

Ferrules are short pieces of pipe of brass or wrought iron fastened into the main for the purpose of connecting the service pipes thereto. They are in great variety, some being straight, others bent at different angles; others have union joints of various descriptions; some are made of full bore, others of reduced bore; some with long taper screws, others with short screws and very little taper; some are made for attaching to the mains whilst the pressure is on, and all are advocated as the best in the respective localities in which they are used. Fig. 243 represents a ferrule tinned for a lead pipe. Fig. 244 has ground union joints tinned for lead pipe. Fig. 245 is a ferrule screwed for an iron pipe. The older form of ferrule was the driving ferrule, and consisted of a brass casting, roughed and tapered at one end, for driving into the iron main, and usually tinned at the other for lead pipes. This ferrule is still in use in some towns, but has been generally abandoned in favour of the ferrule, or stop cock and ferrule combined, which screws into the main, and is provided with a union joint for attachment to the lead service pipe.

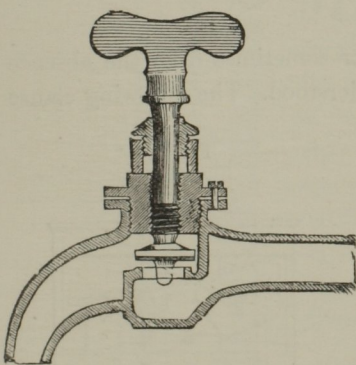
Stop Ferrule.—Fig. 246 illustrates a high-pressure stop ferrule made by Messrs. Guest & Chrimmes. It forms a connection between the house service and the main, and is used for the purpose of cutting off the supply to a house when required for repairs, alterations, and other purposes, without interfering with the flow of water in the main. It has a screwed end for attachment to the main, and a screwed or tinned end for connecting with the house service. A seating is made in the body of the ferrule, down upon which, when it is necessary to shut off the water, is screwed a loose valve similar to that in Fig. 247.

Stop Taps.—These are sometimes made to answer the purpose of a ferrule; and are at other times used separately, as a rule, either fixed on the footpath, or inside the house. The old plug cock is still in use in some places, but is being superseded by the screw-down, loose-valve stop cock, which is much superior, as it avoids the concussion caused by closing the plug cock; the loose valve also prevents the passage of foul air into the mains when they are emptied. It is also more durable, easier to repair, and if the double valve is used, the repairs can be done without shutting off the pressure in the mains.

Bib cocks or taps are of great variety, from the plug cock, to the screw-down with double valve. The plug cock is, as a rule, only used in towns where an intermittent supply exists, and is in nearly all cases prohibited where there is a constant service. The plug cock, although rather cheaper in first cost than the screw-down cock, is much the inferior one to use. It is liable to cause rupture of the pipes by concussion, and consequent leakage from the suddenness with which it stops the flow of water, and being expensive to keep in repair ultimately becomes the more costly article of the two.

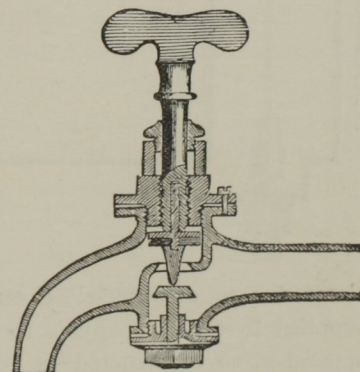
The various descriptions of screw-down cocks have each their advocates, but the one most generally in use is the high-pressure loose-valve tap made by Messrs. Guest & Chrimmes, and shown in Fig. 247. The working

FIG. 247.



screw of the best description is contained in a separate top-piece which screws into the body of the tap. The whole of the parts requiring renewal are connected with this top-piece, which, being screwed to a standard gauge, may in a few minutes be removed, and a new one substituted. The valve being loose causes the leather washer to be as durable as possible; the water, however, in some cases, seems to affect its durability much more than in others, and when carelessly made fittings are permitted, washers last but a short time. Fig. 248 is a section of a double-action bibcock by the same makers,

FIG. 248.



and is designed to allow of its being repaired without turning off the water. This is effected by having two valves, the upper of which acts in precisely the same manner as the one described in Fig. 247; when, however, it is necessary to remove this valve for any purpose, a second valve is forced upwards into the valve seating, thus stopping for the time being the flow of water through the cock.

In most towns the description of tap to be used is specified, and the maker's name required to be stamped on it.

The latter is a very wise precaution, as in course of time it can be ascertained whose fittings are durable and whose are not. Many town authorities execute their own internal fittings, and others do the repairs; as a rule, taps are valved and leathered without charge.

Self-closing taps of various descriptions have been tried at different places, but have generally been abandoned, as they create concussion if the pressure is considerable. They were intended to reduce waste of water, but are often more likely to increase it, as some of the consumers, to avoid the inconvenience of holding the handle whilst water is being drawn, will prop or otherwise fasten it open, and then carelessly leave it in that position.

FIG. 249.

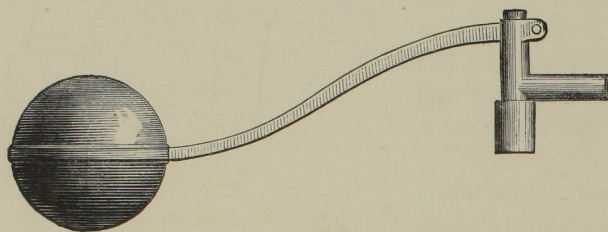
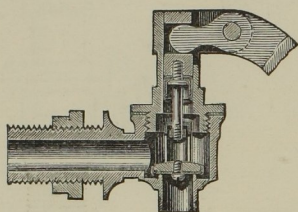


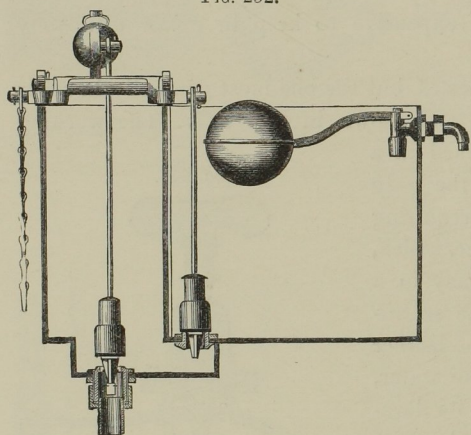
FIG. 250.



Ball Cocks or Taps are as varied as bib taps, but those mostly in use for high pressure are the equilibrium taps of Messrs. Lambert & Son, Fig. 249, and Messrs. Guest & Chrimes; and the loose valve ball cock of the latter firm. Fig. 250 is a section of Stone's patent sliding socket ball valve. The length of lever and size of ball should be specified, being proportioned according to the pressure. Two or three inches space should be allowed between the highest water level and the outlet of the waste pipe, and cisterns should be so fixed that the ball cock can be easily examined or repaired.

Cisterns have to a great extent been justly regarded as a cause of many of the complaints in reference to the impurity of water; they are also often made the scapegoats for many of the shortcomings of the Company. Some difficulty is experienced in finding the best material for their construction. If of iron, they rust, and present irregular surfaces for the accumulation and retention of decaying matter; if of lead, under certain conditions, the material poisons the water, the constant change of water level and consequent alternate exposure of the lead to air and water increases this danger; and slate, though a much better material, is liable to the action of frost. Mr. Joseph Blackmore, of Manchester, has patented a cistern made of a very wholesome material, namely, plain Staffordshire glazed ware. They are made in the form of a large pipe, having a concave bottom,

FIG. 252.



with proper holes for the supply and waste pipe; some of them are provided with a partition, by means of which either compartment may be cleaned out, without interference with the supply. These cisterns are guaranteed to resist the action of frost.

Only within the last few years has the enormous waste of water from cisterns, caused by imperfect fittings, or sometimes from the absence of them altogether, been thoroughly understood. The following clause of the New Act will abolish the practice of having a pipe from the cistern to the water closet with only a common tap, thus allowing any amount of waste while the water is on. "Every water

closet, cistern, or water-closet service box, hereafter fitted or fixed, in which water-supplied by the Company is to be used, shall have an efficient waste-preventing apparatus, so constructed as not to be capable of discharging more than two gallons of water at each flush." With the constant system it is obvious that, as a rule, cisterns are not required. Exception may perhaps be made in the case of houses of a very small description in a crowded neighbourhood, where the fittings may be simplified by a waste-preventing cistern fixed so as to supply a number of houses.

FIG. 251.

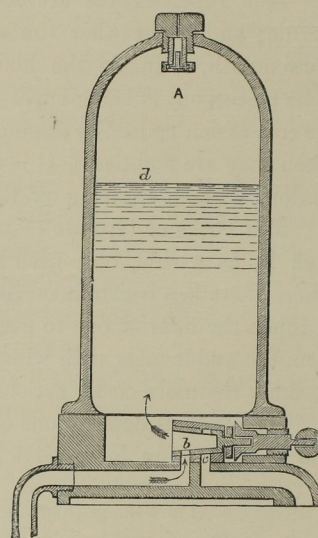
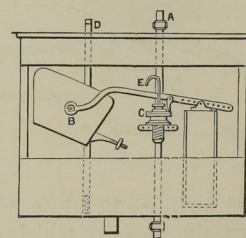


FIG. 253.



Waste Preventers.—There are several kinds of waste-preventers in use. They are generally designed on the principle of arresting the flow of water after a limited quantity has passed, so that should the tap be carelessly left open, the water would nevertheless cease to flow. Fig. 251 is a section of Chandler's Waste

FIG. 255.

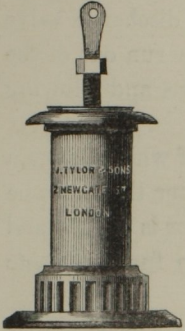
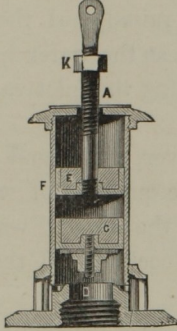


FIG. 256.



Preventer. The water from the main flows through the orifice *b* in the cock into the chamber *A*, the water rising until the air in the chamber is compressed sufficiently to balance the pressure in the main. To draw water the cock is turned until *b* is closed, and a second orifice is brought over the opening of the outlet pipe *c*, when the compressed air in the chamber forces the water out the same as if under pressure from the main.

Dalziell's Waste Preventer effects very nearly the same object, and a given quantity of water can be made to flow under pressure. This is effected by turning the handle of the cock one quarter turn, and unless it be turned one quarter turn, and back again, no more water can be obtained; if a smaller quantity is required, the supply can be cut off in the same way.

FIG. 258.

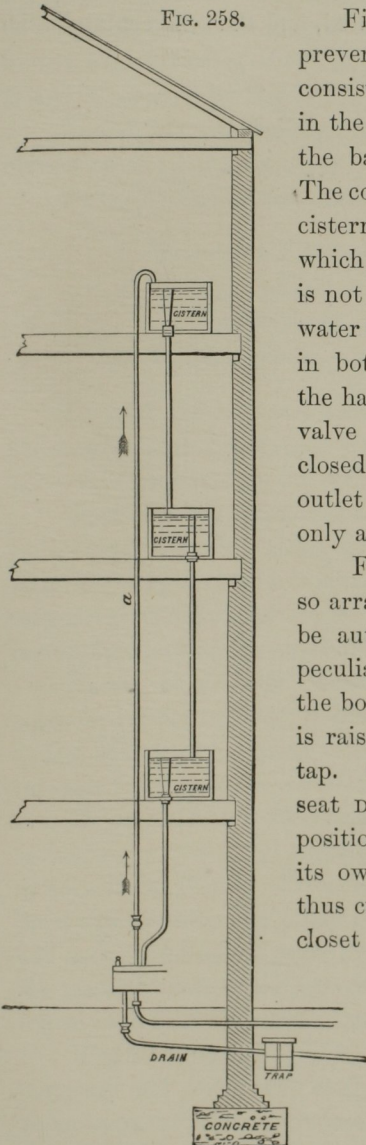


Fig. 252 represents a waste-preventing closet cistern. It consists of two compartments, in the larger of which is placed the ball valve and inlet pipe. The communication between the cisterns is by means of a valve which is open when the closet is not in use, thus allowing the water to stand at the same level in both cisterns. On raising the handle to flush the pan, the valve between the cisterns is closed at the same time as the outlet valve of the small one is opened, and thus the contents of the small cistern only are allowed to escape.

Fig. 254 is a section of Tylor & Son's patent "Waste Not" regulator tap, and is so arranged that should the tap be carelessly left open, yet the flow of water would be automatically arrested after the required quantity had passed through. The peculiarity consists in a piston regulating valve *c* fitted with a washer valve *H* at the bottom, and free to move up and down in the adjustable socket *E*. This socket is raised or depressed by the handle *F* worked the same as an ordinary screw-down tap. On opening or closing the tap the socket *E* raises from or presses on to its seat *D* the piston valve *c*. Should the tap, however, be opened, and left in that position, the valve *c*, which has been raised, will descend on to the seating *D*, partly by its own gravity, but principally by the pressure of the water passing through, and thus cut off the supply. Figs. 255 and 256 are elevation and section of a cistern or closet valve on the same principle for fixing in cisterns under water, and is adapted for preventing waste in water-closets. The piston regulating valve *c* is fitted with a washer valve at bottom, and moves loosely up and down in a fixed cylinder. *E* is an adjustable socket or piston. When the ball lever of closet apparatus which is attached to the spindle *A* is pulled up it raises the piston *E* which takes up with it the valve *c*, and admits water through the slots round the bottom of the casing, Fig. 255. When the spindle *A*

FIG. 254.

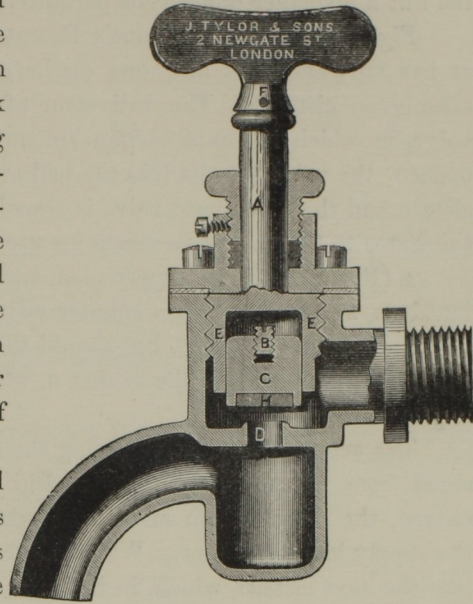
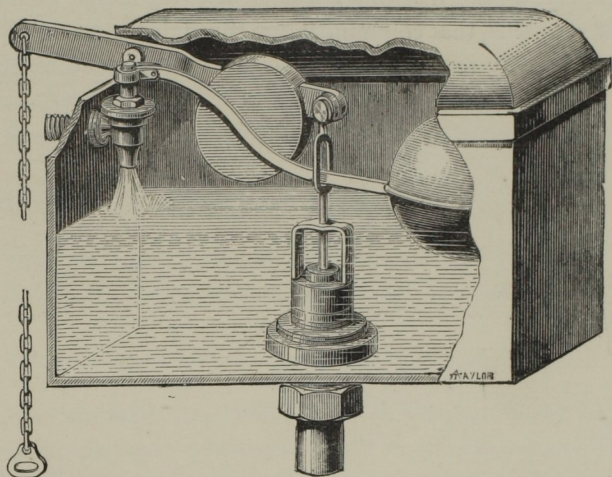


FIG. 257.



is dropped the piston *E* descends immediately, and with it the valve *c* on to the seating *D*, and the flow of water is

stopped. When the ball lever attached to the spindle *A* is held or propped up, the valve *c* descends gradually, and closes of itself, after allowing the intended quantity (usually about two gallons) to pass; by screwing down the nut *k* a smaller quantity is permitted to flow.

Fig. 257 illustrates Stone's Patent Waste Preventer Cistern, fitted with their sliding socket ball valve. It has only one inlet and one discharge valve, and is designed to supersede the more complicated double-chambered cisterns. The ball stem of the inlet valve passes through a slot in the spindle of the discharge valve, in which it has a certain amount of play. When the closet handle is raised, and the discharge valve opened, the valve spindle lifts the ball stem and closes the inlet valve. As soon as the water has run out of the cistern and the discharged valve is closed, the ball and ball stem drop, thus opening the inlet valve, and allowing the water to fill the cistern ready for use again.

A (Fig. 253) is the supply pipe, and *c* a stop-cock thereon, actuated by a lever, at one end of which hangs a bucket *B*, and at the other a counter-weight. The apparatus fixes no limit to the quantity of water that may be drawn off at any one time, but should the water in the receiving vessel overflow, the wasting water is caught and conveyed by a pipe into the bucket *B*, which, descending, closes the valve or stop-cock *c*, and then further waste is prevented.

The arrangement for supplying the several floors of a dwelling, or of a series of tenements, may be understood from the marginal diagram, Fig. 258. The water is conveyed by the supply pipe *a* to the uppermost cistern, the size of which and of the other cisterns may be regulated by the number of hours the water is on, if the supply is intermittent. When the top cistern is full, the water runs down the trumpet-shaped overflow pipe into the next cistern, which, in its turn, discharges into the next, and so on, until all the cisterns are full, when the lowest one discharges into the apparatus, and a quart of water suffices to shut off the supply. With a constant supply, a cistern with a capacity of two gallons would be large enough. An advantage claimed for this system of supply is, that communication through the waste pipe with the sewers is prevented, and thus the contamination of water by sewer gas is avoided.

