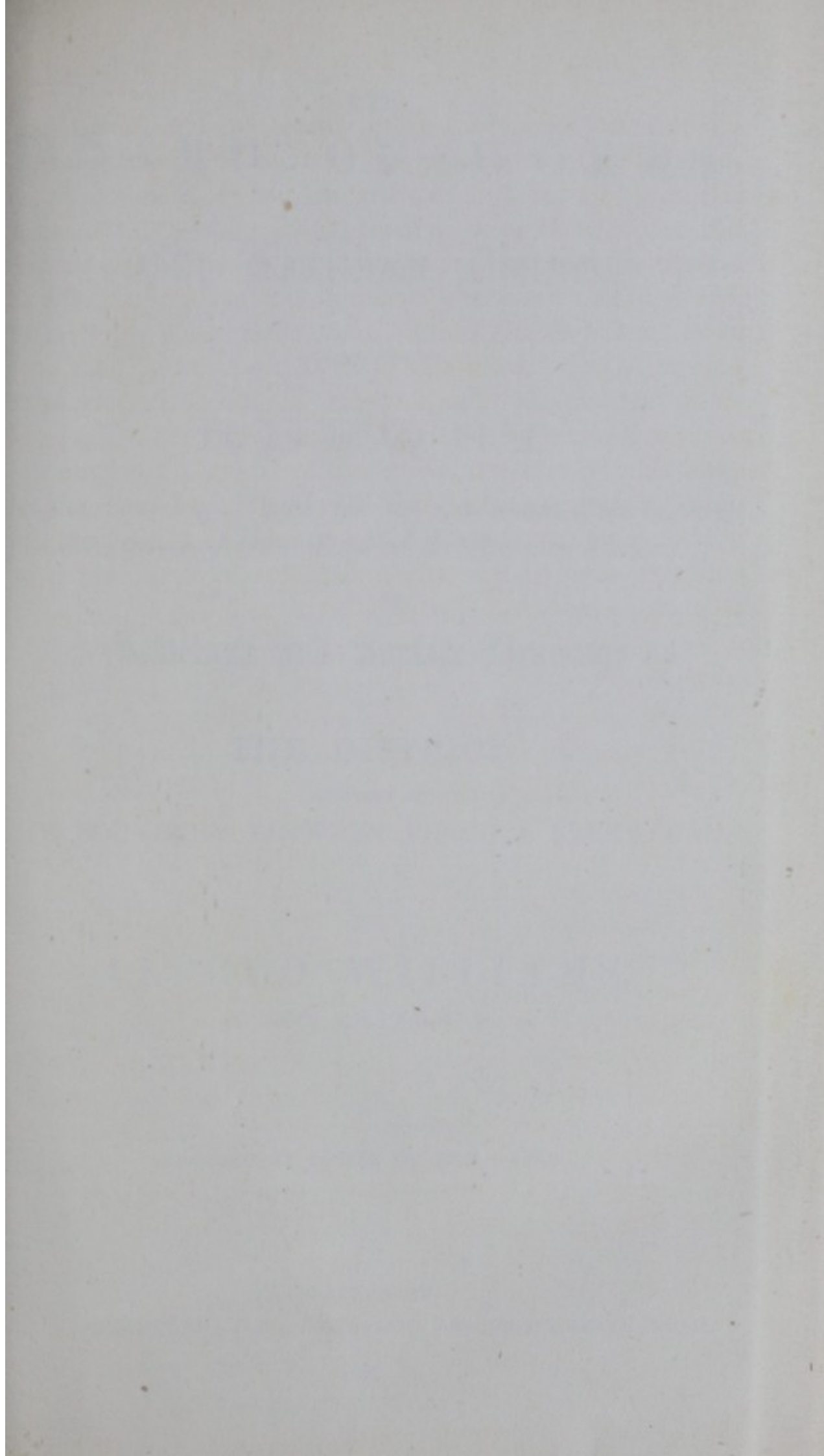
your Clerk; and two technical objections were raised at the hearing by Mr. Coleridge (who appeared for the Gas Company); 1st—That your Honourable Court had no power to institute these proceedings in the name of their Clerk; 2nd—That the Commissioners of Sewers were not the “Local Authority” under the Metropolis Gas Act, and had not, therefore, the power to take any proceedings against the Gas Companies, I need hardly say that both these points were rather technical, and altogether evaded the real merits of the case, which I had been lead to believe the Company were anxious to meet, as they had previously alleged that they had a triumphant answer to the charge of supplying impure gas to the citizens.

