

The CHAIRMAN announced himself in favour of provision for the after years of Inspectors, but thought that it must be met by the Inspectors themselves contributing out of their salaries, by the Local Authorities paying an amount during the good behaviour of their officers into the fund at command of the Local Government Board, and by the Local Government Board supplementing it by a grant from the Imperial Exchequer to enable the officials to retire comfortably after a certain number of years.

Mr. J. OSBORNE (St. Pancras) had been much struck by the consensus of opinion which had run through the papers. They found that the status of the Inspector wanted considerable improvement, and they were agreed as to the way in which the improvement should take place. He had had considerable experience—over sixteen years—as a Sanitary Inspector, and he must say that the men he had come in contact with were never open to any bribery. The duties of Inspectors of Nuisances were certainly very varied, but in the President's address he thought that that gentleman travelled a little beyond the duties and even the powers of a Sanitary Inspector. At the present time they had nothing whatever to do with the construction of the drainage, or the sanitary condition, of a house until it was occupied. In his opinion it was one of the great curses of their work that the construction of the drainage and sanitation in many districts at the present day was left to take care of itself. The jerry-builder employed a navvy, and he was the sanitary engineer, throwing in his drain and getting it out of sight as soon as possible. The British workman was the best in the world if his work could be seen, but if his work could not be seen he was certainly the worst. The construction of drains in new properties should be under the supervision of a practical sanitary officer, who should be responsible for their proper construction and be in a position to give a Certificate. With respect to the knowledge that was necessary for an Inspector previous to holding an appointment, he greatly believed in the officer being thoroughly conversant with the whole of the different sections of the building trade; unless, too, Inspectors had tenure of office made secure, there was a tendency to make them shirk their duties.

The CHAIRMAN moved a vote of thanks to the writers and readers of the papers. He gave expression to the hope that there would be an alliance of Sanitary Inspectors throughout the kingdom.

Mr. WASHINGTON LYON seconded. He thought that the day was not far distant when the Sanitary Inspector would be looked upon as almost second to the Doctor.

Mr. STEERS having replied, an acknowledgment of the valuable services of the Secretary (Mr. A. Perry) was made by the Chairman, and duly replied to.

THE SANITARY ASPECTS OF ELECTRIC LIGHTING.

LECTURE TO THE CONGRESS.

By W. H. PREECE, F.R.S., M.Inst.C.E., &c.

Electrician to the British Post Office.

THE chief tendency of modern legislation in our British Parliament is to improve the environments of the human frame, so that we may live, and move, and have our being with greater health to the individual, and greater prosperity to the nation. The cleanliness of dwellings, the drainage of towns, the removal of filth, the suppression of nuisance, have not only been specified but the inspection of the means to effect these objects and of their results are defined and insisted upon by Acts of Parliament. People often speak disrespectfully of our grandmotherly Government, but at least in this region of domestic legislation, the control it has exercised over the food we eat, the water we drink, the air we breathe, is of a true parental order, and deserves our unreserved admiration and respect. The Home Office and the Local Government Board act the part of a wise and economic head of the house to the nation, while each community has its own Local Board or Authority to carry out hygienic provisions, to enforce sanitary principles, to prevent infection, to stamp out disease, to sweeten labour, and to prolong life.

I contemplated at one time submitting an historical summary of these features of sanitary legislation during the present generation, but not only would the task be very onerous, but it would be so lengthy that I should have very little time left to discuss the question set before me—the Sanitary aspect of Electric Lighting.

The propositions that I propose to submit and to demonstrate to you are these:—

1. That electricity and light being analogous forms of

energy, the former is naturally the proper source of artificial illumination.

2. That all other sources of artificial illumination being dependent on the absorption of oxygen, and resulting in the vitiation of air are injurious to health.

3. That the same authority which regulates the sanitation of our dwellings and the supply of our food, should also control the purity of the air we breathe, and of the light we work by.