CHAPTER XV.

THE LAW AND ECONOMY OF WATERWORKS.

Summary of the Laws affecting Waterworks—Cost of numerous Gravitation, Pumping, and Combined Gravitation and Pumping Works—Forms of Water Companies' Accounts—Rates charged in various British and Continental Towns—Public *versus* Private Ownership—False Economies.

THE proprietorship of waterworks is either public or private, according as the works are possessed and controlled by the local authorities or by private companies.

The local authorities competent to execute sanitary works, and the extent of their powers, are defined in the following several sanitary and other Acts.

By sec. 12 of the Public Health Act, 1848 (11 & 12 Vict. c. 63), the Town Council is the Local Board in districts consisting of one or parts of one borough. In districts consisting of more than one borough the Local Board is selected by the Town Council of each borough conjointly out of their own number.

In districts not forming part of a borough the Local Board is elected by the owners and ratepayers of the district (sec. 13 of same Act).

By the Public Health Amendment Act, 1858 (21 & 22 Vict. c. 98, sec. 24), the Local Board is—

1. In corporate boroughs, the mayor, aldermen, and burgesses, acting by the Council.
2. In other places, under the jurisdiction of a Board of Improvement Commissioners, the Board of Commissioners.
3. In other places, a number of members elected by the owners and ratepayers of the district.

To meet the case of a district having no Local Board, the Sanitary Act, 1866 (29 & 30 Vict. c. 90, sec. 11), contains a clause giving to a sewer authority within its district the same power to supply water and control the same as is possessed by a Local Board.

By the Public Health Act of 1848 (sec. 75) a Local Board may provide for their district a proper and sufficient supply of water, either by the construction of waterworks, or by contracting with, leasing of, or purchasing from the owners of any existing waterworks willing to enter into agreement with them; but the Local Board may not construct waterworks if any existing water company, or persons within their district, is able and willing to supply water upon reasonable terms.

By sec. 76 of Public Health Act, 1848, a Local Board may give notice to the owner of any house without a proper supply of water to obtain such supply, provided it can be furnished at a rate not exceeding 2*d.* per week, and in default of his doing so, to lay on the water themselves, and levy a water rate upon the premises, the said rate not exceeding 2*d.* per week.

By secs. 79 and 80 penalties may be imposed upon any persons wilfully injuring the waterworks under the management of a Local Board, wilfully wasting the water, or diverting the streams supplying the waterworks of such Local Board. Fines may also be imposed upon any persons fouling their water, and the Board may lay open and examine any pipes, conduits, or works of any gas company from which gas is supposed to be escaping and acting injuriously upon the water; and in case this supposition is proved to be correct, the parties owning the gasworks are to pay the expenses of the examination; but if not correct, the Local Board are to pay such expenses and all damages occasioned by the examination.

The Local Board may, by sec. 71, alter, or cause to be altered, the position of the mains of any water and gas company laid under any street, provided that by so doing the said mains are not injured, or the flow through them impaired, the expenses attendant on such alterations being paid by the Local Board, except when conditions to the contrary exist.

A Local Board may by agreement (sec. 84) purchase, take upon lease, or exchange lands that may be required for a supply of water; but no compulsory powers for the acquisition of land are conferred by this Act.

By the Sanitary Laws Amendment Act, 1874 (37 & 38 Vict. c. 89, s. 33), a Local Board may purchase any water mill, dam, or weir which interferes with the water supply to its district, and may purchase, for supplying its district, any land covered with water, or any water, or right to convey water either within or without its district, and for these purposes the Lands Clauses Consolidation Act, 1845, and its amendments are incorporated with this section, except the compulsory powers thereof, which can only be exercised in pursuance of a provisional order of the Local Government Board.

By secs. 103 and 104 a water rate may be levied upon any premises supplied with water for domestic purposes, the said rate to be payable in advance; and in default of payment the water may be cut off, and the expenses attendant thereon, with the rate, be recoverable by law.

By sec. 52 of the Public Health Amendment Act (21 & 22 Vict. c. 98) Local Boards have the same power to carry water mains as they have for sewers, viz. through, across, or under any turnpike road, or any street, or any place laid out as or intended for a street, or under any cellar or vault, which may be under the pavement or carriage-way of any street, and, if necessary, into, through, or under any lands whatsoever.

That portion of the Town Improvement Clauses Act, 1847, with respect to the supply of water is incorporated with this Act, except the proviso thereto (sec. 45). This gives the authorities power to construct cisterns or other works for the gratuitous supply of water to any persons requiring the same for domestic purposes, and they may also supply any public baths or washhouses. They may contract with any owners of waterworks for this supply, for a period not exceeding three years at one time, and any dispute arising from the price to be paid for the water to be settled by arbitration. They may also cause fire-plugs or other apparatus, for securing water in case of fire, to be provided or maintained, and may mark the situation thereof upon the walls and buildings within the streets near to such fire-plugs.

To assist Local Boards in obtaining lands otherwise than by agreement, sec. 75 of the Public Health Amendment Act (21 & 22 Vict. c. 98) is introduced, and incorporates the Lands Clauses Consolidation Act, 1845, except the provisions relating to access to the Special Act. Before putting into force any of the powers of the said Lands Clauses Consolidation Act the Local Board shall advertise, at least once in each of the three consecutive weeks in the month of November, in some newspaper circulated in the district, describing shortly the nature of the undertaking, naming a place where a plan of the same may be seen, and stating the quantity of land required. They shall also, in the month of December, serve a notice on every owner or reputed owner, lessee or reputed lessee, and occupier of the lands required, defining in each case the particular land intended to be taken, and requiring an answer, stating whether the person so served assents, dissents, or is neuter in respect of taking such land. After complying with these provisions the Local Board may, if it think fit, petition the Secretary of State for permission to put in force, with reference to the land required, the powers of the said Lands Clauses Consolidation Act. This petition is to be accompanied with a statement of the land intended to be taken, the purposes for which it is required, and the names of all persons upon whom notices have been served, together with the answers of the same, the petition to be supported by such evidence as the Secretary of State may require. He may then either dismiss the petition or direct an inquiry in the district in which the land is situate; but until the inquiry has taken place no provisional order shall be made affecting any lands without the consent of the owners, lessees, and occupiers thereof. After the inquiry the Secretary of State may make a provisional order, empowering the Local Board to put in force with respect to the land referred to the powers of the Lands Clauses Consolidation Act, either absolutely or with such conditions and modifications as he may think fit. The Local Board shall serve a copy of such order on all persons on whom they served notices respecting the land to be taken. No provisional order shall be valid until confirmed by Act of Parliament, to be obtained by the Secretary of State as soon as convenient. All expenses incurred by the Secretary of State, to such amount as the Commissioners of Her Majesty's Treasury think proper to direct, to become a charge upon the general district rates of the district to which such order relates, and to be repaid by not more than five annual instalments, together with interest, at the rate of 5 per cent. per annum, upon such amount as may from time to time remain unpaid.

By 21 & 22 Vict. c. 98, s. 148, and which repeals sec. 145 of the Public Health Act, 1848, it is enacted that nothing in this Act authorises any Local Board to use, injure, or interfere with any sluices, floodgates, sewers, groynes, sea defences, or other works, under the authority of the Crown Commissioners of Sewers, or works for improving, draining, irrigating, &c., lands under any local or private Acts of Parliament, or to interfere in any manner with lands or property vested in the Secretary of State for War, without first obtaining consent in writing from the persons having possession of such right and properties.

They are not authorised to interfere with any river, canal, dock, harbour, lock, reservoir, or basin, so as to

injuriously affect the navigation thereon or use thereof, or to interfere with any towing-path, so as to interfere with the traffic thereof, in cases where any body, companies, or individuals are entitled by any Act of Parliament to the use of the same, or are entitled to the receipt of any tolls, or other dues; nor to interfere with any watercourse so as to injuriously affect the supply of water to any of the works in the last-mentioned clause; nor to interfere with any bridges crossing any of the said works. Nor to execute any works in, through, or under any wharves, quays, docks, harbours, or basins, to the exclusive use of which any body, company, or individuals are entitled by Act of Parliament, or for the use of which they may demand tolls or dues, without first obtaining the consent in writing from such body, company, or individuals. Any works not included within the preceding section, and which interfere with any of the works mentioned therein, are to be referred to arbitration, when it shall be determined, according to the nature of the case, whether the Local Board may proceed with their proposed works, whether the injury done (if any) may be compensated by money, or whether they shall not proceed with the said works.

By sec. 73 of same Act no Local Board is authorised to injuriously affect the water or trespass on the water rights of any company or individuals who would, had this Act not been passed, have been entitled by law to protection.

To obtain the necessary funds for carrying out sanitary works the local authority may borrow on the credit of any rates out of which it is authorised by the Sanitary Acts to pay any expenses incurred by it for sanitary purposes, and may mortgage the rates to the persons by or on behalf of whom such money is advanced, for securing the repayment to them of the sums borrowed, with interest thereon. (35 & 36 Vict. c. 79, s. 40.)

A Local Board may also, on the recommendation of the Local Government Board, obtain a loan for carrying out sanitary works from the Public Works Loan Commissioners. To secure this recommendation plans and estimates, together with a resolution of the Local Board, asking for permission to borrow the amount, must be forwarded to the Local Government Board, who will appoint an inspector to inquire into the matter. Notice of the time and place of the inquiry having been given, the inspector will attend and hear evidence for and against the granting of such loan, and upon his being satisfied that the proposed scheme is a desirable and efficient one, and reporting to that effect to the Local Government Board, permission will be given to the Local Board to obtain the amount or such additions thereto as the inspector may have reported to be necessary for further improving the said scheme. The loan will bear interest at a rate not less than $3\frac{1}{2}$ per cent., or such other rates as may allow of the loan being made without loss to the Exchequer; and the whole sum advanced must be repaid within a period not exceeding thirty or in special cases it may be extended to fifty years, according to circumstances. To repay the loan and interest thereon at the above rate in thirty years would require an annual payment of £5. 8s. 9d. per cent. per annum on the sum advanced by the Commissioners.

Private companies are established under the Limited Liabilities Acts of 1862 and 1868, and under special Acts of Parliament.

Many small waterworks exist having no parliamentary powers whatever. In most of such cases the cost of obtaining a special Act would be a large proportion of the total cost of the scheme, and the works therefore are carried out under the consent of the local authorities to break up the roads for the purpose of laying mains, &c. This, however, is done at the peril of the undertakers, as any person may indict them whenever they obstruct or break up the highway. Such companies have also no powers to enforce payment of any water rents that may be owing, and consequently arrange for the payment of the same in advance. To enable proprietors to meet these disadvantages, and at the same time to avoid the expense of obtaining a special Act, the Gas and Water Facilities Act (33 & 34 Vict. c. 70) was passed in 1870. To obtain powers under this Act it is necessary to obtain the consent of the persons whose properties are affected, and the local authority of the district affected by the proposed works; and in districts where the road authority is distinct from the local authority the consent also of such road authority, before any provisional order can be granted; but in exceptional cases the refusal of the local or road authorities may be nullified, if the Board of Trade, after enquiry, think such a course advisable.

The following is a list of the local authorities from whom consent must be obtained, and the districts under their control:—

Districts of Local Authorities	Description of Local Authority of District set opposite its name
ENGLAND AND WALES.	
Boroughs	{ The mayor, aldermen, and burgesses, acting by the Council.
Any place other than a borough, and under the jurisdiction of commissioners, trustees, or other persons entrusted by any local Act with powers of improving, cleansing, or paving any town	{ The local board.
Any place or parish not within the above descriptions, and in which a rate is levied for the maintenance of the poor	{ The vestry, select vestry, or other body of persons acting by virtue of any Act of Parliament, prescription, custom, or otherwise, as or instead of a vestry or select vestry.
SCOTLAND.	
Places within the jurisdiction of any town council, and not subject to the separate jurisdiction of police commissioners or trustees... ..	{ The town council.
In places within the jurisdiction of police commissioners or trustees exercising the functions of police commissioners under any general or local Act	{ The police commissioners or trustees.
In any parish or part thereof over which the jurisdiction of a town council or of police commissioners, or trustees exercising the functions of police commissioners, does not extend	{ The parochial board.
IRELAND.	
The City of Dublin	{ The Right Honourable the Lord Mayor, aldermen, and burgesses, acting by the town council.
Towns corporate, with exception of Dublin	{ The mayor, aldermen, and burgesses, acting by the town council.
Towns having commissioners under an Act made in the 9th year of the reign of George the Fourth, intituled 'An Act to make provision for the Lighting, Cleansing, and Watching of Cities and Towns Corporate and Market Towns in Ireland in certain cases'	{ The commissioners.
Towns having municipal commissioners under 3 & 4 Vict., c. 108	{ The municipal commissioners.
Towns having town commissioners under the Towns Improvement (Ireland) Act, 1854 (17 & 18 Vict., c. 103), or any Acts amending the same, or under any local Act	{ The town commissioners.
Townships having commissioners under local Acts	{ The township commissioners.

Consent having been obtained, the undertakers must, on or before the 1st of November, serve notices of their intended application on all owners of waterworks supplying any part of the proposed district. In the months of October and November, or in one of those months, an advertisement must be inserted at least once in each of two successive weeks in some one and the same newspaper published in the district; or if there be no such newspaper, then in one published in the county in which the district or part thereof is situated; or if there be none then in a newspaper published in an adjoining county. It must also be inserted at least once in the London, Edinburgh, or Dublin Gazette, according as the district is situate in England, Scotland, or Ireland. The whole notice is to be under one advertisement, headed with a short descriptive title, and is to contain the objects of the intended application, a general description of the nature of the proposed new works, the names of all town lands, parishes, townships, and extra-parochial places in which the works will be made, the times and places where the deposits of the necessary documents will be made, and an office, either in London or in the district, at which printed copies of the draft provisional order, and of the provisional order when made, can be obtained.

When it is proposed to abstract water from any stream, notices, similar to those required in applying for a special Act, must be served on all parties having water rights in such stream.

The following documents are to be deposited on or before the 30th day of the same month of November, between the hours of 8 A.M. and 8 P.M.:—A copy of their advertisement, and a proper plan and section of the proposed new works, such plan and section prepared according to the regulations of the Board of Trade, which are the same as required by Standing Orders when applying for a special Act. The documents are to be deposited at the Office of the Board of Trade, and for public inspection, in England or Ireland, in the office of the Clerk of

the Peace for every county, riding, or division; in Scotland, in the office of the principal Sheriff Clerk for every county, district, or division affected by the proposed undertaking.

On or before the 23rd December, in the same year, the undertakers shall deposit at the Office of the Board of Trade a memorial, signed by the undertakers, addressed to the Board of Trade, and praying for a provisional order, a printed draft of the provisional order as proposed by the undertakers, and an estimate of the expense of the proposed new works, if any, signed by the persons making the same. A sufficient number of the printed drafts are to be deposited at their office named in the advertisement, and supplied to all persons applying for them, at a cost of not more than one-shilling each.

The Board of Trade shall consider the application, and also any objection thereto, that may be lodged with them before a certain day, fixed by the said Board; and upon proof that all the above-named requisitions have been complied with they shall, if it seem desirable, make a provisional order for the construction of the works.

Upon obtaining the order the undertakers shall deposit for public inspection printed copies of the same at the same offices as the plans and sections were deposited, and also furnish their office named in the advertisement with sufficient copies to be supplied to any person willing to pay for the same. They are also to publish the order once in the local newspaper in which the original advertisement of the intended application appeared. Seven days after the publication of such advertisement, or as soon as convenient after the seven days, but not later than the 25th of April, the Board of Trade shall procure a special Act of Parliament to confirm the provisional order, but until such confirmation the order shall not have any operation.

The costs connected with the provisional order are to be borne by the undertakers, who may be required by the Board of Trade to give security for such costs before they proceed with the order.

A provisional order gives power to the undertakers to demand and take water rents or rates, not exceeding the sums named in such order; but power is not given for compulsory purchase of land or water rights.

The following Acts are incorporated with all provisional orders obtained under this Act :—

The Lands Clauses Acts, except those clauses relating to the purchase and taking of lands otherwise than by agreement, and those relating to the entry upon lands by the promoters of the undertaking.

The Waterworks Clauses Acts, 1847 and 1863.

If, twelve months after the date of the provisional order, the works are not substantially commenced, or if they are not completed in three years, or if the construction of the works is suspended without sufficient reason, the Board of Trade has power to withdraw the provisional order, except to such part of the works as is then completed.

The most effectual, but at the same time the most expensive, way of obtaining powers is by special Act of Parliament. To do this the Standing Orders of both Houses of Parliament must be complied with, the same as for a railway.