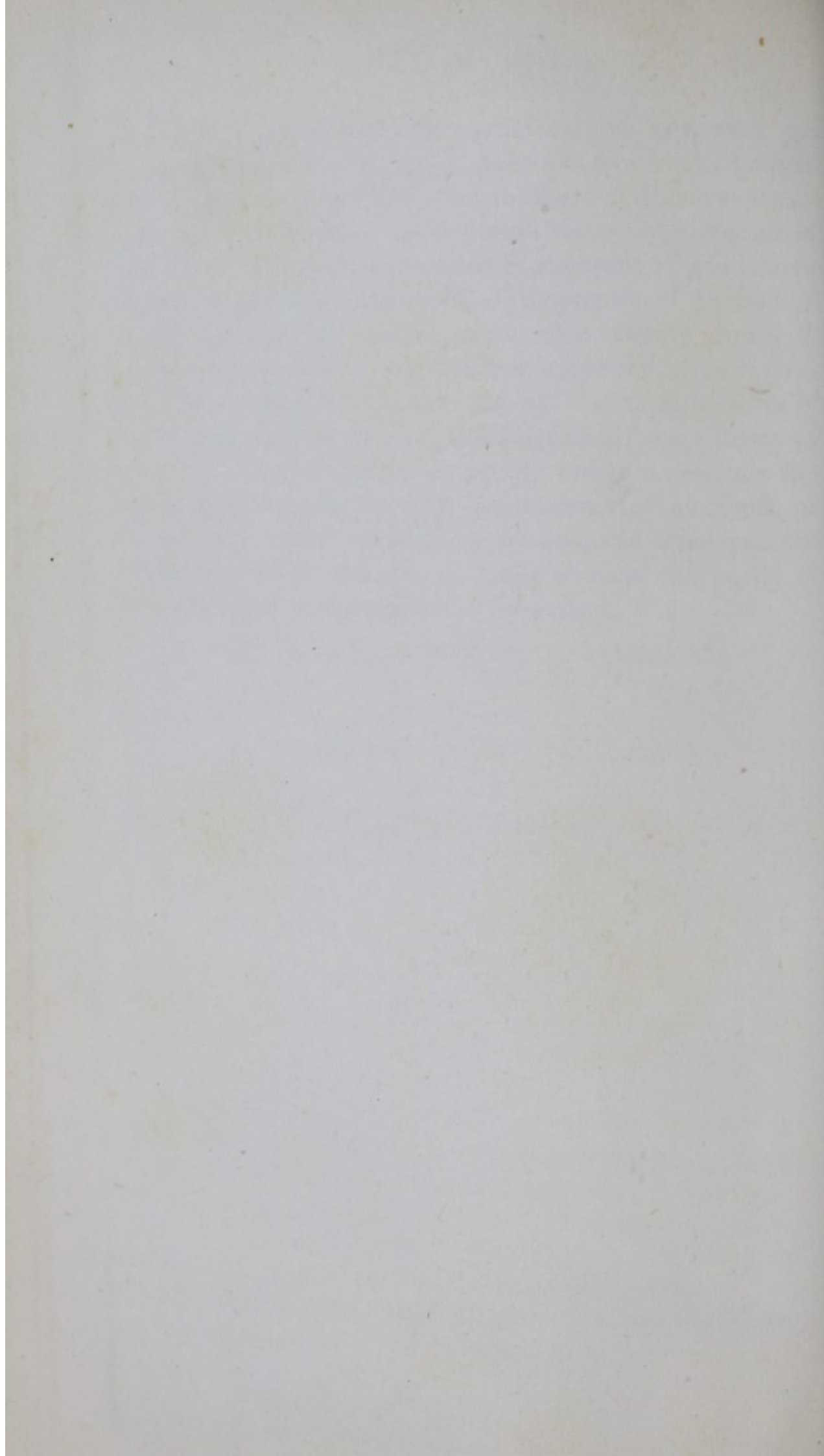
The Alderman ruled that the 1st objection raised by the Company was fatal, a decision to which, however erroneous it may be, there was no alternative but to submit; and no decision was given to the second point. Thus the Company have for the moment, on a mere question of form, stifled what was in effect a public inquiry into the quality of their gas, and they leave the charge of your Honourable Court still hanging, without even attempting an answer.