Light, however it be produced artificially, is simply the equivalent of work that has been done elsewhere. Whether it be by the combustion of tallow or oil, by the burning of coal or of gas, by the glowing of a fine wire, or the formation of the brilliant arc, energy has been expended somewhere, to be transferred and reproduced in some other place in the form of light. The great principle of the conservation of energy teaches us that the amount of energy in the universe is a fixed quantity, that it can be neither created nor destroyed, that it can only be transferred, and that any expenditure of energy—work done—anywhere is the equivalent of energy utilized somewhere else. The rate at which this energy is expended is called *power*, and the amount of power which we foolishly call a *horse-power*, and which we roughly imagine to be equivalent to the power exerted by a horse in drawing a load along a road, is competent to produce an amount of light which is very simply measured. Our standard of light is the light given by a No. 6 sperm candle, burning 120 grains per hour. Now the energy of one horse-power constantly expended will give by the aid of

Tallow	... ..	the light of 6 candles.
Sperm	... ..	" 8.7 "
Oil	... ..	" 9 "
Gas	... ..	" 13 "
Electric current—Glow	"	248 "
" Arc	"	1492 "

The results to the air of these different modes of producing artificial illumination are well shown by the following Table:—

Products of Combustion in developing 100 candles per hour.

Illuminant.	Quantity Consumed.	Carbonic Acid Produced.	Water Vapour.	Heat.
Tallow	lbs. 2.2	Cub. ft. 51.2	lbs. 2.3	Calories. 9,700
Sperm	1.7	41.3	2.0	7,960
Oil	1.3	33.6	1.8	7,200
Gas	56 Cub. ft.	40.3	2.5	12,150
Electricity	(Coal) 2.2 lbs.	0	0	257

Thus we see how very much more efficient electricity is than any other agent for the production of light.

The tendency of the teaching of the present day, is to show that the transmission of light waves and of electrical undulations, is of the same character and at the same speed. Clerk Maxwell by theory, and Hertz by experiment, have placed this beyond doubt. A current of electricity passing through a fine filament, first raises its temperature, and then as the current is increased in strength, it glows brighter and brighter until finally it is disintegrated and dissipated with great brilliance, and the light disappears. There has been no chemical consumption of material. The passage of the current has resulted in light, and light seems to have been the natural sequence of the flow of electricity. Energy has however been developed somewhere. There is a boiler for the production of steam, an engine for the application of power, a dynamo for the formation of electric current.

Gas has to be extracted from coal, purified in gas works, distributed through pipes, and chemically combined with the oxygen of the air in jets or burners.

The simple candle, however, is its own gas works. We simply apply a match and the flame itself becomes boiler, engine, and light emitter combined.

In all cases, therefore, we have to consider—

- (a) The source of energy.
- (b) The distribution of energy.
- (c) The utilization of energy as light.

The sources of energy at our disposal are—

- Wind.
- Water.
- Coal (steam).
- Gas.
- Mineral oil.

The inconstancy of the wind in our climate renders it inapplicable for the steady and constant supply of power required for artificial illumination.

Water, on the other hand, is an unfailing source of power in some countries, but the quantity required to produce even small effects is opposed to its use anywhere but in mountainous or hilly districts where it is abundant. It requires a quarter of a ton of water falling one foot *per second* to produce one horse power, or falling ten feet to produce ten horse power. If we wish to maintain ten ordinary electric glow lamps alight for five hours with a fall of ten feet we should require 100 tons of water per hour, or 500 tons altogether.

At Keswick, in Cumberland, a central station has been established, which is worked by a fall of twenty feet of the water of the river Greta, generating fifty horse-power by means of a turbine. At Portrush, in Ireland, a fall of twenty-six feet generates currents that work a tramway to the Giant's Causeway. Many private houses in Scotland are so lighted.