Standing Orders require the preparation of plans and sections of the sites of the proposed impounding and service reservoirs, if any, and other works, and of the land passed through by any proposed conduit or line of pipes. These are to be drawn to a scale not less than four inches to a mile (and an enlarged plan shall be added of any building, yard, court-yard, or land within the curtilage of any building, or of any ground cultivated as a garden, included within the limits of deviation, upon a scale not less than a quarter of an inch to every 100 feet). The vertical scale of the longitudinal section is to be not less than 100 feet to the inch, and cross-sections of roads are to be furnished at not less than five chains to the inch horizontal, and 40 feet to the inch vertical. The survey within the limits of deviation is to contain all existing fences, boundary walls, buildings, streams, canals, railways, roads, bridges, sheets of water, &c., &c., and is to have marked on it the names and boundaries of any county, riding, parish, township, borough, extra-parochial place, &c., within the limits, each separate piece of property to be numbered, and no property to be numbered more than once in the same parish, and no number to occur more than once in the same parish. A longitudinal section of the line of the conduit or line of pipes is to be made, any deviation from the original surface of more than five feet being marked in figures. Two cross-sections each of the impounding and service reservoirs are to be given, with the height of top water, and depth of water in same, marked on in figures. The datum-line of the section is to be referred to some bench-mark, the situation of which is accurately and intelligibly described. Any proposed alteration of existing roads is to be shown, with both present and proposed gradients marked in figures. Books of reference are to be prepared containing a description of each property, numbered the same as on plan, with the names of the owners or reputed owners, lessees or reputed lessees, and occupiers stated therein.

In the months of October and November, or one of them, advertisements are to be inserted, once in the London, Edinburgh or Dublin Gazette, and also for three successive weeks in some one and the same local newspaper. The advertisement is to state the objects of the application and the powers intended to be applied for; the names of all parishes, townships, town lands, and extra-parochial places affected by the proposed works; the times and places

of the deposits, and the intention, if any, to abstract from or divert the water of any brook or stream. On or before the 30th of November, between the hours of 8 A.M. and 8 P.M., copies of the plans, sections, and books of reference are to be deposited at the Private Bill Office, duplicate copies of the same with the Clerk of the Peace for every county, riding, or division in England or Ireland, and with the principal Sheriff Clerk of every county, or district, or division of such county in Scotland, affected by the proposed works; and copies of so much of the said plans, sections, and books of reference as relate to each parish shall be lodged with the Parish Clerk of that parish in England, with the schoolmaster in Scotland, and with the Clerk of the Union within which such parish is included in Ireland. In the case of extra-parochial places the deposits are to be made with the clerk of an adjoining parish. Copies of the notice published in the Gazette are also to be deposited at each of the above places.

On or before December 15 notices are to be served, either personally or by registered letter, on all owners, lessees, and occupiers of property within the limits of deviation. Where water is to be abstracted from any stream notices of such intended abstraction are also to be served on all parties having the right to use the water for a distance of twenty miles (measured along the course of the stream) down the stream, unless the stream fall into a navigable river, in which case notices need be served only as far as the junction of the stream.

On or before December 23 a petition with a declaration, signed by the agent, and accompanied by a printed copy of the Bill, is to be deposited in the Private Bill Office.

On or before December 31 all estimates, declarations, and list of owners, lessees, and occupiers, which are required by Standing Orders, are to be deposited at the Private Bill Office.

On or before December 31 copies of the estimate of expense of the undertaking; and where a declaration alone, or declaration and estimate of the probable amount of rates and duties, are required, copies of the same, shall be printed at the expense of the promoters of the Bill and delivered at the Vote Office for the use of the Members of the House, and at the Private Bill Office for the use of any agent who may apply for the same.

Previously to January 15 a sum of money, not less than 4 per cent. of the estimated expense of the works, shall be deposited with the Court of Chancery, in England; with the Court of Exchequer, in Scotland; and with the Court of Chancery, in Ireland, according as the work is intended to be done in England, Scotland, or Ireland. This deposit may be withdrawn in the event of the Bill not being proceeded with, or on obtaining the Act; except when any party memorializing the House in opposition to the Bill succeed in throwing it out. The Committee may then, if they consider the memorialists have just cause for opposition, order the expenses attendant on the same to be paid out of the deposit. A public body cannot apply the borough fund, either to bring in a bill or oppose one in Parliament, without first obtaining the consent of the ratepayers, as required by the Borough Funds Act.

For carrying out waterworks under the Limited Liability Acts, 1862 and 1868, the cash is raised by shares and debentures in such proportion as the shareholders may determine. The cost of establishing water companies under these Acts is usually from £100 to £300, according to circumstances. In companies with a special Act of Parliament the cash is raised by shares of not less than £10 each, and debentures, in the proportion of four-fifths in shares and one-fifth in debentures; but no debentures can be issued until the whole of the shares are subscribed for, allotted, and £2 per share paid, and one-half of the amount of the share capital paid up. To facilitate the carrying out of the works Lloyd's Bonds can be and are given to the contractor for work, which, if actually done, are held to be good, and which bonds the directors give an understanding to exchange for debentures, or pay in cash when they are in a position to do so.

The following is a summary of the powers given to water companies under a special Act, by the Waterworks Clauses Acts of 1847 and 1863:—

In taking lands or streams for the construction of waterworks, otherwise than by agreement, the undertakers are subject to the provisions of the above Acts and of the Lands Clauses Consolidation Acts. The land, &c. described in the Parliamentary plans and books of reference may be entered on and all the necessary works constructed, the undertakers making full compensation for any damage done by them in the construction of such works. Any person wilfully injuring or obstructing the construction of such works shall be liable to a penalty not exceeding £5 for each offence. Any person illegally taking or diverting the water authorized to be taken by the undertakers is subject to a penalty not exceeding £5 for each day the offence continues, and in addition an action at law for damages may also be brought against such offender. This does not prevent persons having a prior claim to such water from using the same to the same extent as before the passing of the special Act, unless they have received compensation for the water rights. Undertakers are not entitled to any minerals under the lands occupied by their works, except such parts thereof as it is necessary to remove in the construction of the works. A survey and map of the district in which any pipes shall be laid down or underground works constructed shall be made within six months from the completion of the same, to a scale not less than one foot to a mile, and any additions that may be made from time to time shall be shown thereon. The map to be

kept at the undertakers' office for inspection. Copies of the map shall also be deposited with the Clerks of the Peace in England and Ireland, and the Sheriff Clerks in Scotland, of every county, the Town Clerk of every burgh in Scotland, and with the Parish Clerks of the several parishes in England, the Clerks of the Union of the several parishes in Ireland, and the schoolmasters of the several parishes in Scotland, that are affected by the said underground works.

Mines lying under any of the works of the undertakers are not to be worked within the prescribed limits, or if no limits be prescribed under a distance of forty yards from such works, until the owner has given thirty days' notice of his intentions; and if it appear to the undertakers that such working will injure their works, they may prevent the same by giving compensation to the owner of the mines. If the undertakers do not within the stated time express their willingness to treat with the owner of the mines, he may proceed to work the same, as if the property of the undertakers did not exist, provided that the said property is not wilfully damaged, or the mines worked in an unusual manner. The undertakers shall from time to time pay to the owners, lessees, or occupiers of mines under their works compensation for losses incurred by reason of the severance of lands over such mines by their reservoirs or other works, or from interruption in the continuous working of the mines, or for any minerals that cannot be obtained in consequence of lying under the company's works; and any dispute as to the amount of compensation is to be settled by arbitration. Upon giving twenty-four hours' notice in writing the undertakers may enter any mines lying or supposed to be lying near their works, to ascertain if such mines are being worked so as to cause injury to the said works. There is nothing to prevent the undertakers being liable to actions for any damage done to mines by means of or in consequence of their works.

The undertakers, upon giving not less than three clear days' notice in writing to the proper authorities, may open or break up the streets, roads, drains, &c., within the limits of their Act, for the purpose of laying or repairing mains or other works. During the time the streets, &c., are open they are to be properly guarded and lighted, and all convenient speed is to be made in filling up and reinstating the same, and removing all superfluous soil, &c. The roads and streets so broken up are to be kept in good repair for a period of three months, or for a further time not exceeding twelve months in the whole, if the soil so broken up continues to subside. The penalty for not properly lighting and guarding the roads when broken up, not removing rubbish, and for delaying to make good such roads, is not to exceed £5 for each offence, and an additional £5 for each day the offence continues after receiving notice thereof.

Unless otherwise stated in their special Act, a company shall keep on at high pressure a constant supply of pure water for domestic purposes. Should the owners or occupiers of houses within the limits of the special Act require water, and execute an agreement binding themselves to take such supply for three successive years at least, the undertakers are bound to supply the same, provided that the aggregate amount of water-rate payable annually by the said owners or occupiers at the rates specified in the special Act shall not be less than one-tenth part of the expense of providing and laying down the pipes for supplying the water. If after twenty-eight days the company neglect to lay down pipes or supply water, unless the delay or neglect arises from unavoidable circumstances, they shall forfeit to each such owner or occupier the amount of rate he would be liable to pay, and also a further sum of forty shillings for every day's delay.

At the request of the Town Commissioners the undertakers shall fix, renew, and keep in repair fire-plugs on their mains, at not more than the prescribed distance apart, or if no distance is stated, at not more than 100 yards from each other, and they shall be in the most convenient positions for the extinction of fires. The cost of these fire-plugs and fixing and keeping the same in repair to be defrayed by the Town Commissioners. At the request and expense of the owner or occupier of any manufactory situate in a street in which is a water main a fire-plug shall be fixed and kept in effective order as near as convenient to the said manufactory. All mains to which fire-plugs are attached shall be kept constantly charged, unless prevented by frost, unusual drought, or other unavoidable circumstance. All persons shall at all times be allowed to use a company's water for the extinction of fire without making compensation for the same. Sufficient water shall be provided, except when prevented by unavoidable circumstances, for cleansing sewers and drains, supplying public pumps, &c., and for other public purposes, to be paid for out of any poor or borough rates levied within the limits of the special Act.

Upon the request of the owner or occupier of any house not exceeding the annual value of ten pounds, situate in any street in which is a water-main, the undertakers shall lay down communication pipes for the supply of water to such house, and they may charge a reasonable annual rent for such pipes, &c., in addition to the water rate, and such pipes, &c., shall not be seized for any rents, debts, or penalties whatsoever incurred by the owners or occupiers of the said house. If upon request, and upon tender or payment of the necessary water rates, the undertakers neglect or refuse for seven days to lay down the communication pipes they shall be liable to forfeit to the person making such request the sum of £5, and a further sum of forty shillings for every day afterwards

during which the neglect or refusal shall continue. If the occupier for the time being of the house in which such communication pipes, &c., have been laid down refuse to pay for a supply of water, or if the house be unoccupied for twelve months, the undertakers may demand from the owners payment of the money invested by them in providing and laying down the pipes, &c. ; and if the money is not paid after ten days' notice, they may enter the house and remove such pipes, and all arrears of rent for such pipes may be recovered, together with costs, from the owner or occupier for the time being; but no greater sum shall be recovered from any such occupier than the amount of rent for the time being owing by him. The owner of a house may at any time purchase from the company the communication pipes, &c., laid down by them; from which time all rent in respect thereof shall cease.

Upon giving fourteen days' notice, and tendering the requisite water-rate, the owner or occupier of any dwelling-house may lay communication-pipes of such strength and material as the undertakers approve between his premises and the water-mains. Before making communication with the pipes of the undertakers two days' notice shall be given of the day and hour when this is to be done, and the junction shall be made according to the instructions of the appointed officer of the undertakers. No such communication-pipe shall have a bore exceeding half an inch, except stated otherwise in the special Act, or with the consent of the undertakers. Such pipes may be removed by the owners on giving six days' notice to the undertakers, who shall be compensated for any damage done to their mains or works in consequence of such removal. Any person removing any such pipes without first giving notice shall forfeit to the undertakers a sum not exceeding £5, in addition to the damages he may be found liable at law to pay for injury to the undertakers' mains or works. When any owner or occupier of any dwelling-house has laid down communication-pipes, and paid or tendered the water-rate for the same, he shall be entitled to demand and receive sufficient water for his domestic purposes. Any person making, or allowing to be made, any alterations or additions to his communication-pipe, or any apparatus connected therewith, or affixing any pipes or apparatus to the pipes of the undertakers, without their consent, shall be liable to a penalty not exceeding £5, in addition to any damages recoverable by the undertakers for injury done to their pipes, and for any water wasted or misused. If by the special Act the undertakers are not required to have the water constantly laid on, they may require every person supplied with water to provide and keep in good repair a proper cistern, and a ball and stop-cock fitted on the communication pipe; and in default of such persons complying with these conditions the undertakers may cut off the water from the premises. If any person negligently allows any of his pipes, cocks, cisterns, water-closets, or other apparatus to get out of repair, so that the water of the undertakers is, or is likely to be wasted, misused, or contaminated by foul air or impure matter, he shall be liable for every such offence to a penalty not exceeding £5. The undertakers' authorized officer may, between the hours of 9 A.M. and 4 P.M., enter any premises supplied by them, to examine if there be any waste or misuse of water, and on anyone refusing him admittance, or preventing him making his examination, the undertakers may cut off the supply of water from the premises. They may also cut off the water in case any persons wrongfully fail to comply with the provisions of the special Act for the prevention of waste, misuse, or contamination of water, and may refuse to supply the same again until the cause of complaint has been remedied.

Any person taking the undertakers' water without an agreement with them for the same, unless it be provided for the gratuitous use of the public, shall forfeit to the undertakers a sum not exceeding £10 for each offence; and any person supplied by the undertakers who wilfully allows such persons to take water from any pipes or apparatus on his premises shall forfeit to the undertakers a sum not exceeding £5 for each offence.

A supply of water for domestic purposes shall not include water for cattle or horses, or for washing carriages, where such horses or carriages are kept for sale or hire, or by a common carrier, or a supply for any trade, manufacture, or business, or for watering gardens, or for fountains, or any ornamental purpose.

When the undertakers are authorized to supply water for other than domestic purposes they shall not be liable, in the absence of express stipulation, for damages, in not supplying water except for domestic use, if the want of it arises from frost, unusual drought, or other unavoidable cause or accident.

Where water is authorized to be supplied by measure, meters and apparatus connected therewith may be let on hire by the undertakers to the consumer so supplied; and such meters and apparatus shall not be seized for any debts or penalties whatsoever incurred by the owners or occupiers of the premises in which they are placed. The officer of the undertakers may, between the hours of 10 A.M. and 4 P.M., enter any premises in which the meters, &c., are fixed for the purpose of examining or removing the same; and anyone hindering the officer in the discharge of his duty shall be liable to a penalty not exceeding £5 for each offence. Any person using water for other than domestic purposes without being entitled to do so, or any person having power to use water for other than domestic purposes, and who uses the said water for other purposes than those for which he is entitled to use the same, shall be liable to a penalty not exceeding forty shillings for each offence, and, in addition, the value of the water so misused may be recovered from him by the undertakers.

If any person foul, or cause to be fouled, the water of the undertakers, by bathing, washing animals,

throwing filth or other noisome thing, or allowing any filthy water under his control to flow into any stream, reservoir, aqueduct, or other works belonging to the undertakers, he shall forfeit to them a sum not exceeding £5 for each offence, and an additional sum of twenty-shillings for each day (if more than one) that the offence shall be continued.

Any person making or supplying gas within the limits of the special Act who shall allow any gas-washings to foul the water of the undertakers, or who shall wilfully do anything connected with the making or supplying of gas whereby such water is fouled, shall forfeit to the undertakers the sum of £200 for each offence; such penalty to be recoverable, with full costs of suit, in any of the superior courts, if sued for during the continuance of the offence, or within six months after it has ceased. A further sum of £20, recoverable in like manner, shall also be imposed for every day the offence shall continue, after the expiration of twenty-four hours from the time when notice of such offence has been served.

The above penalties are for a wilful act; but in case of water being fouled by the carelessness or negligence of a gas company they shall forfeit to the undertakers for each offence a sum not exceeding £20, and a further sum not exceeding £10 for each day the offence continues after the expiration of twenty-four hours from the service of notice of such offence. The undertakers may break up the ground or streets to examine the pipes or works of a gas company on suspicion that the gas is fouling their water, upon giving twenty-four hours' notice in writing to the gas company and to the persons having the control of the streets; and the undertakers shall be subject to the same rules and penalties as when they break up streets for laying their mains. If on examination it appears that the gas has fouled the undertakers' water, the expenses of the examination shall be borne by the gas company; but if not, then such expenses to be paid by the undertakers, who shall also make good any injury caused by the examination to the works of the gas company.

The water-rates, with the exceptions mentioned hereafter, or as stated in the special Act, shall be paid by and be recoverable from the person requiring, receiving, or using the same, and shall be payable according to the annual value of the tenement supplied. When several houses or parts of houses in separate occupation are supplied by one common pipe the several owners or occupiers of the same shall be liable to the same rates as they would if each house or part of a house had been supplied by a separate pipe.

The rates are to be paid in advance by equal quarterly payments, in England and Ireland at Christmas Day, Lady Day, Midsummer Day, and Michaelmas Day, and in Scotland at Martinmas, Candlemas, Whitsuntide, and Lammas. The first payment shall be due when the water is first laid on, or when the agreement to take water is made. Parties giving notice to discontinue the use of water or removing from their dwellings between two quarter-days are to pay the rates up to the first approaching quarter-day.

The owners of dwelling-houses of an annual value of not more than £10 shall be liable to pay the water-rates instead of the occupiers of such dwellings.