The Metropolis Gas Act, 1860, Section 25.

The quality of the common gas supplied by any Gas Company shall be, with respect to its illuminating power, at a distance as near as may be of one thousand yards from the Works, such as to produce from an Argand burner having fifteen holes and a seven-inch chimney, consuming five cubic feet of gas an hour, a light equal in intensity to the light produced by not less than twelve sperm candles of six to the pound, each burning one hundred and twenty grains an hour; and the quality of cannel gas supplied by any Gas Company shall, with respect to its illuminating power at the distance aforesaid, be such as to produce from a batwing or fishtail burner, consuming five feet of gas per hour, a light equal in

intensity to twenty such sperm candles, and each such gas shall, with respect to its purity, be so far free from ammonia and sulphuretted hydrogen that it shall not discolour either turmeric paper or paper imbued with acetate or carbonate of lead when these tests are exposed to a current of gas issuing for one minute under a pressure of five-tenths of an inch of water, and shall not contain more than twenty grains of sulphur in any form, in one hundred cubic feet of gas; provided that any Gas Company and the Local Authorities of the district supplied by such Company shall be at liberty to agree upon any other different test by which to ascertain the purity of the gas, or to vary the amounts of ammonia or sulphur in any form hereinbefore allowed, and thereupon the Company shall be thenceforth liable to have the purity of their gas tested in the manner so prescribed.





THE
BOARD OF WORKS

FOR

The Lewisham District.

REPORT

*To the Board of Works for the Lewisham District, and
the Board of Guardians of the Bromley Union,*

ON THE

Sewerage and Surface Drainage

OF

THE DISTRICT

ADJACENT TO

THE BOUNDARY BETWEEN PENGE & BECKENHAM.

BY

ALFRED WILLIAMS,

M. INST. C.E., F.G.S., &c.

PRINTED BY ORDER OF THE BOARD.

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1875.

BOARD OF WORKS

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REPORT

TO

*The Board of Works for the Lewisham District, and
the Board of Guardians of the Bromley Union,*

ON

THE SEWERAGE AND SURFACE DRAINAGE OF THE DISTRICT
ADJACENT TO THE BOUNDARY BETWEEN PENGE
AND BECKENHAM.

18, GREAT GEORGE STREET, WESTMINSTER,

31st December, 1874.

GENTLEMEN,

In accordance with your instructions, I beg to submit for your consideration the following Report on the above matters, together with a large scale Plan, and levels of the principal Sewers and Waterways of the northern part of the Hamlet of Penge, in the County of Surrey, and the greater portion of the "Tongue of Land" in the Beckenham Sewerage Area, in the County of Kent, showing also works which I advise the two Sanitary Authorities, jointly or separately, to carry out, for the purpose of more effectually draining the neighbourhood.

Some delay having occurred in the completion of this Plan and Report, I may explain that the surveys, levels, and investigations occupied a long time, and that, although early in this year it was arranged that I should act for both Boards in the business now under consideration, and I then commenced my surveys, yet, in consequence of a protracted correspondence between the Boards, relating to the principles upon which the cost of works might be apportioned, it was not until the 28th of July that I received full instructions and extracts from the correspondence and minutes.

Preparation of
general plan.

In order to deal economically with the matters submitted to me, it was necessary to have a general plan of the existing Sewers and Waterways, with levels, but no such plan existed; and with the concurrence of the two Boards, I proceeded, as under, to provide one.

The Beckenham Sewerage Act, 1873, requires that before the construction within the Sewerage Area, of any sewer which is to be connected with the Penge and Bell Green Sewer, Plans and Sections shall be submitted for the approval of the Metropolitan Board of Works and the Lewisham Board; and that the plans shall be on "such convenient scale as the said respective Boards from time to time require."

Having ascertained that the Boards required these plans to be on a scale of 5 feet to a mile, the scale generally adopted by the Metropolitan Board, I determined to prepare the General Plan on that scale; and proceeded by enlarging the 25 $\frac{1}{3}$ inch Ordnance Map, which is old and imperfect, by making surveys, and taking levels of Roads, Streets, and Buildings, as well as of existing Sewers, Drains, and Waterways, requiring numerous openings of the ground, to prepare the plan now presented; which, although imperfect, and not minutely accurate (being based on an enlargement), is sufficient for the present purpose, and can be added to from time to time, as further information is obtained, by any one using it.