There are innumerable places in the United Kingdom where this power is being allowed to run to waste. The non-utilization is due probably to ignorance, and ignorance as much as indifference is the great obstruction which all new industries have to overcome, even when practicability and economy are almost self-evident.

The power of running streams and of the tides is used in some countries for grinding corn, but the power utilizable is small, and no practical means have yet been introduced to employ them for small installations of electric lighting, though busy minds are actively engaged on this neglected field.

Steam and therefore coal becomes in all comparatively flat countries the principal source of power, while for small installations, gas and mineral oil are extremely convenient cleanly and economical suppliers of energy. Indeed, gas as a source of heat is coming more and more into use, and if a cheaper form of gas, such as water-gas were distributed for fuel purposes—as it probably will be in the future—it would solve the difficulty of the transit of coal, and prevent the possibility of that nuisance, the formation of smoke in the midst of shops and dwellings.

The power that is thus expended is employed in developing electrical energy. Motion is imparted to coils of copper wire in a field of magnetism, and a certain resistance has to be overcome when the lines of force in this field are cut by the wire; the energy of motion is absorbed, it takes the form of electricity, and as an electric current it can be transmitted to a distance, and there utilized. The amount of energy which is found in the form of currents is that delivered by the belt of the engine to the dynamo, less a small amount wasted in friction and in heat in the metal of the dynamo; but this is so small that it is a common thing now to obtain dynamos with an efficiency of 94 per cent. that is, 6 per cent., only of the power applied to it is lost as heat in the dynamo itself.

If a child has a skipping rope made of copper wire and, with its face turned due North or South, it skipped, the rope would cut the lines of magnetic force of the earth in the proper direction, the rope would experience resistance, energy would be absorbed by the rope, and electric currents would be developed from hand to hand of the child. The child thus becomes an animated dynamo. The lines of force of

the earth flowing North and South are cut twice in each revolution of the skipping rope, but alternately in opposite directions. Hence the currents generated are alternately flowing in opposite directions, and the child becomes an alternate current dynamo. It is a very simple thing to straighten these currents and to make them flow continuously in the same direction, and to convert these alternate effects into continuous currents flowing in the same direction.

Now, all electric currents require an electro-motive force, or a difference of electric pressure to drive them through the resistance of metallic conductors, in the same way that water and gas require pressure to drive them through pipes. This electro-motive force in the case of the skipping-rope is very minute, because the intensity of the earth's magnetic field is very small (it is only $\frac{1}{20000}$ th of the field of an ordinary dynamo), the motion of the rope is comparatively slow, and there is only one cutting conductor. If we increase the number of conductors, their speed, and the strength of the field, we can magnify the electric pressure to any amount.

All new ideas require new names to indicate them, and if they are new quantities capable of measurement, they require new units to compare them with numerically. Difference of electric pressure is called voltage, and the unit of comparison is a *volt*. The skipping rope develops only a very small fraction, about $\frac{1}{4000}$ th of a volt. There are now dynamos at Deptford which will generate 10,000 volts, and a flash of lightning is the result of perhaps millions of volts. The human frame is very sensitive to voltage, 50 volts is scarcely perceptible, 100 volts give a distinct though slight shock, 500 volts are painful, and 1,000 volts might probably under certain circumstances kill a man, 10,000 volts if effective through the whole frame would certainly destroy life. We have recently read of a deplorable attempt in the United States to utilize this power for the execution of criminals, an attempt surrounded with sickening horrors, the result of the ignorance that exists at present as to the effects of electricity on the human frame.

The unit of electric current by which measurements are made is called an *ampere*. If an ampere be circulated around a bar or ring of iron, it will magnetize it with a definite amount of magnetism dependent on its dimensions and quality.

If it be transmitted through a bath of nitrate of silver, it will deposit four grammes of silver per hour. If it be driven through a fine filament of carbonized cotton six inches long, such as Edison and Swan use for their glow lamps, by an electromotive force of 100 volts, it will develop a brilliant light of 32-candle power.