If any person liable to pay water-rates neglect to pay the same when due, the undertakers may cut off the water from the premises with respect to which such rate is payable, and may recover the said rate, together with the expense of cutting off the water, and the costs of recovering the rate.

The profits of an undertaking to be divided among the undertakers in any year are not to exceed the prescribed rate, or if no rate be prescribed, not more than 10 per cent. per annum on the paid-up capital, unless a larger dividend be necessary to make up for the deficiency of a former year. Any excess of profits is to be invested in Government or other securities, together with the dividends and interest accruing therefrom, and this fund may increase until it amounts to the prescribed sum, or if no sum be prescribed to one-tenth part of the nominal capital of the undertakers. This money to form a reserved fund to meet any deficiency in the dividend, or any extraordinary claim or demand that may arise. When the fund has reached the above-named amount the dividend and interest thereon shall no longer be invested, but shall be applied to any of the general purposes of the undertaking.

On the petition of any two water-rate payers within the limits of the special Act the Court of Quarter Sessions in England or Ireland, and the Sheriff of such county in Scotland, may appoint a competent person to inquire into the accounts of the undertakers; and if it appear that the whole of the reserved fund is paid up, and the full amount of dividend has been paid, the undertakers shall be required to reduce the rates, but such reduction shall be made so that the amount of profit may be as near as possible to the prescribed rate. If it appear to the Court or Sheriff that the water-rate payers have petitioned the Court without sufficient reason, they may order them to pay the whole or part of the costs incident to such petition.

An annual account of the undertaking, containing the receipts and expenditure, duly audited and certified, shall be made up, and a copy sent free of charge to the Clerk of the Peace for the county in which the waterworks are situated in England or Ireland, and to the Sheriff Clerk of the county if in Scotland, on or before the 31st of January in each year, under a penalty of £20 for each default. This copy may be examined by all persons, on payment of one shilling for each inspection.

The undertakers shall at all times, after the expiration of six months after the passing of the special Act, keep a copy of the same, printed by some of the Printers to Her Majesty, at their principal office of business. They shall also within the same time deposit a similar copy with the Clerk of the Peace in England or Ireland, and with the Sheriff Clerk in Scotland. These copies shall be inspected and extracts or copies taken therefrom by any person interested in the same. In default of the undertakers keeping or depositing such copies they shall forfeit £20 for each offence, and £5 for every day afterwards that such copy shall not be kept or deposited.

The directors of a water company may sell or transfer to any local board of health, upon terms to be mutually agreed upon, all the rights, powers, privileges, and all or any of the lands, works, &c., &c., which at the time of purchase shall be the property of the company, but subject to all mortgages, contracts, or liabilities to which the same shall then be subject. But before the directors can do this a general meeting of the company shall be specially convened, and the authority and consent of three-fifths of the shareholders who may be present either personally or by proxy must be obtained, or otherwise no transfer could take place. (21 & 22 Vict., c. 98, s. 53.)

The cost of constructing waterworks varies very much, according to the features of the locality, its geological structure, the kind of scheme most suitable for the place to be supplied, whether pumping or gravitation. As a rule, gravitation schemes are far more expensive than pumping schemes in their first cost; and on the other hand the annual expenses of the latter, for working and wear and tear of machinery, are larger than in gravitation schemes. Mr. Hawksley, in his evidence before the Royal Commission on Water Supply, stated that, as a rule, the cost of pumping schemes was only about one-third that of gravitation schemes; and even when the cost of coal, labour, and machinery was capitalised they were very much cheaper. Gravitation schemes as a rule cost from £2 to £2 10s. 0d., and pumping schemes from £1 10s. 0d. to £2 per head of the population, and by good and efficient management in five years waterworks may be expected to pay a dividend of from 5 to 7½ per cent. on the capital expended. The average dividend paid by the several companies throughout England, Wales, and Scotland was in 1870 over 7 per cent. In speaking of the cost of gravitation works Mr. Bateman, in his evidence on the Sheffield Water Bill, 1864, gave the cost of the works at Sheffield at £2 10s. 0d. per head; at Glasgow £3 per head, and at Manchester £2 10s. 0d. per head of the population. Mr. Hawksley, in his evidence on the Stockton and Middlesborough Water Bill, 1875, for obtaining water from the river Tees, says: 'It was obtained so cheaply that the company could sell it to manufacturers at 3d. per thousand gallons. If they had to get water by gravitation they could not sell it at 7½d. per thousand gallons. Gravitation works with storage reservoirs would often cost as much as £120,000 per 1,000,000 gallons, and some very much more. At Normanton it costs more.' Mr. Bateman, in his evidence on the same Bill, gives the cost of the gravitation works at Liverpool as £100,000 per 1,000,000 gallons delivered; this includes the purchase of the old company. At Glasgow it was about £60,000 per 1,000,000 gallons.

The following table gives the cost of some of the larger waterworks at per head of the population:—

	Population.	Cost per head.
London	3,300,000	£4 0 0
Liverpool	500,000	4 0 0
Bradford	150,000	7 0 0
Halifax	100,000	5 0 0
Dundee	120,000	6 0 0
Cadiz	133,000	3 10 0

The following tables, A, B, and C, give the cost of waterworks constructed in various places in the United Kingdom at 20 gallons per head. Table A contains gravitation schemes only, table B pumping schemes, and table C pumping and gravitation schemes combined.

TABLE A.—SHOWING COST OF GRAVITATION WORKS.

Name of Town or District	Population	Maximum Daily Supply	Constant or Intermittent	Total Cost	Cost for a supply of 20 gals. per day	Remarks	Name of Town or District	Population	Maximum Daily Supply	Constant or Intermittent	Total Cost	Cost for a supply of 20 gals. per day	Remarks
		Gallons		£	£				Gallons		£	£	
Aberdare . . .	20,000	50,000	Constant	20,000	8·00		Grantham . . .	12,000	Unlimited.	Constant.	11,500	...	
Aberdeen . . .	70,000	6,000,000	"	162,000	·54		Greenock . . .	52,000	23,000,000	"	320,000	0·28	
Abergavenny . . .	5,000	100,000	"	4,500	·90		Guildford . . .	5,500	165,000	Intermittent.	15,000	1·82	
Alnwick & Canongate	7,000	200,000	Cons. except 2 mos. in summer	...	...		Hamilton . . .	10,686	121,000	Constant.	10,000	1·65	
Ashton-under-Lyne .	70,673	1,000,000	Constant	140,000	2·80		Heanor . . .	3,000	16,000	"	3,950	4·94	
Atherton . . .	5,000	200,000	Usually const.	8,000	·80		Helen's, St. . .	40,000	700,000	Intermittent.	28,443	0·81	
Austel, St. . .	4,000	112,000	Cons. 9 months. intermit. 3 mos.	1,350	·24		Hexham . . .	5,000	120,000	Constant.	8,000	1·33	
Aylesbury . . .	20,000	300,000	Constant	40,000	2·66		Heywood . . .	30,000	700,000	"	80,000	2·28	
Ayr . . .	16,000	600,000	"	41,000	1·36		Huddersfield . .	40,000	400,000	Intermittent.	60,000	3·00	
Bacup . . .	5,500	180,000	Various according to season	16,000	1·78		Invergordon . .	1,400	120,000	Constant.	1,700	·28	
Baildon (Yorkshire).	3,000	"	Constant	7,000	...		Keswick . . .	3,000	...	"	4,000	...	
Bangor . . .	8,000	600,000	"	20,000	·67		Kilmarnock . .	23,000	700,000	"	27,500	·79	
Berwick-on-Tweed .	10,000	180,000	Intermittent.	8,500	·89		Kingstown . . .	25,000	...	"	9,000	...	
Birstall (Yorkshire).	3,600	120,000	...	5,500	·92		Kirkcaldy . . .	20,000	1,000,000	"	49,910	1·00	
Blackburn . . .	63,000	1,400,000	...	170,713	2·44		Lancaster . . .	16,000	750,000	"	40,000	1·07	
Bolton . . .	100,000	2,500,000	Constant.	240,000	1·92		Llanelly . . .	12,000	2,000,000	"	45,000	·45	
Boston with Shirbeck	16,000	...	"	31,200	...		Loughborough .	12,000	300,000	"	25,000	1·66	
Bradford (Yorks.)	250,000	6,500,000	"	850,000	2·62		Malvern . . .	3,500	Unlm. wint. and spring.	"	9,570	...	
Bridge of Earn . .	500	@ 20 gls. p. hd. = 10,000	...	500	1·00		Manchester . .	550,000	25,000,000	"	800,000	·64	
Bridlington . . .	8,000	200,000	"	9,000	·90		Mold . . .	4,000	20 gls. p. hd. = 80,000	Intermittent.	2,000	·50	
Brigg . . .	2,000	...	"	6,000	...		Morecombe . .	10,000	40,000	Constant.	4,500	2·25	
Bury (Lancashire) .		2,000,000	"	150,000	1·50		Morpeth . . .	5,000	70,000	Both.	4,000	1·14	
Buxton . . .	7,000	140,000	"	...	...		Neath . . .	10,000	20,000	Constant.	8,200	8·20	
Caermarthen . . .	9,000	163,000	Both.	10,000	1·23		Oswestry . . .	6,000	...	...	11,000	...	
Calverly District .	35,000	131,868	Constant.	15,000	2·27		Otley . . .	4,000	...	...	3,500	...	
Campbeltown . . .	7,500	...	"	3,300	...		Paisley . . .	48,000	3,000,000	"	140,000	·93	
Carnarvon . . .	9,000	1,000,000	"	18,000	·36		Penzance . . .	12,000	20 gls. p. hd. = 240,000	Both.	13,000	1·08	
Chepstow . . .	3,000	100,000	...	6,725	1·35		Peterhead . . .	8,000	170,000	Constant.	6,000	·70	
Cheshire (North) .	20,000	500,000	"	35,044	1·40		Plymouth . . .	70,000	8,000,000	Part constant part intermt.	100,000	·25	
Chesterfield . . .	3,000	80,000	"	5,000	1·25		Poole . . .	10,000	50,000	...	6,000	2·40	
Cleator Moor . . .	8,000	80,000	"	6,000	1·50		Portmadoc . . .	3,000	...	Constant.	6,000	...	
Cleckheaton . . .	5,000	Unlimited.	"	12,000	...		Preston . . .	100,000	2,300,000	"	238,000	2·07	
Darwen . . .	15,000	...	"	35,896	...		Ramsgate . . .	15,000	15 gls. day = 225,000	Intermittent.	...	...
Deal . . .	10,686	121,000	"	10,000	1·43		Redruth . . .	10,000	40,000	Constant.	800	·40	
Derby . . .	54,000	...	"	52,268	...		Rochdale . . .	38,164	600,000	"	74,494	2·48	
Devonport . . .	60,000	2,000,000	Both.	...	...		Scholes . . .	200	...	Intermittent.	1,000	...	
Dewsbury . . .	23,000	750,000	Cons. except dry seasons. in sum.	80,000	2·13		Sheerness . . .	16,000	130,000	"	...	...
Dumbarton . . .	11,000	250,000	Constant.	15,000	1·20		Sidmouth . . .	50	70 or 80 hds.	"	600	...	
Dumfries . . .	15,000	323,000	"	14,000	0·86		South Molton . .	3,978	...	...	5,500	...	
Enniskillen . . .	8,000	200,000	"	8,000	0·80		Stirling . . .	14,000	500,000	Constant.	18,000	·72	
Falmouth . . .	12,000	...	Both.	23,300	...		Swansea . . .	60,000	1,300,000	Const. except Midsummer.	166,000	2·55	
Farnham . . .	220	20,000	"	2,440	2·44		Taunton . . .	15,000	80,000	...	15,000	3·75	
Filey . . .	1,700	60,000	Constant.	8,000	2·66		Torquay . . .	17,500	...	Intermittent.	50,000	...	
Flint . . .	2,000	12,000	Both.	1,020	1·70		Torrington . . .	3,300	...	...	2,800	...	
Fraserburgh . . .	6,000	150,000	Constant.	...	...		Tweedmouth . .	4,000	...	...	400	...	
Fylde . . .	18,000	1,000,000	"	90,000	1·80		Waterford . . .	3,400	28,500	"	...	...
Glasgow . . .	540,000	30,000,000	"	1,200,000	0·80		Welchpool . . .	7,178	No limit.	...	3,000	...	
Gloucester . . .	21,000	700,000	"	60,000	1·71		Weston-super-Mare	10,000	No limit.	...	19,494	...	

Average for 66 of the above towns, £1·60.

TABLE B.—SHOWING COST OF PUMPING WORKS.

Name of Town or District	Population	Maximum Daily Supply	Constant or Intermittent	Total Cost	Cost for a supply of 20 gals. per day	Remarks.	Name of Town or District	Population	Maximum Daily Supply	Constant or Intermittent	Total Cost	Cost for a supply of 20 gals. per day	Remarks
Banbury . . .	6,000	Gallons 24,000g p.h.	Constant.	£ 17,600	£ .91		Leeds . . .	...	Gallons 3,000,000	Constant.	£ 310,000	£ 2.13	
Barnet . . .	5,000	120gs. p.m.	Intermittent.	...	...		Leominster . . .	...	200,000	"	8,000	.80	
Barnsley . . .	30,000	1,000,000	Constant.	100,000	2.00		Lincoln . . .	23,000	700,000	"	33,000	.94	
Barnstaple . . .	10,000	440,000	"	10,800	.49		London, New R. Co.	118,000 houses	35,000,000	Both.	2,500,000	1.43	
Barrow-in-Furness . . .	25,000	2,250,000	"	54,000	.48		Malton . . .	5,000	200,000	Constant.	5,500	.55	
Bath . . .	53,000	300gs. p.m.	Intermittent.	40,000	1.88		Margate . . .	30,000	500,000	"	17,000	.68	
Batley (Yorkshire) . . .	20,000	300,000	Constant.	65,000	4.33		Newark-upon-Trent . . .	12,000	250,000	"	52,000	4.15	
Bishop Auckland . . .	10,000	400,000	"	6,000	.30		Ormskirk . . .	6,000	250,000	"	10,000	0.80	
Braintree . . .	4,000	100,000	"	5,000	1.00		Oxford . . .	32,000	1,250,000	Intermittent.	...	...
Bridgnorth . . .	6,000	250,000	"	9,844	.78		Perth . . .	24,000	600,000	Constant.	19,000	.63	
Brighton, Hove and Preston } . . .	120,000	3,500,000	Both.	218,000	1.25		Reigate . . .	14,000	16 gs. p hd. = 224,000	...	16,000	1.42	
Bury St. Edmunds . . .	3,700	400,000	Constant.	6,000	.30		Rotherham . . .	22,000	400,000	Constant.	50,000	2.50	
Cambridge . . .	30,000	417,000	"	48,000	2.30		Ryde . . .	2,350	210,000	Intermittent.	35,000	3.38	
Carlisle . . .	29,000	1,000,000	"	44,000	.88		Saffron Waldon . . .	3,000	100,000	Constant.	4,000	.80	
Chelmsford . . .	8,000	150,000	Intermittent.	7,000	.93		Salisbury . . .	12,300	600,000	Intermittent.	14,000	.47	
Chester . . .	33,000	1,500,000	"	60,000	.80		Selby . . .	6,000	150,000 gs. in 12 hours.	Constant.	...	...
Colchester . . .	18,000	250,000 gs. in 12 hours.	"	15,000	.59		Shoreham . . .	8,000	500,000	Intermittent.	...	...
Cork . . .	90,000	6,000,000	Constant.	112,000	.37		Shrewsbury . . .	26,000	500,000	"	34,000	1.36	
Croydon . . .	49,800	2,750,000	Const. in winter, inter. in summ.	75,000	.54		Southampton . . .	54,000	3,000,000	Constant.	50,000	.33	
Coventry . . .	...	850,000	Constant.	33,000	.78		Southport . . .	22,000	22g. p hd. p d. = 484,000	...	74,000	3.06	
Darlington . . .	25,000	2,000,000	"	60,823	.60		Southwark & Vauxh. . .	500,000	20,000,000	Generally Inter.	1,250,000	1.25	
Doncaster . . .	20,000	1,000g. p.m.	"	3,000	.04		Stockton and Middlesboro' } . . .	80,000	...	Constant.	350,000	...	
Dorchester . . .	7,000	960,000	"	13,000	0.27		Stourbridge . . .	20,000	350,000	"	17,000	.97	
Durham . . .	20,000	260,000	"	20,000	1.54		Swindon and Swindon New Town. } . . .	10,000	2,000,000	"	22,000	.22	
Ely . . .	6,000	280,000 gs. in 12 hours.	"	...	...		Tunbridge Wells . . .	8,000	300,000	Intermittent.	60,000	4.00	
Exeter . . .	37,000	25 gs. p hd. = 925,000	Intermittent.	...	...		Uxbridge . . .	6,000	130,000	"	11,000	1.83	
Exeter (St. Thomas) . . .	5,000	150,000	"	4,000	0.53		Wallasey . . .	15,000	800,000	Constant.	44,000	1.10	
Fareham . . .	4,500	250,000	Const. fr. 6 a.m. to 10 p.m.	5,500	0.44		Warwick . . .	11,000	350,000	Intermittent.	...	...
Galway . . .	12,000	500,000	Constant.	12,000	0.48		Watford . . .	6,500	30 gs. p hd.	"	7,694	.77	
Grimsby . . .	6,000	Indefinite.	"	12,000	...		Weymouth . . .	12,000	600,000	Constant.	18,000	.60	
Harrow . . .	8,000	300gs. p.m.	Intermittent.	10,000	.46		Wilton . . .	2,000	63,000	...	...	...
Hastings . . .	2,500	500,000	"	40,000	1.60		Windsor, Eton and Clewer } . . .	14,000	950,000	Intermittent.	42,000	.88	
Hereford . . .	16,000	850,000	Constant.	15,000	0.35		Wolverhampton . . .	100,000	1,800,000	Both.	220,000	2.44	
Hull . . .	130,000	5,500,000	One-half of the town constant.	150,000	.55		Worcester . . .	30,000	...	Constant.	46,000	...	
Ilkestone . . .	5,000	40,000	Intermittent.	4,000	2.00		Workington . . .	8,000	500,000	"	...	...
Inverness . . .	12,000	360,000	Constant.	13,000	.72		York . . .	50,000	1,500,000	"	88,000	1.17	

Average for 48 of the above towns, £1.16.