In the course of my investigations I had numerous communications with parties connected with the various properties, Engineers, Architects, Agents, &c. I paid visits from time to time to the Crystal Palace, and, with the kind help of the Company's Engineer and his assistants, ascertained the course, &c., of some of the sewers and waterways in the Palace grounds, not shown on any plan which could be found.

In some cases, at the Crystal Palace and elsewhere, the probable cost of opening the ground, and the annoyances inseparable from it, appeared to outweigh the advantages of an accurate survey of the conduits, and they are put on the

plan from the best information otherwise obtainable, some of them no doubt being omitted.

On account of the difficulty of getting accurate information about underground conduits of various sizes, constructed at different times; the necessity for examining and filling up without delay any openings made; and in consequence of the extent to which building operations have been carried on since the Ordnance Map was corrected; the surveys, investigations, and levels occupied an amount of time which may appear large, when compared with the works now proposed; but I may mention that it was the information thus obtained that enabled me, by utilising existing conduits, to reduce to such small proportions the works now recommended for construction.

The Plan which has occasionally, while in progress, been submitted to Committees of both the Bromley and Lewisham Boards, will form a useful basis for economy in future works, not only near the boundary, but in any part of either District which it comprises.

I have other levels and particulars of Sewers and Waterways in parts of Penge, and the Beckenham Sewerage Area, not shown on this plan.

The nuisance caused by the drainage of houses (chiefly on the Birkbeck Estate) into the Boundary Ditch near Beckenham Road, appeared to require the earliest attention, and, with the sanction of the Local Committees, I prepared a separate Report dealing with it, and recommending the construction of a Sewer along Kent House Lane, to take the sewage of the Birkbeck Estate, Beckenham, and of a portion of Penge. This Sewer, which is 2,300 feet in length, is now approaching completion.

Kent House Lane sewer.

With reference to the question of disposing of the storm-waters, I stated in the Report referred to, that it would be for the Sanitary Authority "to consider how far they have power, and think it right, to compel owners of property to make separate provision for disposing of the rainfall on the roads, houses, and gardens respectively."

Storm waters.

As regards the Birkbeck Estate, the outlet into the County Ditch near the Beckenham Road, at present used for sewage may be retained for the overflow of storm-waters, until some better provision is made; but still the chief difficulty in making arrangements for the complete drainage of these districts is in dealing with the rainfall during heavy storms.

Rainfall conducted to Sewers not intended for Storm waters.

By the existing sewers and drains, which have in some cases been constructed along the natural water-courses, the rainfall of a large portion of the land occupied by houses and gardens in the extensive suburbs of Anerley, Penge, and Sydenham (including a portion of Beckenham Sewerage Area), is conducted, with the sewage, to the Penge and Bell Green, and the Sydenham Sewers.

This arrangement produces no inconvenience during a moderate rainfall; but neither the Penge and Bell Green Sewer, nor the Sewer of the Metropolitan Board, which it joins [the Ravensbourne and Sydenham Main Sewer], was intended, or is of sufficient size for carrying storm rainfall.

That the Metropolitan system of sewers generally was intended to carry only a small portion of a heavy rainfall, is clearly stated in Sir J. W. Bazalgette's paper on the Main Drainage of London, read at the Institution of Civil Engineers, in 1865.

The Penge and Bell Green Sewer, 3 feet 9 inches high, and 2 feet 6 inches wide, and the Sydenham Sewer, 3 feet high and 2 feet wide, join the Metropolitan system at Bell Green; whence, for a distance of about three-quarters of a mile towards the outlet, the Metropolitan Main Sewer is only the same size as the Penge and Bell Green Sewer, and both the last-mentioned sewers, together about two miles in length, are occasionally filled to overflowing.

Flooding at Penge.

These floodings during storms caused, until recently, serious damage in the cellars and lowest floors of some of the houses at Penge, and having been instructed by the Lewisham Board to deal with the matter, so far as it affected the Hamlet, after carrying out some improvements in the Penge and Bell Green Sewer, I made surveys and constructed

numerous small and inexpensive works at Penge, which, by diverting a considerable portion of the storm-waters from the sewers, re-opening the natural channels, and by other means, materially reduced the evil.

Other works are postponed, while observations are made, during storms, as to the effect of those already constructed.