The actual energy conveyed by the current is measured by the product of the volts and amperes, and this measures the rate at which energy is being transmitted or expended. The unit of measurement is called *the watt*, which is a much more scientific and accurate unit of power than the absurd horse power that has become so rooted among our engineers. A man in pumping expends about 50 watts; in rowing a race he expends about a 100; in running rapidly up-stairs he expends 500 watts for a few seconds; a horse drawing a load on a level road expends about 500 watts. The so-called horse power is 746 watts. An ordinary arc lamp consumes 500 watts, and an electric tramcar going at seven miles an hour on an average tramway, requires a mean power of about 3000 watts.

Electrical energy is measured and paid for in 1000 watts or in *kilowatts* delivered per hour. A kilowatt-hour is called the Board of Trade unit of electrical energy, and it is defined in all Provisional Orders confirmed by Act of Parliament, thus:

"The expression 'unit' shall mean the energy contained in a current of one thousand amperes flowing under an electro-motive force of one volt during one hour."

This Board of Trade unit has not yet received a name. I have proposed to call it a *Bot*, from the initial letters of the Board of Trade, but there is generally a very strong aversion to a new name, however much it may be wanted, and we have during the past few years had a plethora of new names in electrical science.

One Board of Trade unit will keep an ordinary 10-candle power glow lamp alight for 30 hours, or it will keep 30 of such lamps alight for one hour. In Newcastle this energy costs 4½d., in Liverpool 6d., in London 7½d., and in most other places 8d. Taking the cost at 6d., a 10-candle power glow lamp would cost one-fifth of a penny per hour, which is the cost of a 5-foot gas burner at 3s. 4d. per 1000 cubic feet. There is thus very little difference between the price of gas and that of electricity.

The output of a dynamo is measured in watts, and, as the number of watts in ordinary dynamos is necessarily numerous, the *kilowatt*, or 1000 watts, is the unit employed. Thus, a dynamo of 100 kilowatts develops energy equivalent to 134 horse power, and as, for ordinary purposes, the ratio of the power utilized as electric current to the power indicated in the cylinders of the engine may be taken at 80%, it will follow that it will require 160 horse power to drive such a dynamo at full load.

The relations between mechanical and electrical measurements are thus very simple and wonderfully accurate.

100 kilowatts, or 100,000 watts, deliver sufficient energy to illuminate 3,000 10 c.p. lamps, and one of the most difficult problems which the electrical engineer has to solve is to design the best and most economical method of distributing this energy over an extended area. If the distribution be confined to one big building, like the Pavilion in Brighton, or the Post Office in London, the solution is simple. If it be over a widely scattered district, like Croydon, Wimbledon, or the districts of the great vestries of London, the solution is complicated. Every district must be governed by its own conditions, and be controlled by its own environments.

There are several modes of distribution under high pressure or low pressure; by means of alternate currents or of continuous direct currents; by two wires or three wires or five wires. Then again, the supply may be for light or motive power, for street lighting, or for private lighting. If it be by high pressure, say of over 300 volts, then, as such pressures cannot be admitted into our houses, there must be a reduction of this pressure to the safe and ordinary 100 or 50 volts by means of alternating transformers or of secondary batteries.

The ruling guide is of course economy. A certain number of kilowatts are generated in the central station, at a price per hour that is easily obtained from the coal bills, the stores list, and the wages sheet. A certain proportion of this energy is delivered to the consumers, and paid for by them by meter or by contract. A certain proportion is lost:—wasted as heat in the apparatus and conductors. What is the proportion between the energy paid for, and that generated by the central station? What is in fact the efficiency of the system? It is difficult in the present tentative and youthful condition of the industry to obtain a true answer. Most central stations are in their pioneer condition. I have however, examined the figures of certain well known systems, from which I gather that we may estimate the following efficiencies as fairly practical:—

Low pressure—

	Efficiency.
Continuous direct current.....	90 per cent.