TABLE C.—SHOWING COST OF GRAVITATION AND PUMPING WORKS.

Name of Town or District	Population	Maximum Daily Supply	Constant or Intermittent	Total Cost	Cost for a supply of 20 ls. per day	Remarks.	Name of Town or District	Population	Maximum Daily Supply	Constant or Intermittent	Total Cost	Cost for a supply of 20 gals. per day	Remarks
Bedlington . . .	20,000	Gallons 30,000	Constant.	£ ...	£ ...		Merthyr . . .	55,000	Gallons 1,500,000	Constant.	£ 84,000	£ 1.12	
Birkenhead . . .	40,000	1,700,000	Intermittent.	...	...		Newport (Mon.) . . .	30,000	15,000,000	"	52,000	0.07	
Enfield . . .	4,670	200,000	Constant.	17,500	1.75		Rhyl and District . . .	10,000	1,369,000	Intermittent.	...	...
Gosport . . .	22,000	222,000	Intermittent.	21,000	1.89		Ruthin . . .	5,000	...	Constant.	6,000	...	
Hartlepool . . .	30,000	2,000,000	Constant.	75,000	0.75		Staffordsh. Potteries. . .	130,000	3,000,000	Generally Inter.	215,157	1.43	
Ipswich . . .	40,000	1,500,000	"	...	...		Tynemouth . . .	30,000	500,000	Both.	56,900	2.28	
Kendal . . .	13,000	300,000	"	15,500	1.03		Ventnor . . .	6,000	200,000	Intermittent.	10,000	1.00	
Liverpool . . .	620,000	16,500,000	Intermittent.	2,000,000	2.42		Wisbeach . . .	14,000	No limit.	"	24,174	1.72	

Average for 11 of the above towns, £1.40.

The following Statement of the Accounts of the Chelsea Company is a reprint from the Official Return made in pursuance of the Metropolitan Water Act, 1871.

CHELSEA WATERWORKS COMPANY.

ACCOUNTS OF THE CHELSEA WATERWORKS COMPANY, FOR THE HALF-YEAR ENDING SEPTEMBER 30, 1873.

No. 1.—STATEMENT OF SHARE AND LOAN CAPITAL ON SEPTEMBER 30, 1873.

Acts of Parliament Authorising the Raising of Capital	Description of Capital	Maximum Dividend Authorised	Number of Shares Issued	Nominal Amount of Share	Called up per Share	Total Paid up	Amount Issued, but not Paid	Remaining to be Issued and Called up	TOTAL Amount Authorised
15 & 16 Vict. 1852	Shares, afterwards converted into Stock	10% per cent.	22,800	£ 25	...	£ 570,000	£	£	£
27 & 28 Vict. 1864	Ordinary Stock raised in 1865	10% per cent.	...	...	...	45,600	...	147,060	855,000
	New 5 per Cent. Preference Stock	...	...	...	...	92,340			
15 & 16 Vict. 1852	Loans	...	...	...	...	*84,100	...	...
27 & 28 Vict. 1864	Loans	...	...	...	...	...	...	43,750	213,750
Perpetual 4½ per cent. Debenture Stock.	...	...	...	...	...	84,600	1,300	...	
						£ 876,640	1,300	190,810	1,068,750
* Rates of Interest:—						£ 4,300			
" " at 4½ per cent.						25,600			
" " at 4½ per cent.						54,200			
						£84,100			

Dr.

No. 2.—CAPITAL ACCOUNT FOR THE HALF-YEAR ENDED SEPTEMBER 30, 1873.

Cr.

	Certified Expenditure to March 31, 1873	Expenditure during Half-Year	TOTAL Expenditure to Date of Account		Certified Receipts to March 31, 1873	Receipts during Half-Year	TOTAL Receipts to Date of Account
	£ s. d.	£ s. d.	£ s. d.		£ s. d.	£ s. d.	£ s. d.
To lands, works, &c., as certified March 31, 1873	851,876 19 6	...	851,876 19 6	By share capital, Ordinary Stock	615,600 0 0		
To lands, water-rights, quit-rents, and easements acquired by the Company	...	...	...	By Preferential 5 per cent. Stock	91,705 0 0	635 0 0	707,940 0 0
To reservoirs, wells, shafts, conduits, pipes, and works for the collection or impounding and storing of water, including service reservoirs and filtering beds	...	7,874 3 6	7,874 3 6	By loan capital (bonds)	169,600 0 0		
To main and service pipes connected with the distribution of water, meters, fittings, and service works, including labour, engineers' and surveyors' expenses, chargeable to capital	...	9,094 8 6	9,094 8 6	By bonds paid during the half-year	33,600 0 0		
To law and Parliamentary expenses (promoting Bills)	...	...	...	By bonds converted into Perpetual 4½ per cent. Debenture Stock	51,900 0 0	51,900 0 0	84,100 0 0
TOTAL EXPENDITURE	851,876 19 6	16,968 12 0	868,845 11 6	By Perpetual 4½ per cent. Debenture Stock	...	32,700 0 0	84,600 0 0
To Balance			7,794 8 6				£ 876,640 0 0
			£ 876,640 0 0				

Dr.

No. 3.—REVENUE ACCOUNT FOR THE HALF-YEAR ENDED SEPTEMBER 30, 1873.

Cr.

	£ s. d.	£ s. d.		£ s. d.	£ s. d.	£ s. d.
Maintenance:			By balance brought from former Account	2,400 0 0		
To maintenance and repair of impounding and service reservoirs, filtering beds, works, and pipes, or for obtaining and storing of water, including the cost of materials and labour	...		Less sums written off as losses, viz:			
To maintenance, repair of mains, pipes, fittings, meters, and works connected with the distribution of water, including the cost of materials, labour, and renewals	1,369 10 7		Empty houses, houses cut off, and bad debts	2,292 14 6	107 5 6	
To pumping and engine charges, including cost of coals, wages, &c.	5,107 14 9		By water rents accrued to date of this Account		40,746 19 10	40,854 5 4
To filtration, including the cost of materials and labour	452 11 6		By rents of houses and lands accrued to date, and owing to the Company			191 14 1
To salaries of engineer, inspector, superintendent, and clerks, and wages of turncocks	1,577 16 0		By fees received for registration of stock, transfers, &c.			5 17 6
To Thames Conservancy	800 0 0					
To rates and taxes, exclusive of income tax	2,534 3 1	11,841 15 11				
Management:						
To allowance to directors	400 0 0					
To allowance to Company's auditors	78 15 0					
To salaries of secretary, accountant, and office clerks	740 12 3					
To superannuation of servants of the Company	250 6 11					
To commission to collectors	916 0 4					
To stationery, printing, and general establishment charges	515 19 8					
To law and Parliamentary expenses	66 17 3					
To official auditor and water examiner	45 16 1					
		3,014 7 6				
To Dividend and Interest Account for transfer of profits		23,895 13 6				
To Balance carried to next Account, to provide for losses		2,300 0 0				
		£41,051 16 11				£ 41,051 16 1

CHELSEA WATERWORKS COMPANY.—*Continued.**Dr.* No. 4.—DIVIDEND AND INTEREST ACCOUNT FOR THE HALF-YEAR ENDED SEPTEMBER 30, 1873. *Cr.*

	£	s.	d.		£	s.	d.		£	s.	d.
To interest accrued to the date of this account on loan capital	2,357	1	2	By balance brought from last account on March 31, 1873	35,065	15	6				
To interest on temporary loans	2,333	1	1	By less dividends declared for the half-year ending that day. Ordinary Stock	18,467	19	6				
To dividends accrued due to date on Preference Stock	1,371	13	7					16,597	16	0	
To dividends accrued due to date on Debenture Stock	35,227	1	9	By interest accrued due to date on monies deposited				795	8	1	
To Balance applicable to dividend				By Revenue Account for profits transferred				23,895	13	6	
	£	41,288	17	7				£	41,288	17	7

Dr. No. 5.—CONTINGENCY FUND FOR THE HALF-YEAR ENDED SEPTEMBER 30, 1873. *Cr.*

	<i>Stock.</i>			<i>Cash.</i>				<i>Stock.</i>			<i>Cash.</i>		
	£	s.	d.	£	s.	d.		£	s.	d.	£	s.	d.
To Balance	19,350	3	6	19,020	4	3	By Balance, viz.:						
							Consolidated £3 per Cent. Annuities . .	10,350	3	6	} 19,020 4 3		
							London and North-Western Railway £4 per Cent. Debenture Stock	9,000	0	0			

Dr. No. 6.—STATEMENT OF THE LIABILITIES AND ASSETS (BALANCE SHEET) ON SEPTEMBER 30, 1873. *Cr.*

LIABILITIES				ASSETS			
To Capital Account:	£	s.	d.	By Capital Account:	£	s.	d.
Amount received, as per Account No. 2	876,640	0	0	Amount expended for works, as per Account No. 2	868,845	11	6
To Revenue Account (provision for bad debts), as per Account No. 3	2,300	0	0	By Contingency Fund, as per Account No. 5	19,020	4	3
To Dividend and Interest Account, as per Account No. 4	35,227	1	9	By water rates due to the Company	31,938	13	10
To dividend on Preference Stock	1,154	18	2	By outstanding accounts owing to the Company	229	7	6
To dividend on Debenture Stock	82	5	0	By stock in hand—pipes, meters, fittings, and general stores	4,854	15	1
To interest accrued and provided for to date	25	3	9	By Parliamentary expenses, amount advanced for	1,320	10	7
To unclaimed dividends	3,206	10	7	By cash deposited on interest	—		
To Contingency Fund, as per Account No. 5	19,020	4	3		£	s.	d.
To outstanding tradesmen's accounts owing by the Company	2,743	5	5	By cash at bankers	15,697	1	11
To bankers for temporary loan	—			Less outstanding cheques	1,506	15	9
	£	940,399	8 11				

JOHN DEEDES, *Governor.*
ALBERT GILL, *Secretary.*

I hereby certify that I have examined the foregoing accounts, and find the same to be correct; and that the sum of £35,227 1s. 9d. (Thirty-five thousand Two hundred and Twenty-seven pounds One shilling and Ninepence) is available for the payment of dividend on the Ordinary Capital Stock of the Company, amounting to the sum of £615,600 (Six hundred and Fifteen thousand Six hundred pounds).

ALLEN STONEHAM,
Auditor appointed under 'The Metropolis Water Act, 1871.'

November 24 1873.

ACCOUNTS OF THE CHELSEA WATERWORKS COMPANY, FOR THE HALF-YEAR ENDING MARCH 31, 1874.

No. 1.—STATEMENT OF SHARE AND LOAN CAPITAL ON MARCH 31, 1874.

Acts of Parliament Authorising the Raising of Capital	Description of Capital	Maximum Dividend Authorised	Number of Shares Issued	Nominal Amount of Share	Called up per Share	Total Paid up	Amount Issued but not Paid	Remaining to be Issued and Called up	TOTAL Amount Authorised
15 & 16 Vict. 1852	Shares afterwards converted into Stock	10l. per cent.	22,800	£ 25	£ ...	£ 570,000	£ ...	£ ...	£ ...
27 & 28 Vict. 1864	Ordinary Stock raised in 1865	10l. per cent.	...	...	...	45,600	...	147,060	855,000
	New 5 per Cent. Preference Stock . . . . .	...	...	...	...	92,340	...	...	...
15 & 16 Vict. 1852	Loans . . . . .	...	...	...	...	*75,400	...	...	...
27 & 28 Vict. 1864	Loans . . . . .	...	...	...	...	...	...	43,750	213,750
Perpetual 4½ per Cent. Debenture Stock . . . . .	...	...	...	...	...	94,600	...	...	...
					£	877,940	...	190,810	1,068,750

* Rates of Interest—at 4 per cent. £5,300
" " at 4½ " 21,600
" " at 4½ " 45,500
£75,400

Dr. No. 2.—CAPITAL ACCOUNT FOR THE HALF-YEAR ENDED MARCH 31, 1874. *Cr.*

	Certified Expenditure to Sept. 30, 1873			Expenditure during Half-Year			TOTAL Expenditure to Date of Account				Certified Receipts to Sept. 30, 1873			Receipts during Half-Year			TOTAL Receipts to Date of Account		
	£	s.	d.	£	s.	d.	£	s.	d.		£	s.	d.	£	s.	d.	£	s.	d.
To lands, works, &c. as certified	837,530	4	8	...			837,530	4	8	By share capital—Ordinary Stock	615,600	0	0						
To lands, water-rights, quit-rents, and easements acquired by the Company since 1872	89	15	0	242	12	6	332	7	6	By Preferential 5 per Cent. Stock	92,340	0	0	...			707,940	0	0
To reservoirs, wells, shafts, conduit pipes, and works for the collection or impounding and storing of water, including service reservoirs and filtering beds, since 1872	20,237	18	8	6,848	1	0	27,085	19	8	By loan capital (bonds)	84,100	0	0						
To main and service pipes connected with the distribution of water, meters, fittings, and service works, including labour, engineers' and surveyors' expenses chargeable to capital, since 1872	10,894	19	10	20,659	1	3	31,554	1	1	By bonds paid during the half year	2,000	0	0						
To law and Parliamentary expenses (promoting Bills), since 1872	92	13	4	15	15	8	108	9	0		82,100	0	0						
TOTAL EXPENDITURE . . . £	868,845	11	6	27,765	10	5	896,611	1	11	By bonds converted into Perpetual 4½ per Cent. Debenture Stock	6,700	0	0	6,700	0	0	75,400	0	0
										By Perpetual 4½ per Cent. Debenture Stock	84,600	0	0	3,300	0	0	94,600	0	0
														£10,000	0	0	877,940	0	0
										By Balance							18,671	1	11
																£	896,611	1	11

CHELSEA WATERWORKS COMPANY—*Continued.*

Dr. No. 3.—REVENUE ACCOUNT FOR THE HALF-YEAR ENDED MARCH 31, 1874. Cr.

	£	s.	d.	£	s.	d.		£	s.	d.	£	s.	d.
Maintenance :							By balance brought from former Account	2,300	0	0			
To maintenance and repair of impounding and service reservoirs, filtering beds, works, and pipes, or for obtaining and storing of water, including the cost of materials and labour	—						Less sums written off as losses, viz. :						
To maintenance and repair of mains, pipes, fittings, meters, and works connected with the distribution of water, including the cost of materials, labour, and renewals	1,513	1	0				Empty houses, houses cut off, and bad debts	2,157	9	9	142	10	3
To pumping and engine charges, including cost of coals, wages, &c.	4,877	4	0				By water rents accrued to date of this account . . . . .	...			40,521	5	9
To filtration, including the cost of materials and labour	491	4	10				By rents of houses and lands accrued to date, and owing to the Company . . . . .	...					40,663 16 0
To salaries of engineer, inspector, superintendent, and clerks, and wages of turncocks	1,409	19	7				By fees received for registration of stock, transfers, &c. . . . .	...					216 12 3
To Thames Conservancy	500	0	0				By amount transferred from Contingency Fund, being proceeds of 1437 <i>l.</i> 6 <i>s.</i> 2 <i>d.</i> Consols . . . . .	...					3 10 0
To rates and taxes, exclusive of income tax	1,647	8	9										1,320 10 7
Management :				10,438	18	2							
To allowance to directors	410	0	0										
To allowance to Company's auditors	—												
To salaries of secretary, accountant, and office clerks	807	10	8										
To superannuation of servants of the Company	300	18	0										
To commission to collectors	946	16	7										
To stationery, printing, and general establishment charges	401	9	3										
To law and Parliamentary expenses	1,351	16	3										
To official auditor and water examiner	45	1	6										
				4,263	12	3							
To Dividend and Interest Account for transfer of profits				25,401	18	5							
To Balance carried to next Account, to provide for losses				2,100	0	0							
				£	42,204	8 10					£	42,204	8 10

Dr. No. 4.—DIVIDEND AND INTEREST ACCOUNT FOR THE HALF-YEAR ENDED MARCH 31, 1874. Cr.