I devoted (as before alluded to) a considerable amount of attention to the Crystal Palace and Grounds, where there is a large area—the greater part in Penge, and the remainder in Beckenham—from which, on account of its steepness, the rainfall runs off very rapidly, the water which is not absorbed by the land, or caught in the reservoirs, being at present mixed with the sewage where it leaves the Palace Grounds.

Rainfall Crystal Palace.

The Crystal Palace Company's Engineer had, previously to my first visit, made some drains and connections, for the purpose of conducting to the Company's basins and reservoirs a portion of this rainfall. Since our joint investigations, he has been able, by the construction of other small works, to divert to the reservoirs additional surface water, which, while valuable to the Company, it is important to keep out of the sewers.

Further works with the same object may yet be carried out.

The Beckenham Sewerage Act, 1873, section 7, requires that the Guardians of the Bromley Union "shall, so far as is practicable, prevent" the storm-waters of the Beckenham Sewerage Area from flowing into the sewers, and thereby into the Penge and Bell Green Sewer; and the Lewisham Board of Works, on the 16th July, 1874, passed a resolution recommended by their Penge Local Committee, "that the Bromley Guardians be informed generally of the proceedings of this Board, with a view of separating the surface water from the sewerage drainage of the Hamlet, and be urged to adopt a similar course with reference to the Beckenham Sewerage Area, as a compliance with the 7th section of the Beckenham Sewerage Act, 1873."

Storm waters Beckenham sewerage area.

I have kept this in view, while considering the works now required; and, with reference to the future, I think it would

be desirable that an arrangement should be made, between the two Boards, to adopt similar regulations, as to the drainage of roads and gardens, as well as of houses.

Separate system for surface water.

This raises again the important question of how far a double system—a sewer or drain for the sewage, and a separate conduit for clean water—is to be carried, as regards both existing and future roads, houses, and gardens.

To separate entirely the storm-water from the sewage, the double system must be carried to each street and house, as a large portion of the rainfall descends on the houses and gardens. This system if applied to a district already drained, and especially where water-courses have been converted into sewers, would cause a very large outlay, and a great amount of interference with private property; but its application to future roads and buildings would not involve such serious consequences, and deserves consideration.

Unless some arrangements be made to separate the surface water from the sewage, the portion of rainfall seeking an outlet through the main sewer, will be augmented by the construction of sewers and drains from new roads and houses, as the process of converting agricultural land into building land goes on.

The Alexandra Cottages, about 160 houses in the Beckenham Sewerage Area, have a double system of drains; but I know of no other instance in the Sewerage Area, or Penge, where the system is applied to any considerable number of houses.

I am of opinion that, apart from the question of cost, the separation of the rainfall and land water from the sewage and house drainage, may, under some circumstances, be carried too far; as the want of sufficient water to cleanse sewers and drains where the gradients are flat, would cause evils, which, although difficult to measure, may be far more serious than occasional floodings, the effects of which are apparent.

Valves to house drains.

Among the works carried out at Penge for the Lewisham Board, I have fixed self-acting valves or flaps in the sewers,

at the junctions of the several drains from houses which have been flooded; these, if kept in order, prevent the sewage from flowing back from the sewers into the cellars, or lowest floors of the houses; but in the case of very heavy storms, the rain falling on the roofs and gardens, if not diverted from the cellars, may cause inconvenience, the outlet through the house drains being necessarily closed for a short time, if the water in the sewer rise above that in the cellar.

In the present state of things it would be well to put in these valves wherever required in Beckenham or Penge, and to caution parties who have cellars liable to be flooded, to restrict their use so as to reduce to a minimum the damage which may be caused by sudden storms.

Before arranging the works for dealing with the sewage and surface water, near the boundary between Penge and Beckenham, it was necessary to determine whether the line of culvert and pipes running along the County boundary, in the Crystal Palace Grounds, and thence in a south-easterly direction across Penge Park Estate, under houses, gardens, and other properties, to the Parish Lane, should be used for sewage and surface water as heretofore, or only for surface water; and I spent some considerable time in getting information and balancing the somewhat complicated advantages and disadvantages of each course, and in consulting with the Local Committees thereon. After well considering all the circumstances, and the strong desire of the Lewisham Board that the culvert should be kept for clean water, I determined to recommend the adoption of that course, although it may be difficult to prevent houses, over and near the culvert, from draining into it. Boundary culvert.