High pressure—

Alternate current	60 "
Direct current battery	50 "

In fact, one Company—the St. James and Pall Mall—working on the low pressure system, have on the first half-year of 1890 secured a return of 94·3 per cent. on the energy delivered, while another company, working on the high pressure battery system, secured only 29 per cent.

In January of this year, at the Kensington Court Central Station, working at low pressure, 25,893 bots were registered and paid for, as against 28,291 generated and distributed, representing an efficiency of 92 per cent. At Dacre Street, Westminster, also working at low pressure, in the quarter ending June 24th—the summer and lowest quarter—the efficiency was 84.4 per cent. At the House of Commons the efficiency has been 89.8 per cent.

A simple way of looking at the matter is to find out the coal consumed per bot paid for by the consumer. It comes out—

Low pressure 9 lbs.

High pressure 17 lbs.

It is worth noting that it would require 38 lbs. of coal distilled in the gas works to produce the same light by means of the ordinary fish-tail burner.

The misfortune is, that the low pressure system is applicable only to confined and restricted districts. It involves the use of such heavy conductors, that as the district increases in extent, the weight of copper required varies as the third power of the radius of the area served. While with the high pressure system the weight of copper required diminishes with the pressure used.

It must however be recollected that the use of high pressure involves the use of very highly insulated conductors, and therefore what is saved in copper may be expended in insulation. The question that decides the economic use of high or low pressure is the distance or length of mains and feeders, when the difference between 17 and 9 lbs. of coal (or a penny per bot) is swallowed up in interest on capital and waste of energy in the heavy conductors required by the low pressure system.

The consequence is that while compact areas, covered by a radius of half a mile, are best served on the low pressure system, those supplied beyond a radius of one mile can be served economically only on the high pressure system; while the intermediate range is to be considered simply with reference to its own requirements and its own conditions, such as the supply of water and of coal, the convenience of water and railway carriage, the value of land, the demand of residential districts, and of manufacturing and business quarters. Each district must therefore be dealt with on its own merits.

In London at the present moment several different systems are being used or installed for very similar districts. Thus we have the alternate current transformer system at Brompton, St. Martin's, St. Giles, and the various portions served by the London Electric Supply Association, the high pressure battery system in Chelsea, the low pressure system aided by secondary

batteries to regulate pressure and to maintain the supply of energy during the small hours of the morning, or when breakdown or cases of emergency arise, in Kensington, Westminster, St. James's, Notting Hill, and St. Pancras. The proper system to be used is therefore still in a tentative condition.

The great question that divides the merits of the high and low pressure is that of safety to person. Grossly exaggerated accounts of accidents in America have seriously prejudiced the public mind against the high pressure system. If people only saw for themselves the conditions that surround the distribution of electricity in the United States, they would not be surprised at the accidents that have happened—they would wonder at their being so few. Poles are frequently carried down the principal streets of the towns carrying open telegraph, telephone, fire signal, and electric light wires, all together on the same support, without any particular rules or regulations. A lineman who ascends a pole to attend to a telephone wire is very apt to touch suddenly an electric light conductor. He receives a shock, and is thrown down perhaps on the ground and killed, or perhaps among the other wires, where he may be probably burnt or otherwise injured.

Such things are impossible in England. Mains and conductors must, by legislation, be placed underground in all towns; but where they are for local reasons placed overground, they are subjected to carefully prepared rules and regulations, and to watchful and constant inspection. A high pressure conductor would certainly be dangerous if it were handled, but it should never, under any circumstances, be so placed as to be in a position to be touched by anyone but the skilled technical men who have the charge of its maintenance. There is no case on record of anyone being hurt on a well designed underground system.

The great hygienic advantage of the electric light when illumining our dwellings and our workshops is not that it purifies the air, but that it prevents the air from being vitiated by the introduction into it of the products of combustion, such as carbonic acid, carbonic oxide, sulphurous acid, &c., it prevents the air from being weakened by the abstraction of oxygen, and it prevents it from having its temperature raised by undue radiation, and by throwing into it heated gases.