	£	s.	d.		£	s.	d.	£	s.	d.
To interest accrued to the date of this account on loan capital	1,654	16	7	By balance brought from last account on September 30, 1873	35,227	1	9			
To interest on temporary loans	61	17	0	By less dividends declared for the half-year ending that day. Ordinary Stock	18,467	19	7	16,759	2	2
To dividends accrued due to date on Preference Stock	2,308	10	0							
To dividends accrued due to date on Debenture Stock	2,123	18	2	By interest accrued due to date on moneys deposited				494	12	8
To Balance applicable to dividend	36,506	11	6	By Revenue Account for profits transferred				25,401	18	5
	£	42,655	13 3					£	42,655	13 3

Dr. No. 5.—CONTINGENCY FUND FOR THE HALF-YEAR ENDED MARCH 31, 1874. Cr.

	£	s.	d.		£	s.	d.
To amount transferred to Revenue Account	1,320	10	7	By Balance brought forward			19,020 4 3
To Balance carried forward	17,699	13	8				
	£	19,020	4 3				£ 19,020 4 3

Dr. No. 6.—STATEMENT OF THE LIABILITIES AND ASSETS (BALANCE SHEET) ON MARCH 31, 1874. Cr.

LIABILITIES				ASSETS			
	£	s.	d.		£	s.	d.
To Capital Account :				By Capital Account :			
Amount received as per Account No. 2	877,940	0	0	Amount expended for works, as per Account No. 2	896,611	1	11
To Revenue Account (provision for bad debts) as per Account No. 3	2,100	0	0	By Contingency Fund, as per Account No. 5 :			
To Dividend and Interest Account, as per Account No. 4	36,506	11	6				
To Dividend on Preference Stock	1,154	5	0	Invested in Consolidated 3 per cent. Annuities	8,912	17	4
To interest accrued and provided for to date	33	6	7	London and North-Western Railway 4 per cent. Debenture Stock	9,000	0	0
To unclaimed dividends	3,267	0	4				
To Contingency Fund, as per Account No. 5	17,699	13	8	By water rates due to the Company			17,699 13 8
To outstanding tradesmen's accounts owing by the Company	3,037	17	8	By outstanding accounts owing to the Company			31,854 3 9
To bankers for temporary loan	10,000	0	0	By stock in hand—pipes, meters, fittings, and general stores			167 17 6
	£	951,738	14 9	By cash deposited on interest			3,652 18 4
							—
				By cash at bankers	2,391	8	0
				Less outstanding cheques	638	8	5
					£	1,752	19 7
					£	951,738	14 9

JOHN DEEDES, Governor.
ALBERT GILL, Secretary.

I hereby certify that I have examined the foregoing accounts and find the same to be correct; and that the sum of 36,506*l.* 11*s.* 6*d.* (Thirty-six thousand Five hundred and Six pounds Eleven shillings and Sixpence) is available for the payment of dividend on the Ordinary Capital Stock of the Company, amounting to the Sum of 615,600*l.* (Six hundred and Fifteen thousand Six hundred pounds).

ALLEN STONEHAM,
Auditor appointed under "The Metropolis Water Act, 1871."

May 14, 1874.

The following is a form of Balance Sheet of a well-organised Company.

THE WOLVERHAMPTON CORPORATION WATERWORKS.

Dr.				Cr.			
INCOME AND EXPENDITURE ACCOUNT FOR THE YEAR ENDING DECEMBER 31, 1868.							
	1st Half-year.	2nd Half-year.	Total.		1st Half-year.	2nd Half-year.	Total.
	£ s. d.	£ s. d.	£ s. d.		£ s. d.	£ s. d.	£ s. d.
To Repairs to Plant, Meters, &c. }	292 6 7	357 6 1	649 12 8	By Water Rents and Sales of Water (less Allowances and Voids) . }	6,370 7 8	6,572 10 6	12,942 18 2
„ Engine Expenses . }	460 11 10	654 6 11	1,114 18 9	„ Profit on Sale of Fittings . }	167 10 10	152 14 6	320 5 4
„ Coals . }	877 15 9	855 10 1	1,733 5 10	„ Rents . }	20 18 8		20 18 8
„ Rent of Offices and Shops . }	39 5 2	29 1 9	68 6 11	„ Interest on Over-due Account . }		6 16 2	6 16 2
„ Rates and Taxes . }	162 12 6	249 17 1	412 9 7				
„ Engineers', Clerks', and Collectors' Salaries . }	370 15 0	441 5 0	812 0 0				
„ Printing and Stationery . }	58 13 0	10 17 8	69 10 8				
„ Gas and Incidental Expenses . }	46 5 3	120 19 1	167 4 4				
	2,308 5 1	2,719 3 8	5,027 8 9				
„ Interest and Rents, viz. :—On Loans, £40,000 (and Bank Interest) less Income Tax . }	901 3 7	903 5 9					
On Debt to Old Waterworks Company, £46,246 @ 5 per cent., less Income Tax . }	1,139 8 8	1,139 8 8					
On New Waterworks Company's Preference Share Capital, £24,415, @ 5 per cent., less Income Tax . }	595 2 4	595 2 4					
On New Waterworks Company's Ordinary Share Capital, £100,000, @ 2½ per cent., less Income Tax . }	1,218 15 0	1,218 15 0					
	3,854 9 7	3,856 11 9	7,711 1 4				
„ Balance (subject to any loss on Outstanding Debts, and to depreciation in the Plant which the Expenditure in Repairs may be insufficient to cover) }	396 2 6	156 5 9	552 8 3				
			£13,290 18 4				£6,558 17 2—6,732 1 2—13,290 18 4

LAUNDY, HARRISON & HARRIS.

BALANCE SHEET, DECEMBER 31, 1868.

LIABILITIES.				ASSETS.			
	£	s. d.	£ s. d.		£	s. d.	£ s. d.
To Loans	40,000	0 0		By Expenditure on Works, viz. :—			
„ Old Waterworks Company . .	46,246	0 0		Purchase from Waterworks Company . .	£ s. d.	209,527 10 0	
„ New Waterworks Company } Preference Share Capital . }	24,415	0 0		Extensions to Midsummer, 1868 . .	50 0 0		
„ New Waterworks Ordinary } Preference Share Capital . }	100,000	0 0		Extensions to Xmas. 1868	60 11 3		
			210,661 0 0			110 11 3	
„ Old Waterworks Company } for Interest, due Xmas. . }	1,139	8 8					209,638 1 3
„ New Waterworks Company } for Dividends, due Xmas. . }	1,813	17 4		By Meters, viz. :—			
			2,953 6 0	Purchased from the Company	800 0 0		
„ Sundry Persons, Tradesmen's and other Accounts . }			534 7 10	Additions	17 0 0		817 0 0
			214,148 13 10	By Stock of Coals, Engine Stores and Sundries	263 3 6		
„ Balance of Income and Expenditure Account, viz. :—				„ Stock of Fitting Materials	367 9 6		
For Half-year to Midsummer, 1868 . .	396	2 6		„ Midland Banking Company on Waterworks Account . .	959 9 10		630 13 0
For Half-year to Xmas.	156	5 9	552 8 3	Less Engineer's Account overdrawn . .	228 19 4		730 10 6
				By Outstanding Accounts for Water and Fittings			2,884 17 4
				Birmingham, February 19, 1869,			
				Audited and found correct,			
				LAUNDY, HARRISON & HARRIS,			
				PUBLIC ACCOUNTANTS.			
			£214,701 2 1				£214,701 2 1

The following are the limiting Rates allowed by Act of Parliament to be charged by the Metropolitan Companies for Domestic Purposes.

(Extracted from Report, East London Water Bills, June 27, 1867.)

EAST LONDON WATERWORKS.				LAMBETH COMPANY.				
Domestic Purposes	For every Water-Closet and fixed Bath			Annual Value	Rate % per Annum	For every single Water-Closet		Additional W.-C.
50 % on annual value.	Ann. value exceeds £30	4s.	Not exceeding . . . £20	£7 10 0	An. value exceeding £20			
	„ „ „ 50	6s.	Exceeding £20 not exceeding 40	7 0 0	not exceeding £40 .	10s.	5s.	
	„ „ „ 100	8s.	„ 40 „ „ 60	6 10 0	An. value exceeding £40			
			„ 60 „ „ 80	6 0 0	not exceeding £60 .	12s.	6s.	
			„ 80 „ „ 100	5 10 0	An. value exceeding £60			
			„ 100 „ „	5 0 0	not exceeding £100 .	15s.	7s. 6d.	
	For high service a rate not exceeding 25 % upon foregoing rates.				An. value exceeding £100 . . .	£1	10s.	

WEST MIDDLESEX COMPANY.				NEW RIVER COMPANY.			
Annual Value	Rates % per Annum	For a single W.-C., high service or Bath		Annual Value	Rates % per Annum	A single W.-C., high service or Bath	
Not exceeding £200	4%	Above £30 to £50 .	Per ann. 4s.	Not exceeding £200	4%	An. val. ex. 30 not 50	Per ann. 4s.
Exceeding . 200	3%	„ 50 „ 100	6s.	Exceeding . 200	3%	„ „ 50 „ 100	6s.
		„ 100 „ 200	8s.			„ „ 100 „ 200	8s.
		„ 200 „ 300	10s.			„ „ 200 „ 300	10s.
		„ 300	12s.			„ „ 300 .	12s.
NOTE.—If service is more than 200 ft. above Trinity H. W. M. £1 additional.		NOTE.—A supply more than 10 ft. above pavement is deemed high service.				NOTE.—A supply more than 10 ft. above ground floor is deemed high service; supplies above 160 ft. above T. H. W. Mark are chargeable £100 per annum additional to above rates.	

GRAND JUNCTION COMPANY.				CHELSEA COMPANY.			
Annual Value	Rates % per Annum	For a single fixed Bath or high service		Annual Value	Rates % per Annum	For a single W.-C., fixed Bath or high service	
Not exceeding £200	4%	Ex. £20 not £50 .	Per ann. 4s.	Not exceeding £200	4%	Ex. £30 not £50 .	Per ann. 4s.
Exceeding . 200	3%	„ 50 „ 100 .	6s.	Exceeding . 200	3%	„ 50 „ 100 .	6s.
		„ 100 „ 200 .	8s.			„ 100 „ 200 .	8s.
		„ 200 „ 300 .	10s.			„ 200 „ 300 .	10s.
		„ 300 . . .	12s.			„ 300	12s.

SOUTHWARK AND VAUXHALL COMPANY.			
Annual Value	Rates % per Annum	For a single W. C., fixed Bath or high service	
Rate fixed not to exceed 5 % per annum.		Exceedg. £30 not ex. £50 .	Per ann. 4s.
		„ 50 „ 100 .	6s.
		„ 100 „ 200 .	8s.
		„ 200 „ 300 .	10s.
		„ 300 . . .	12s.

The following is the Scale of Charges for Supplies of Water, &c. for other than Domestic Purposes, sanctioned by Acts of Parliament.

(Extracted from Report, East London Water Bills, June 27, 1867.)

EAST LONDON WATERWORKS.			LAMBETH CO.	WEST *MIDDLESEX CO.			NEW RIVER COMPANY.	
Gals.	Per 1,000 gals.			Gals.	Gals.	Per 1000 gals.	Gals.	Per 1,000 gals.
Quarterly Consumption not exceeding . 50,000		9d.	Special Agreement between Company and Consumers. To large Consumers by quantity.	From 25,000 — 50,000		9d.	Not exceeding 50,000	7½d.
Ex. 50,000 not 100,000		8d.		„ 50,000 — 100,000		8d.	„ 50,000 to 100,000	7d.
„ 100,000 „ 200,000		7d.		„ 100,000 — 200,000		7d.	„ 100,000 to 200,000	6d.
„ 200,000 . . .		6d.		Above 200,000 . . .		6d.	Above 200,000 . . .	6d.
High service (20 ft. above pavement) additional		25%		10 ft. above pavement, additional		25%	Extra for supplies above 160 ft. above T. H. W. M.	25%

GRAND JUNCTION COMPANY.				CHELSEA COMPANY.	SOUTHWARK AND VAUXHALL COMPANY.	
Gals.	Gals.	Per 1,000 gals.				Per 1,000 gals.
Quarterly Consumption not exceeding 50,000		9d.	Special Agreement between Company and Consumer. To large Consumers by quantity.		Not exceeding 50,000 gals. . . .	9d.
Exceeding 50,000 „ „ 100,000		8d.			Exceeding 50,000 not exceeding 100,000 . . .	8d.
„ 100,000 „ „ 200,000		7d.			„ 100,000 „ „ 200,000 . . .	7d.
„ 200,000		6d.			„ 200,000	6d.
High service, additional		25%			High service, additional	25%
Company not to be required to supply less than 25,000 gallons in any one quarter of a year.					Company not to be required to supply less than 25,000 gallons in any quarter of a year.	

IN EACH CASE RENT FOR METERS IS CHARGED.

SCALE OF QUARTERLY CHARGES FOR DOMESTIC AND TRADE CONSUMPTION.
ORDINARY DWELLING-HOUSES OF ANNUAL VALUE OR RACK RENT.

Name of Town	£ 1	£ 2	£ 3	£ 4	£ 5	£ 6	£ 7	£ 8	£ 9	£ 10	£ 11	£ 12	£ 13	£ 14	£ 15	£ 16	£ 17	£ 18	£ 19	£ 20	£ 21	£ 22	£ 23	£ 24	£ 25	£ 26	£ 27	£ 28	£ 29	£ 30
Abergavenny, Indep. Comp.	5% per ann.	...	...	...	...	...	...	...	...	...	...	...	...	5/7½	...	...	...	...	6/3	...	...
Aberdeen, Private Comp.	1/3 per £ on annual	...	...	...
Alnwick, Local Board
Barnstaple, Corporation	1/3	...	...	1/4	1/6	1/8	1/10	2/-	2/3	2/6	2/9	3/-	3/2	3/4	3/6	3/8	3/10	4/-	4/6	...	5/-	...	...	...	5/6	...	...	...
Bath, Corporation	2/-	...	...	...	...	...	...	...	...	...	3/9	...	...	...	...	...	...	...	...	...	...	5/-	...	...	...	...
Blackburn, Indep. Comp.	2/6	...	...	...	...	2/8	3/-	3/4	3/7	3/10	4/3	4/6	4/9	5/1	5/4	5/8	6/-	6/3	6/7	6/10	7/2	7/6	7/9	8/1	8/4	8/8
Birmingham, Indep. Comp.	5/-	...	...	...	...	...	...	...	...	...	10/-	...	...	...	...	...	...	...	...	...	...	14/-	...	...	...	...
Bolton	...	1/1½	...	1/6	1/10½	2/3	...	...	7% per ann.	...	...	...	...	...	...	...	...	6½% per ann.	...	...	...	...	...	...	...	...	...	...	...	...
Brecon, Local Board	1/3 per £ of annual	...	...	...
*Bridport, Indep. Comp.	2/2	...	...	...	...	4/-	...	...	...	...	6/-	...	...	...	...	8/-	...	...	...	...	9/9	...	...	...	...	11/6	...	...
Bury	7½% per ann.	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	7% per ann.	...
Cambridge, Indep. Comp.	...	1/1	...	1/3	1/6	1/9	2/-	2/3	2/6	2/9	3/-	3/3	3/6	3/9	4/-	4/3	4/6	4/9	5/-	5/3	5/6	5/9	6/-	6/3	6/6	6/9	7/-	7/3	7/6	...
Carmarthen, Corporation
Chepstow, Incorporated	1/3	...	...	...	...	...	3/9	...	...	...	...	...	...	...	...	...	...	6/3	...	...	...	...	...	...	...	...	8/9
Chesterfield, Incorporated	5/-	...	6/3	...	...	...	...	7/6	...	...	...	...	8/9	...	...	...	...	...	...	...	...	...	...
Cleckheaton, Local Board	...	2/2	...	2/9	3/3	3/9	4/-	4/3	4/6	4/9	...	5/-	...	...	5/3	...	...	5/6	...	...	...	...	6/-	...	...	...	...	7/-	...	...
Coventry, Corporation	1/-	...	...	1/6	2/-	...	2/6	3/-	...	3/6	...	4/-	...	4/6	...	5/-	...	...	5/6	...	...	...	...	6/-	...	...	...	6/6
Edinburgh, Corporation	10% on the real rent.	...	...	...	...	...	...	...	...
Glasgow, Incorporated	6½% per annum on 9-10ths of actual rent.	...	...	...	...	...	...	...	...
Gorbals, Incorporated	5% per annum on house rental.	...	...	...	...	...	...	...
Leamington, Local Board	1/3	...	...	1/6½	1/10½	2/2½	2/6	2/9½	3/1½	3/5½	3/9	4/-½	4/4½	4/8½	5/-	...	...	...	...	...	...	...	...	...	...	...	...	...
Lincoln, Indep. Company	1/6	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	5% on rental on all above £6.	...	...	...	...
Liskeard, Indep. Company	1/1	...	1/4	1/7	1/10	2/1	2/4	2/7	2/11	3/3	3/7	3/10	4/1	4/5	4/8	5/-	5/3	5/6	5/10	6/1	6/4	6/7	6/10	7/-	7/3	7/6	7/9	8/-
Liverpool, Corporation	5% per ann.	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Manchester, Corporation
North Brierley, Local Board	...	2/6	...	3/-	3/6	4/-	4-6	4/11	5/4	5/9	6/2	6/7	7/-	7/5	7/10	8/3	8/8	9/1	9/6	9/11	10/4	10/9	11/2	11/7	12/-	12/5	12/10	13/3	13/8	...
Poole	2/6	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	1/3 per £ on annual value above £8.	...	...	...
Salford
Sheffield, Indep. Company	6% per ann.	...	...	...	...	...	...	...	...	...	7½% per ann.	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Southport, Indep. Company	1/7½	1/10	2/3	2/6	3/-	3/4	3/8	4/-	4/6	4/10	5/3	5/6	6/-	6/4	6/8	6/8	7/-	7/4	7/8	8/-	8/4	8/8	9/-	9/4	9/8	9/8	10/-	...
South Stafford, Indep. Co.	7½% per ann.	...	...	...	...	...	...	...	...	...	6% per ann.	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Stourbridge, Local Board	...	1/6	...	1/11	2/3	2/8	3/-	3/5	3/9	4/2	4/6	4/11	5/3	5/8	6/-	6/5	6/9	7/2	7/6	7/11	8/3	8/8	9/-	9/5	9/9	10/2	10/6	10/11	11/3	...
Trowbridge, Indep. Comp.	2/2	...	...	2/3	2/7	3/-	3/4	3/9	4/1	4/6	4/10	5/3	5/7	6/-	6/4	6/9	7/1	7/6	7/10	8/3	8/7	9-	9/4	9/9	10/1	10/6	10/10	10/1
Tweedmouth, Local Board	7% on the rental	...	...
Warwick, Local Board	...	1/1½	...	...	1/6	...	2/3	...	...	...	3/-	...	...	...	...	3/9	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Wolverhampton, Corporation	7% on the rental	...	...	...