This boundary conduit, which runs along a natural water-course, is irregularly laid, and varies in size and construction; the greater part is barrel culvert, about two feet in diameter; the portions under the railway are culverts of a larger size, and other portions are pipes 18 inches in diameter; therefore a man could not go through to examine it, and as it passes near or under about a dozen houses or gardens, we have not

yet accurately ascertained what drains are connected with it.

Although the Lewisham Board of Works, at considerable cost and inconvenience, had arranged some of their sewers so as to prevent the sewage of Penge from getting into this culvert, and (as I was informed) a former Sanitary Committee of Beckenham had intimated that they did not intend to allow it to be used as a sewer, I found that a considerable number of houses, in both Parishes, drained into it.

I informed both Boards of this some months ago, in order that the evil might not be augmented, as new houses were being built near the boundary.

Proposed
works.

Having determined to use the boundary culvert for clean water only, I carefully considered the works that would be required, keeping steadily in view the desirability, for obvious reasons, of limiting the expenditure to works which are necessary at present, and leaving the cost of doubtful works to be weighed against the inconveniences which may remain.

Some of the works and arrangements which I have allowed to stand are not such as I should originate, but they may answer for the present at all events, and, possibly, for a considerable time.

The questions, large and small, which have arisen in the course of the surveys and investigations, have been very numerous and complicated, and seemed to be almost interminable; and although I have spared no pains in attempting to do the best I could under the circumstances, further information may throw a new light on some of the matters.

Underneath is a Schedule of the Works which I recommend for construction; most of them have been discussed, and in general terms approved, by Committees of both Boards.

SCHEDULE OF PROPOSED WORKS.

Red Letters on Plan.	DESCRIPTION OF WORKS, WITH OBSERVATIONS.	Probable Cost.	Amount to be paid by Lewis- ham Board.	Amount to be paid by Brom- ley Board.
		£	£	£
A to B C to D E to F G to H	Four lengths of storm-water conduit of 9 in. pipes and 18 in. brick culvert, together about 880 feet in length, for the purpose of connecting the existing surface drains in the Crystal Palace Park Road and the Sydenham Avenue, and conducting the water to the boundary culvert at O, including incidental works, and examination of existing conduits, but not re-construction of them, which may be found necessary.	170	...	170
I to J	About 600 feet of pipe conduit from 6 in. to 12 in. in diameter, to convey surface water from Laurie Road and Springfield Road, to the ditch on north-west side of the London Brighton and South Coast Railway, along which ditch it would run to the Boundary culvert, near P. The 12 in. pipes would be laid across private property; no compensation is included in estimate.	75	...	75
K to L	A 12 in. pipe sewer about 770 feet in length, from near the lower end of the Grand Centre Walk, in the Crystal Palace Grounds, to and along the new roadway to the junction of Crystal Palace Park Road, Thicket Road, and Dulwich Road, for the purpose of diverting the sewage of the Crystal Palace from the boundary culvert, including incidental works.	130	130	
M to N	A 12 in. pipe conduit, about 200 feet in length, to connect the surface water pipe, running along the N.W. side of the Thicket Road, with the boundary culvert in Crystal Palace Park Road.	30	30	
O	A short pipesewer, passing over the boundary culvert to connect the sewer laid by Crystal Palace Company in Crystal Palace Park Road, with the 3 ft. by 2 ft. sewer of Lewis-ham Board.	12	...	12
	Carried forward.....	£ 417	160	257

SCHEDULE OF PROPOSED WORKS—CONTINUED.

Red Letters on Plan.	DESCRIPTION OF WORKS, WITH OBSERVATIONS.	Probable Cost.	Amount to be paid by Lewis- ham Board.	Amount to be paid by Brom- ley Board.
		£	£	£
	Brought forward..... £	417	160	257
P Q	An 18 in. culvert, about 340 feet in length, with two branches of 12 in. pipe, to convey the sewage of 7 houses in Laurie Park (6 in Beckenham, and 1 in Penge), to the sewer of the Lewisham Board in Dulwich Road.	100	10	90
R S T	A 3 ft. by 2 ft. sewer of 4½ in. brickwork, about 2,040 feet in length, running in a south-easterly direction from the north end of Kingswood Road, past the London Chatham and Dover Railway Station, along Penge Lane and the road recently in part widened, and in part made, by the London Chatham and Dover Railway Company, to join the existing sewer near the Alexandra Inn, for diverting the sewage of a portion of Laurie Park and Penge Park from the boundary culvert, and for draining present and future houses near the roads along which it passes, with side entrances, manholes, &c.	775	...	775
U	A short extension of the Beckenham Sewer in Park Road over the boundary culvert, for the purpose of giving better drainage to some houses in Penge, which, otherwise, would probably drain into the boundary culvert.	15	15	
V R	A 12 in. pipe branch sewer, 340 feet in length, along Kingswood Road, for draining into the sewer R S T, houses in Beckenham, which at present drain to the boundary culvert, and houses in Penge, which cannot be satisfactorily drained into the Penge Sewers, with short branches, junctions, &c.	64	14	50
W to S	A 12 in. pipe branch, 270 feet in length, for draining the Beckenham portion of Forbes Road to the sewer R S T, with junctions, &c.	45	...	45
X to Y	A 12 in. pipe sewer for diverting the sewage of the Queen Adelaide Asylum from the boundary culvert.	40	40	
	Carried forward..... £	1,456	239	1,217

SCHEDULE OF PROPOSED WORKS—CONTINUED.

Red Letters on Plan.	DESCRIPTION OF WORKS, WITH OBSERVATIONS.	Probable Cost.	Amount to be paid by Lewis- ham Board.	Amount to be paid by Brom- ley Board.
		£	£	£
	Brought forward	£ 1,456	239	1,217
Q to T	Examination and repairs of the boundary culvert, from Crystal Palace Grounds to Alexandra Inn, construction of manholes, &c. }	150	75	75
R to Z	A barrel culvert, 980 feet in length, in continuation of the Boundary culvert, from near the Alexandra Inn along the Parish Lane to the open ditch at the N.W. corner of Haynes' Nursery Ground, with branches and junctions; also casting to carry culvert over Penge and Bell Green Sewer. }	300	150	150
	Valves at junctions of branch sewers and drains with Penge and Bell Green Sewer, in the Beckenham Sewerage Area. }	10	...	10
	Additional works in the Tongue of Land which may be found necessary as the above works proceed, and the size and state of the existing sewers and waterways are more fully ascertained. For example, the existing conduits for surface water in the Crystal Palace Park Road may be found inadequate, and require reconstruction; say for these contingencies. }	400	...	400
	Total.....	£ 2,316	464	1852

In addition to the mutual accommodation involved in the above works,

I advise that two houses in Laurie Park Road, Beckenham, which are supposed to drain into a Lewisham Sewer, be allowed to continue to do so.

That, if required, the house lately occupied by Mr. Covell, in Kent House Lane, near the boundary between Beckenham and Lewisham, be drained into the Lewisham Sewer.

And that the Alexandra Tavern, with the house adjoining it in Penge, be drained into the Beckenham Sewer.

A few of the items in the estimate of probable cost—for instance, the amount for repairs of the boundary culvert O to X—are put in without sufficient data for accuracy. If it should be found that in building houses, &c., over the boundary culvert, which is smaller than it should be, the waterway has been materially interfered with, considerable additional cost may be incurred. Generally I may observe that in adapting old sewers and waterways, as in remodelling an old house, it is difficult to define the extent of the new work to be done until it is in progress.

It will probably be advisable for the Lewisham Board to continue the storm-water conduits in the Dulwich Road to the London Brighton and South Coast Railway Bridge, and to construct a storm-water culvert from Woodbine Grove along the Maple Road, and thence to the Green Lane ditch; but these are matters for the consideration of the Lewisham Board.

I have indicated, generally, in the Schedule, how I think the cost of the proposed works should be divided between the two Boards. Having carefully weighed the advantages given by each Board to the other, by the existing and proposed arrangements, I think that in order to balance the account a sum of about £125 should be paid by the Lewisham Board towards the cost of the Kent House Lane Sewer; but it will be better to defer the exact settlement until arrangements are made for carrying out the works, and their cost is more accurately ascertained,

In conclusion, I may mention that the main questions raised for the consideration of the two Boards are—

1. Whether the Works recommended and included in the Schedule shall, subject to modification, be carried out.
2. How far the separation of the Surface Water from the Sewage should be carried, either by the construction of storm-water conduits, in localities already

built over, or by regulations for future roads and buildings.

I shall have pleasure in explaining any points on which I have not made myself understood, and in giving further information to either Board.