* These rates were arranged by the Author.

SCALE OF QUARTERLY CHARGES FOR DOMESTIC AND TRADE CONSUMPTION—*continued*.
ORDINARY DWELLING-HOUSES OF ANNUAL VALUE OR RACK RENT.

Name of Town	£ 31	£ 32	£ 33	£ 34	£ 35	£ 36	£ 37	£ 38	£ 39	£ 40	£ 41	£ 42	£ 43	£ 44	£ 45	£ 46	£ 47	£ 48	£ 49	£ 50	£ 51	£ 52	£ 53	£ 54	£ 55	£ 56	£ 57	£ 58	£ 59	£ 60	
Abergavenny, Indep. Comp.	6/10½	7/6	8/9
Aberdeen, Private Comp.	value per annum.				—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Alnwick, Local Board	value per annum.				—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Barnstaple, Corporation	...	...	6/-	...	...	...	...	6/6	...	...	...	...	7/-	...	...	...	...	7/6	...	...	...	...	8/6	...	...	...	...	10/-	...	...
Bath, Corporation	...	...	...	...	6/3	...	...	...	...	...	...	...	...	...	...	...	...	...	...	9/9	...	...	...	...	...	...	...	...	...	...
Blackburn, Indep. Comp.	9/-	9/3	9/7	9/10	10/2	10/6	10/9	11/1	11/4	11/8	12/-	12/3	12/7	12/10	13/2	13/6	13/9	14/1	14/4	14/8	15/-	15/3	15/7	15/10	16/2	16/6	16/9	17/1	17/4	17/8	
Birmingham, Indep. Comp.	...	...	...	...	18/9	...	...	...	...	...	...	...	...	...	...	...	...	...	...	25/-	...	...	...	...	...	...	...	...	...	...
Bolton	...	...	...	...	6% per ann.				...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Brecon, Local Board	rateable value.				...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
*Bridport, Indep. Company	...	...	13/3	...	...	...	...	15/-	...	...	...	...	16/6	...	...	...	...	18/-	...	...	...	19/6	...	...	...	...	...	21/-	...	...
Bury	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	6½% per ann.				...	...	...	...	...	...	...	...	...
Cambridge, Indep. Comp.	7/9	8/-	8/3	8/6	8/9	9/-	9/3	9/6	9/9	10/-	10/3	10/6	10/9	11/-	11/3	11/6	11/9	12/-	12/3	12/6	12/9	13/-	13/3	13/6	13/9	14/-	14/3	14/6	14/9	15/-	
Carmarthen, Corporation	assessment.				...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Chepstow, Incorporated	...	...	...	...	...	...	...	...	...	...	...	12/6	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Chesterfield, Incorporated	...	...	...	...	...	...	...	...	...	15/-	...	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Cleckheaton, Local Board	...	...	...	...	8/-	...	...	...	...	...	...	...	...	...	9/-	...	...	...	...	...	...	...	...	10/-	...	...	...	...	...	...
Coventry, Corporation	...	...	...	7/-	...	...	...	7/6	...	...	...	8/-	...	...	...	8/6	...	...	...	9/-	...	...	9/6	...	...	10/-	...	...	...	...
Edinburgh, Corporation	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	
Glasgow, Incorporated	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	
Gorbals, Incorporated	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	
Leamington, Local Board	...	...	5/7½	...	...	...	...	6/3	...	...	...	6/10½	...	...	...	...	7/4	...	...	...	...	8/1½	...	...	...	...	8/9	...	...
Lincoln, Indep. Company	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Liskeard, Indep. Company	8/2	8/5	8/8	8/11	9/2	9/4	9/7	9/9	10/-	10/3	10/4	10/5	10/6	10/7	10/8	10/10	11/-	11/1	11/2	11/3	11/5	11/6	11/8	11/9	11/11	12/-	12/2	12/3	12/5	12/6	
Liverpool, Corporation	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	4% per ann.	...	...
Manchester, Corporation	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	
North Brierley, Local Board	14/1	14/6	14/11	15/4	15/9	16/2	16/7	17/-	17/5	17/10	18/3	18/8	19/1	19/6	19/11	20/4	20/9	21/2	21/7	22/-	22/5	...	...	...	...	...	...	...	...	...
Poole	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Salford	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	
Sheffield, Indep. Company	annum.				6½% per ann.			
Southport, Indep. Comp.	...	...	10/4	11/-	11/4	11/8	12/-	...	12/4	...	...	13/-	...	13/6	...	...	14/-	...	...	...	14/6	...	...	15/-	...	...	15/6	...	...
South Stafford, Indep. Co.	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Stourbridge, Local Board	11/8	12/-	12/5	12/9	13/2	13/6	13/11	14/3	14/8	15/-	15/5	15/9	16/2	16/6	16/11	17/3	17/8	18/-	18/5	18/9	...	...	...	...	...	...	...	...	...	Above £50
Trowbridge, Indep. Comp.	10/10	11/2	11/6	11/10	12/3	12/7	12/11	13/3	13/7	14/-	14/4	14/8	15/-	15/4	15/9	16/1	16/5	16/6	16/6	16/6	16/6	16/10	17/1	17/6	17/10	18/2	18/6	18/10	19/2	19/6	
Tweelmouth, Local Board	nothing below 10/- nor above £10.				—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	
Warwick, Local Board	...	...	6/3	...	...	...	...	...	...	...	...	...	...	7/6	...	...	...	...	...	...	...	...	8/9	...	...	...	...	...	...	...
Wolverhampton, Corporation	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...

* These rates were arranged by the Author.

SCALE OF QUARTERLY CHARGES FOR DOMESTIC AND TRADE CONSUMPTION—*continued.*

ORDINARY DWELLING-HOUSES OF ANNUAL VALUE OR RACK RENT.

Name of Town.	£ 61	£ 62	£ 63	£ 64	£ 65	£ 66	£ 67	£ 68	£ 69	£ 70	£ 71	£ 72	£ 73	£ 74	£ 75	£ 76	£ 77	£ 78	£ 79	£ 80	£ 81	£ 82	£ 83	£ 84	£ 85	£ 86	£ 87	£ 88	£ 89	£ 90		
Abergavenny, Indep. Com.	...	...	...	...	...	...	...	...	...	...	...	All above £70, 10s.				...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Aberdeen, Private Comp.	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	
Alnwick, Local Board	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	
Barnstaple, Corporation	...	...	...	...	...	...	...	...	...	...	...	All above £60, 10s.				—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Bath, Corporation	...	...	...	...	...	...	...	...	...	10/-	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	12/6
Blackburn, Indep. Comp.	18/-	18/3	18/7	18/10	19/2	19/6	19/9	20/1	20/4	20/8	21/-	and upwards.				...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Birmingham, Indep. Comp.	...	...	...	...	...	...	...	...	...	2/8	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	31/3
Bolton	...	...	...	...	...	...	...	...	...	...	...	5½% per ann.				...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Brecon, Local Board	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
*Bridport, Indep. Company	...	...	22/3	...	...	...	...	23/6	...	...	...	...	24/9	...	...	...	26/-	...	...	...	...	...	27/-	...	...	...	...	...	28/-	...	...
Bury	...	...	...	...	...	...	...	...	...	6% per ann.		...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	5½% per ann.	
Cambridge, Indep. Comp.	15/3	15/6	15/9	16/-	16/3	16/6	16/9	17/-	17/2	17/4	17/6	17/8	17/10	18/-	18/2	18/4	18/6	18/8	18/10	19/-	19/2	19/4	19/6	19/8	19/10	...	...	...	...	...	...
Carmarthen, Corporation	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Chepstow, Incorporated	...	...	...	...	18/9	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	25/-	...
Chesterfield, Incorporated	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	
Cleckheaton, Local Board	and -/6 per qr. for every additional £5 on annual value.									
Coventry, Corporation	...	10/6	...	...	...	11/-	...	...	...	11/6	...	...	12/-	...	...	12/6	...	...	13/-	...	...	13/6	...	...	...	...	...	...	...	...	...
Edinburgh, Corporation	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	
Glasgow, Incorporated	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	
Gorbals, Incorporated	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	
Leamington, Local Board	...	...	9/3	...	...	...	...	9/8½	...	...	...	10/1½	...	...	...	10/7½	...	...	...	...	...	11/1½	...	...	...	...	...	11/6¾	...	...	...
Lincoln, Indep. Company	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Liskeard, Indep. Company	12/8	12/9	12/11	13/-	13/2	13/3	13/5	13/6	13/8	13/9	13/11	14/-	14/2	14/3	14/5	14/6	14/7	14/9	14/11	15/-	15/2	15/3	15/5	15/6	15/8	15/9	15/11	16/-	16/2	16/3		
Liverpool, Corporation	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	Exceeding £80 and not £160,					
Manchester, Corporation	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	
North Brierley, Local Board	...	...	From £50 to £100 to increase at the rate of -/5 in the £.										...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Poole	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Salford	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	
Sheffield, Indep. Company	...	...	...	...	...	...	...	...	...	6% per ann.		...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	5½%
Southport, Indep. Company	16/-	...	16/6	...	...	...	17/-	...	...	...	18/-	...	...	...	19/-	...	...	20/-	...	...	...	20/6	...	...	21/-	...	...	...	...	...
South Stafford, Indep. Co.	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Stourbridge, Local Board	5% on the rental per annum.										...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Trowbridge, Indep. Comp.	19/9	20/-	20/5	20/9	21/1	21/5	21/9	22/1	22/5	22/9	23/-	23/4	23/8	24/-	24/4	24/8	25/-	25/4	25/8	26/-	26/3	26/7	26/11	27/3	27/7	27/11	28/3	28/7	28/11	29/3		
Tweedmouth, Local Board	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	
Warwick, Local Board	...	...	...	10/-	...	...	...	...	...	...	...	...	...	11/3	...	...	...	...	...	...	...	Over £80 per annum must be supplied by meter.									
Wolverhampton, Corporation	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...

* These rates were arranged by the Author.

SCALE OF QUARTERLY CHARGES FOR DOMESTIC AND TRADE CONSUMPTION—*continued.*
ORDINARY DWELLING-HOUSES OF ANNUAL VALUE OR RACK RENT.

Name of Town.	£ 91	£ 92	£ 93	£ 94	£ 95	£ 96	£ 97	£ 98	£ 99	£ 100	Above £100	For Trade Purposes													
												Water- closets each above one	Baths each	Garden	Horses each	2-wheeled Carriage	4-wheeled Carriage	Bakers	Butchers	Beerhouses	Eating- houses	Hotels and Public- houses	Fishmongers	Slaughter- houses	Water in bulk 1,000 gallons
Abergavenny, Indep. Co. .	...	...	...	...	...	...	...	...	...	...	...	3/- to 8/-	3/- to 8/-	5/- to 7/6	...	...	...	...	10/-	7/6 to 12/-	...	7/6 to 12/-	...	10/-	1/6
Aberdeen, Private Comp. .	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Alnwick, Local Board .	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Barnstaple, Corporation .	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Bath, Corporation . .	...	...	...	...	...	...	...	...	...	...	15/- to 17/6	...	...	...	...	...	...	...	...	...	...	...	...	...	1/6 to -/6
Blackburn, Indep. Comp. .	...	...	...	...	...	...	...	...	...	...	...	6/-	...	6/-	6/-	8/6	...	20/-	...	...	...	...	...	20/-	1/-
Birmingham, Indep. Comp.	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	1/4 to -/6
Bolton . . . . .	...	...	...	...	...	...	...	...	...	...	5% per annum.	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Brecon, Local Board . .	...	...	...	...	...	...	...	...	...	...	...	...	5/-	5/-	...	...	...	...	20/-	scale	...	...	...	...	-/6 to -/5
*Bridport, Indep. Company	...	...	29/-	...	...	...	...	30/-	...	...	5½% per annum.	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Bury . . . . .	...	...	...	...	...	...	...	...	...	...	5% per annum.	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Cambridge, Indep. Comp. .	...	20/-	...	...	...	...	...	...	...	...	4% per annum.	5/-	5/-	scale	9/-	8/-	10/-	...	...	By Meter.			...	...	1/8 to 1/-
Carmarthen, Corporation .	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	-/6
Chepstow, Incorporated .	...	...	...	...	...	...	...	...	...	...	30/-	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Chesterfield, Incorporated .	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Cleckheaton, Local Board .	...	...	...	...	...	...	...	...	...	...	...	10/-	10/-	...	6/-	6/-	...	...	...	...	...	...	...	...	1/3 to -/9
Coventry, Corporation . .	...	...	...	14/6	...	...	...	15/-	...	...	3% on rent.	...	...	...	...	4/-	6/-	8/-	...	...	...	16/- to 32/-	10/-	8/-	2/8 to 2/-
Edinburgh, Corporation .	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Glasgow, Incorporated . .	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Gorbals, Incorporated . .	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Leamington, Local Board .	...	...	12/-	...	...	...	...	12/6	...	...	Increase at rate of -/6¼ per £5.	...	...	...	...	6/3	...	6/3	10/-	...	...	...	...	...	1/-
Lincoln, Indep. Company .	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	-/9
Liskeard, Indep. Company	16/5	16/6	16/8	16/9	16/11	17/-	17/2	17/3	17/5	17/6	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Liverpool, Corporation . .	3½% above £160, 3% per annum.											—	—	—	—	—	—	—	—	—	—	—	—	—	—
Manchester, Corporation .	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
North Brierley, Local Board	...	...	...	...	...	...	...	...	...	...	...	...	5/-	...	5/-	6/-	9/-	...	6/-	10/-	...	...	...	...	scale
Poole . . . . .	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	1/- to -/6
Salford	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Sheffield, Indep. Company	per annum.											5% per annum. Above £200, 4%		—	—	—	—	—	—	—	—	—	—	—	—
Southport, Indep. Comp. .	...	...	21/6	...	...	...	...	22/-	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	1/-
South Stafford, Indep. Co.	...	...	...	...	...	...	...	...	...	...	...	4/-	8/-	—	—	—	—	—	—	—	—	—	—	—	—
Stourbridge, Local Board .	...	...	...	...	...	...	...	...	...	...	...	8/-	8/-	...	...	...	...	...	...	...	...	...	...	...	1/- to -/8
Trowbridge, Indep. Comp.	21/6	29/10	...	...	...	...	...	30/-	...	...	6% per annum.	5/-	10/-	—	—	—	—	—	—	—	—	—	—	—	—
Tweedmouth, Local Board	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Warwick, Local Board . .	Over £80 to be supplied by meter.											—	—	—	...	...	...	...	...	...	...	...	...	...	1/- to -/9
Wolverhampton, Corporation	...	...	...	...	...	...	...	...	...	...	...	20/-	...	...	...	...	...	...	...	...	...	...	...	...	scale

* These rates were arranged by the Author.

TABLE OF RATES AND CHARGES IN VARIOUS CONTINENTAL TOWNS.

Name of the Town	Meter Supplies Cost per 1,000 Gallons. The Quantities given are Gallons delivered per diem	Min. No. of Gallons paid for per diem	Unlimited supply for dwellings per annum (i.e. inhabited room). Price in pence	Min. size of inhabited room, square yards	Per Wash-house or Kitchen	Per Bath Room	Per Urinal	Per Water-Closet	Per Horse	Per head of Cattle	Per Cab or Carriage	Streets per Acre		Gardens per Acre	Hot-houses per square yard	Price per Firecock	Fountains
												Paved	Not paved				
1. Frankfurt	Up to 3,303 g. 3-18d.; up to 5,505 g. 2-65d.; above that 2-43d.	550	4% of rent; 3 to 2½% of rent for offices.	—	—	69d.	43-3d.	48-3d.	39d.	34½d.	69d.	—	—	65½d.-28½d.	4-9d.	Gratis	138d. for .098 ins. up to 1,449d. for .236 ins. 172d. to 310d. for .098 to 157 ins. 138d. to 517d. for .118 to 157 ins.
2. Rostock	2-23d.	1,321	17½d. per i.r.	—	23d.	25-8d.	—	25-8d.	25-8d.	25-8d.	25-8d.	—	—	9-2d.	1-9d.	—	172d. to 310d. for .098 to 157 ins. 138d. to 517d. for .118 to 157 ins.
3. Carlsruhe	3-34d. for trade purposes, otherwise 3-97d.	660	21% of rent; reduction in case of high rent.	—	98d.-196d.	58-6d.	39d.-138d.	58-6d.	19½d.-34½d.	19½d.	10½d.	—	—	43-7d.	2-3d.	—	172d. to 310d. for .098 to 157 ins. 138d. to 517d. for .118 to 157 ins.
4. Lübeck	3-34d.	528	26½d. per dwelling, if with pipes; otherwise ¾ to ½ of this.	—	—	25-8d.	—	—	—	—	—	—	—	—	—	—	172d. to 310d. for .098 to 157 ins. 138d. to 517d. for .118 to 157 ins.
5. Gera	3-39d.	660	1 i.r. with kitchen 41½d.; each additional i.r. 34½d. up to 207d. 25½d. per i.r.	—	—	34-5d.	11½d.	11½d.	23d.	23d.	—	—	—	16d.	—	—	172d. to 310d. for .098 to 157 ins. 138d. to 517d. for .118 to 157 ins.
6. Preshau	Up to 947 g. 2-49d.; up to 1,894 g. 3-34d.; up to 3,787 g. 3-02d.; and up to 9,469 g. 2-65d.	748	—	—	—	—	—	—	—	—	—	—	—	—	—	—	172d. to 310d. for .098 to 157 ins. 138d. to 517d. for .118 to 157 ins.
7. Prag	Up to 3,303 g. 3-97d.; up to 33,031 g. 3-07d.; by contract 7-04d. Up to 6,606 g. 4-24d.; above this 3-39d.	330	100% of building tax.	—	—	—	34½d.	—	34½d.	34½d.	34½d.	23d.	28½d.	40½d.-16d.	2-9d.	—	276d. to 1,138d. for .118 to 236 ins.
8. Strassfurth	Up to 1,982 g. 4-24d.; above this by special agreement. Up to 6,606 g. 4-24d.; up to 66,063 g. 3-39d.; above that 2-54d.; by contract 5-08d.	330	26½d. per i.r.; 28d. if for the whole house; 17½d. per i.r. if there is a draw-off cock in the yard.	9½	25-8d.	25-8d.	17½d.	25-8d.	34½d.	34½d.	34½d.	46d.	27½d.	11½d.-8d.	2-9d.	1, 17½d.; above 1, 5½d.	276d. to 1,138d. for .118 to 236 ins.
9. Essen	Up to 1,982 g. 4-24d.; above this by special agreement. Up to 6,606 g. 4-24d.; up to 66,063 g. 3-39d.; above that 2-54d.; by contract 5-08d.	660	103d. min. for house; 34½d. per dwelling; tax 3% of rent, cock in yard 2%.	12	23d.	23d.	138d.-828d.	Gratis.	34½d.	34½d.	34½d.	—	—	28½d.	2-9d.	—	4-24d. per 1,000 gs. by meter. 345d. to 1,380d. for .118 to 236 ins.
10. Danzig	Up to 11,010 g. 4-24d.; above that 3-44d.	660	28½d. up to 10 i.r.; above that 17½d. per i.r.	—	28½d.	51½d.	28½d.	51½d.	34½d.	34½d.	34½d.	57½d.	—	40½d.-20d.	2-9d.	1, 69d.; 2, 17d. Where no other w. can be had.	4-24d. per 1,000 gs. By special agreement.
11. Braunschweig	4-24d.	660	36½d. per i.r. and workshop; 184d. min. per flat.	—	46d.	46d.	46d.	—	36-8d.	36-8d.	36-8d.	9-2d.	13-8d.	23d.	18-4d.	—	4-24d. per 1,000 gs. By special agreement.
12. Düsseldorf	Up to 6,606 g. 4-39d.; up to 66,063 g. 3-49d.	880	1d. per sq. yard of ground occupied and per storey (loft and cellars excepted). According to choice, either same as Köln, or 100% of building tax.	—	—	69d.	34½d.	34½d.	34½d.	34½d.	34½d.	—	—	66-7d.-19-6d.	—	—	138d. to 1,138d.
13. Winterthur	Up to 3,303 g. 4-39d.; up to 6,606 g. 4-24d.; up to 33,031 g. 3-82d.; up to 66,063 g. 3-39d.; by contract 6-78d.	330	23d. per i.r. or 345d. per family, or 1d. per square yard.	12	23d.	—	23d.	23d.	34½d.	34½d.	34½d.	46d.	57½d.	44-3d.-20-6d.	2-9d.	1, 69d.; 2, 17d. Where no other w. can be had.	Do.
14. Köln	Up to 2,202 g. 4-39; up to 4,404 g. 3-97d.; up to 6,606 g. 3-49d.; above 3-39d.	660	69d. for family with 3 i.r.; 17½d. for each addit. i.e. max. 138d. 10 gs. per day per head, or 3,303 gs. gratis per 35% building tax.	—	—	103d.-207d.	34½d.	34½d.	23d.	23d.	—	—	—	19-6d.	3-4d.	—	207d. to 414d. for .118 at the utmost. 138d. to 1,138d.
15. Bochum	Up to 3,303 g. 4-39d.; up to 6,606 g. 4-24d.; up to 33,031 g. 3-82d.; up to 66,063 g. 3-39d.; by contract 6-78d.	330	36½d. per i.r.; 14d. for watering-post in yard.	10½	36-8d. 20-7d.	36-8d. 20-7d.	by Meter.	36-8d. 21d.-27-6d.	36-8d.	36-8d.	36-8d.	46d.	57½d.	40-2d.-16d.	2-9d.	—	13-78d. per 1,000 gs. 276d. to 828d. for .118 to 236 ins. 159d. up to 118 ins.
16. Dortmund	Up to 1,321 g. 4-77d.; above this by special agreement. Up to 6,606 g. 5-08d.; above that 4-24d.	594	28½d. per i.r.	9½	28½d.	28½d.	20d.	28½d.	38d.	38d.	38d.	86d.	115d.	16d.-12d.	5-7d.	1, 23d.; above that, 8-6d.	13-78d. per 1,000 gs. 276d. to 828d. for .118 to 236 ins. 159d. up to 118 ins.
17. Altenburg	Up to 3,303 g. 4-66d.; up to 6,606 g. 4-24d.; up to 33,031 g. 3-71d.; above by contract 6-78d.	—	14d. per i.r. up to 2,070d. rent; 20½d. up to 2,760d.; above this 27½d.	—	—	21d.-28d.	—	21d.-28d.	27-6d.	—	—	—	—	—	—	—	13-78d. per 1,000 gs. 276d. to 828d. for .118 to 236 ins. 159d. up to 118 ins.
18. Halle	Up to 3,303 g. 4-66d.; up to 6,606 g. 4-24d.; up to 33,031 g. 3-71d.; above by contract 6-78d.	330	34½d. per i.r.	—	34½d.	34½d.	34½d.	34½d.	34½d.	34½d.	34½d.	—	—	21-8d.	2-9d.	Special agreement. 276d. to 1,138d. for .118 to 236 ins. 207d. to 759d.	Special agreement. 276d. to 1,138d. for .118 to 236 ins. 207d. to 759d.
19. Bern	Up to 1,321 g. 4-77d.; above this by special agreement. Up to 6,606 g. 5-08d.; above that 4-24d.	594	28½d. per i.r.; draw-off cock in yard up to 4 i.r. 17½d. per i.r.; shops 25% discount.	9½	36-8d. 20-7d.	36-8d. 20-7d.	by Meter.	36-8d. 21d.-27-6d.	36-8d.	36-8d.	36-8d.	46d.	57½d.	40-2d.-16d.	2-9d.	—	13-78d. per 1,000 gs. 276d. to 828d. for .118 to 236 ins. 159d. up to 118 ins.
20. Kiel	Up to 3,303 g. 4-66d.; up to 6,606 g. 4-24d.; up to 33,031 g. 3-71d.; above by contract 6-78d.	—	14d. per i.r. up to 2,070d. rent; 20½d. up to 2,760d.; above this 27½d.	—	—	21d.-28d.	—	21d.-28d.	27-6d.	—	—	—	—	—	—	—	13-78d. per 1,000 gs. 276d. to 828d. for .118 to 236 ins. 159d. up to 118 ins.
21. Steele	Up to 3,303 g. 4-66d.; up to 6,606 g. 4-24d.; up to 33,031 g. 3-71d.; above by contract 6-78d.	330	28½d. per i.r.	9½	28½d.	28½d.	20d.	28½d.	38d.	38d.	38d.	86d.	115d.	16d.-12d.	5-7d.	1, 23d.; above that, 8-6d.	13-78d. per 1,000 gs. 276d. to 828d. for .118 to 236 ins. 159d. up to 118 ins.
22. Hamburg	Up to 3,303 g. 4-66d.; up to 6,606 g. 4-24d.; up to 33,031 g. 3-71d.; above by contract 6-78d.	—	14d. per i.r. up to 2,070d. rent; 20½d. up to 2,760d.; above this 27½d.	—	—	21d.-28d.	—	21d.-28d.	27-6d.	—	—	—	—	—	—	—	13-78d. per 1,000 gs. 276d. to 828d. for .118 to 236 ins. 159d. up to 118 ins.
23. Pesh	Up to 5,004 g. 5-83d.; above this 4-66d.	506	34½d. per i.r.	—	34½d.	34½d.	34½d.	34½d.	34½d.	34½d.	34½d.	—	—	21-8d.	2-9d.	Special agreement. 276d. to 1,138d. for .118 to 236 ins. 207d. to 759d.	Special agreement. 276d. to 1,138d. for .118 to 236 ins. 207d. to 759d.
24. Leipzig	Up to 1,982 g. 6-78; above this 5-93d.	660	28½d. per i.r.; draw-off cock in yard up to 4 i.r. 17½d. per i.r.; shops 25% discount.	—	28½d.	28½d.	34d.-138d.	28½d.	34½d.	34½d.	34½d.	34½d. per 10 yard.	—	16d.	2-9d.	1, 69d.; from 2 to 6, 17½d.; above that, 6½d.	1, 69d.; from 2 to 6, 17½d.; above that, 6½d.
25. Posen	Filtered river w. 6-90d.; lake w. 3-49d.; drinking w. 9-33d.	572	For 4 i.r. 15d. min. per r. or 19½d. (lake or river w.); 9-10 rooms 10d. or 13½d.	9½	—	19-6d.	—	19½d.	19½d.	19½d.	—	—	—	8d.	—	—	By meter.
26. Stuttgart	Up to 306 g. 6-36d.; up to 1,211 g. 5-3d.; up to 3,017 g. 4-24d.; above 3-96d. g. 3-18d.	—	18d. min. per room up to 40 sq. yards, larger ones double.	—	18-9d.	—	—	—	—	—	—	—	—	—	—	—	By meter.
27. Zürich	Up to 306 g. 6-36d.; up to 1,211 g. 5-3d.; up to 3,017 g. 4-24d.; above 3-96d. g. 3-18d.	330	17½d. per r. up to 3 r.; 22½d. up to 4 r.; 27½d. up to 5 r.; 34½d. if larger.	—	—	69-103d.	—	69d.-138d.	34½d.	34½d.	34½d.	—	—	1,165d.	3-4d.	1, 103d.; 2 etc., 34½d.	1, 103d.; 2 etc., 34½d.
28. Altona	13-25d.; above 660 g. by special agreement. Up to 484 g. 16-9d.; above this 3-97d.	66	345d. min. per house.	—	—	—	—	—	—	—	—	—	—	—	—	—	By meter.
29. Wiesbaden	Up to 484 g. 16-9d.; above this 3-97d.	484	4% of rent, for whole estates 0-4% discount.	—	—	—	—	—	—	—	—	—	—	—	—	—	By meter.
30. Berlin	Up to 484 g. 16-9d.; above this 3-97d.	484	Up to 3,450d. rent 34½d.; above this 69d. 45d. per i.r.	—	—	11½d.	—	—	—	—	—	—	—	17-2d.-13-8d.	2-9d.	1, 69d.; from 2 to 6, 17½d.; above that, 6½d. 11-5d. each cock.	Special permission. By meter.
31. Zittau	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	Special permission. By meter.
32. Vevey	—	—	—	—	92d.	—	—	—	—	—	—	—	—	66-7d.-41-4d.	—	—	Special permission. By meter.

NOTE.—The expression "By contract" signifies, in case a certain quantity of water has been contracted for at a certain price at certain periods.

In the selection of a source for a water supply it is well, if possible, to avoid mill-streams, as the compensation to be paid to mill-owners may involve a large expenditure, particularly where a mill-owner has power to impound the water. If the water of the stream is taken, a quantity equal to that used by the mill-owner must be returned to it, or compensation be made, either in money, for the substitution of steam machinery, or by water. Where, however, the water can be intercepted at the stream-head before it issues to the surface and flows in a visible and determined channel, no compensation can be claimed by mill-owners on the stream below, for it is not capable of actual proof that any water so intercepted would have flowed into the stream in question. This view is supported by the decision of Judges Martin, Crompton, Bramwell, and Watson, delivered to the House of Lords in the case of *Chasemore v. Richards*.

There is considerable difference of opinion as to whether waterworks should be in the hands of the public authorities or of private companies. In favour of the former it may be said that there are certain facilities in the execution of the works that cannot be obtained, or not obtained so readily, by private companies. Also, as a public authority is not supposed to make a profit out of the ratepayers for the use of the water, it may be presumed that the rates would be lower than would be the case with a private company, who naturally make the payment of a good dividend a matter of greater importance than keeping down their water-rates to the lowest possible point. The presumption that the water-rates of public authorities should be lower than those of private companies is not, however, by any means universally borne out in practice, as there are numerous instances in which public authorities charge a higher rate than private companies. For instance, it was given in evidence on the Sheffield Water (Bradfield) Bill, 1864, that although the cost of the Manchester Waterworks (Corporation) was about the same per head of the population as that of the Sheffield works (private company), yet the water-rates charged in the former town were higher than in the latter. It was also stated that the rates charged by the Corporation of Glasgow were higher than those of Sheffield. It often happens that the direct charges for water by a corporation are less than would be charged by a private company, but frequently there are indirect charges arising from part of the houses being assessed under a general rate, and also from the interest on the money borrowed for the construction of the works being paid out of the general district rate or out of some other fund, that raise considerably the actual price paid for water, and therefore the published rates are no indication of the real charges that fall upon the inhabitants.

Mr. Hawksley, in his evidence before the Royal Commission on Water Supply, gave it as his opinion that waterworks were as a rule better managed by private companies than by public bodies. Public bodies (with some exceptions) are not so successful in checking waste; and the tendency among the ratepayers is to screw down the expenses as low as possible, and to avoid, if they can do so, any extension of their works. In consequence of this their efficiency is often seriously reduced. On the other hand, private companies find it best to extend their works as much as is prudent, and to maintain the same as efficiently as possible. To this they are constantly urged by the public, who are perfectly indifferent about the expenditure, in which they are not at all concerned. Taking all things into consideration, it seems to us impossible to lay down any hard-and-fast rule respecting the proprietorship of waterworks. Each town should be considered separately, and with reference to its character, whether it is a compactly-built manufacturing place or an open-built pleasure or semi-agricultural town. For instance, in a closely packed manufacturing or business town, containing large numbers of the working class, and where the wells and private sources of supply are contaminated so as to be unfit for use, public management of waterworks, if conducted in a disinterested and efficient manner, would most likely prove more satisfactory than that by a private company. And it may be here mentioned in support of corporate control that some large towns—*e.g.*, as Liverpool, Dublin—whose supplies were originally under municipal government, but afterwards became private companies, finding their first system of administration to be better, have reverted to it. On the other hand, taking a town not engaged in any particular manufacture, but with a great length of street in proportion to the population, and containing a large number of semi-detached or villa residences, many probably supplied from private wells, public management is open to several objections. As all would have to pay the public water-rate, so all would be entitled to a supply from the waterworks. To give this supply would require a great length of distribution main, thus adding seriously to the first cost. Then, again, public bodies have the power of raising compulsory rates; and, as often the interest of the money borrowed for the construction of the works is paid out of the general district rate, to which each ratepayer contributes, those who have a private supply are compelled to pay for benefits they do not receive. A private company has no power to make compulsory rates, and if any person requiring water within the limits of their special Act guarantee to take the supply for three successive years, and the aggregate annual amount of water-rate chargeable by the company be not less than one-tenth of the expense of providing and laying down the pipes, the company are obliged to supply the water. So that with a private company the objections just referred to in relation to public management are avoided.

Private water companies are, as a rule, profitable investments. It is an established fact that where waterworks have cost £3 per head of the population for a pumping scheme, and £4 per head for a gravitation scheme, they have paid dividends of £5 per cent. and upwards. The following shows the dividends paid by the Neath