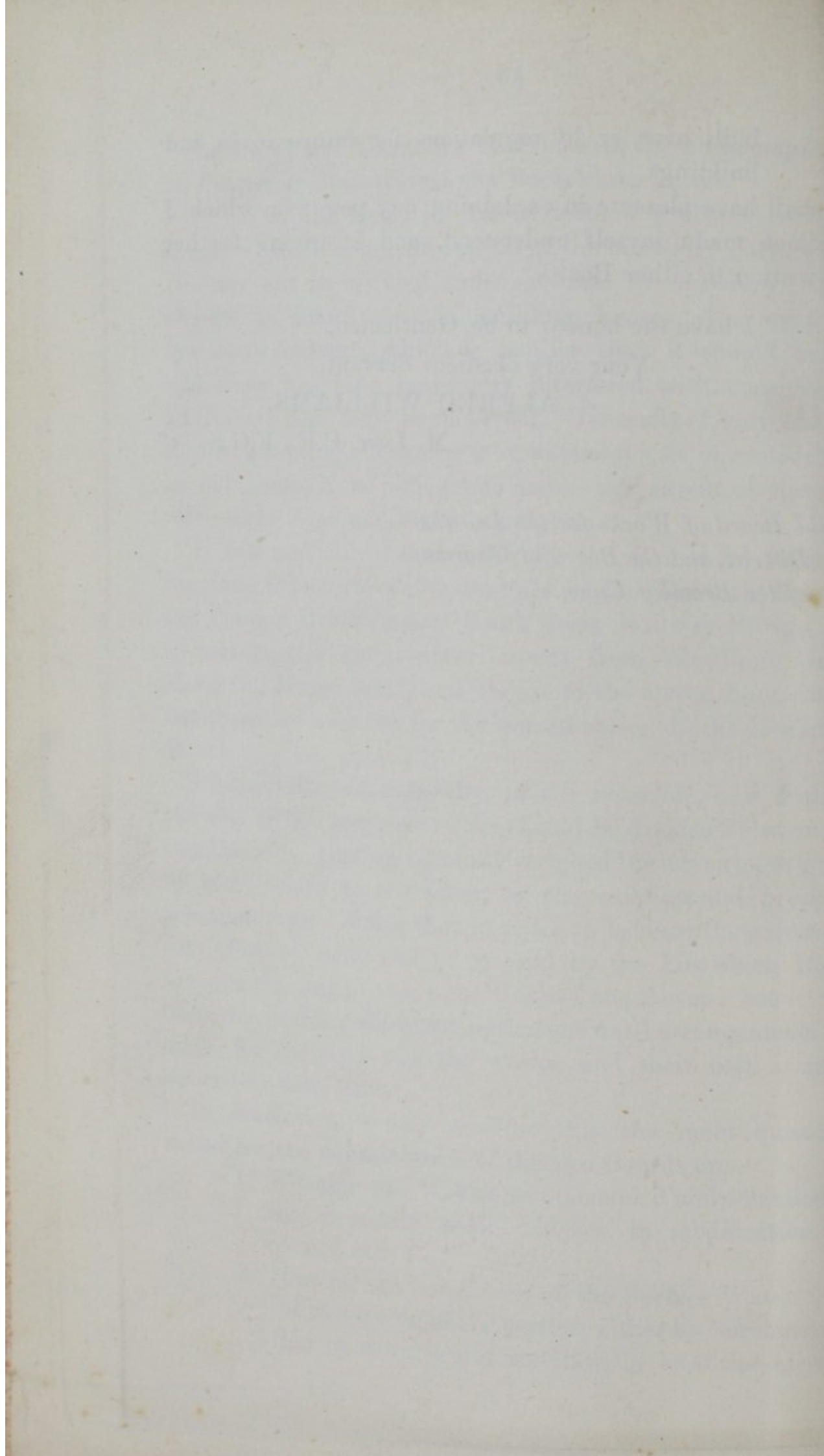
I have the honour to be, Gentlemen,

Your very obedient Servant,

ALFRED WILLIAMS,

M. INST. C.E., F.G.S.

*To the Board of Works for the Lewisham
District, and the Board of Guardians
of the Bromley Union.*



PLAN REFERRED TO IN REPORT OF MALCOLM WILLIAMS ON THE SEWERAGE AND
SURFACE DRAINAGE OF THE DISTRICT ADJACENT TO THE BOUNDARY BETWEEN

PERCE AND BUCKINGHAM

DATED BY DECISION

Refer to their titles from books of title to see walls