While legislation and the greatest possible stringent regulations have been drawn up to prevent the adulteration of food and the poisoning of water, scarcely any attention has been devoted to the prevention of the admission of noxious gases and poisonous vapours into the air of our habitations. Carbonic oxide is a poison of the deadliest character, and gas jets are

freely used which deliver copious discharges of this dangerous gas into the atmosphere of our rooms. If we were consistent in our legislation, we ought to forbid the use of any burner which thus poisons the air. A man at rest exhales 00.124 cubic feet of carbonic acid gas (CO₂) and 1189 cubic feet of air per pound weight per hour, while a gas jet burning 5 cubic feet of coal gas exhales 4 cubic feet of CO₂. The maximum proportion of CO₂ to air consistent with health is 6 volumes in 10,000, 10 volumes affect the heart, and 30 volumes produce headaches. Rheumatism, bronchitis, and other ailments proceed from higher proportions. In fact, 5 cubic feet of gas requires 8,000 cubic feet of pure air per hour to maintain it healthy. The electric light requires no such provision.

That the electric light is a powerful element of health is evidenced by the fact that those who use it not only feel all the better for its introduction, but their appetite increases, and their sleep improves, and the visits of the doctor are reduced in frequency. Workpeople work all the better, and absences from illness are far less frequent. In the Savings Bank in Queen Victoria Street, London, where 1,200 persons were employed, the absences from illness were so far reduced, that the extra labour gained paid for the electric light. In Liverpool and many other places the same result has been observed.

The influence of artificial light on the eyes has a very important sanitary bearing. Why is it that there is so much short-sightedness in the present day? Is it due to our mode of producing light? Some assert that the injury to the eyes is due to the heat rays and not the light rays. If that be so the electric light must be much less injurious than any other. On the other hand, no one can have experimented with arc lamps without having had his retina painfully affected, which leads one to think that the ultra-violet rays have some influence. No one has, however, ever complained of the influence of a steady glow lamp upon the eyes, and it is possible to read and to write for many hours by such a light without experiencing the least fatigue.

The electric current is not altogether free from being a cause of fire, and though its use is by no means very general, still it is used sufficiently to make itself felt as an element of danger in this respect. The following table shows the number of fires in London which can be traced to the different methods of lighting:—

	1887.	1888.	1889.	Total.
Lamps	245	205	257	707
Gas	188	197	209	594
Candles	142	113	136	391
Electricity	0	1	2	3

The progress of the electric light in our homes has been much more rapid in England than in any other country, but its employment for street-lighting, for shops and manufactories, has been infinitely more rapid and extensive in the United States than with us. In America the growth has been enormous. There are now 250,000 arc lamps, illuminating the public streets and shops, and 3,000,000 glow lamps in dwellings, stores, and workshops.

The following Table shows the development of the Berlin Central Stations:—

Station.	Effective Horse-Power.						When Completed.
	1884	1885	1886	1887	1888	1889	
Friederickstrasse	300	300	300	300	300	300	300
Markgrafenstrasse .....	...	1000	1000	1000	2400	2400	3100
Mauerstrasse .....	...	...	500	1250	1250	2950	4950
Spandauerstrasse .....	...	...	...	...	...	2000	4000
Schiffbauerdamm .....	...	...	...	...	...	1000	6000
Total	300	1300	1800	2950	3550	8650	18350
16 c.p. lamps, or equivalent	2500	4600	13229	24660	34750	...	...
Kilometres of cable .....	...	8	10	15	25	75	...

The progress in England has been very much checked by inordinate speculation and by terrible failures in some of the earlier work done. There is something very captivating in the practical applications of electricity, and something romantic in its mystery. The neophyte has rushed into it with remarkable fervour, and the lessons of failure have in consequence been very severe. The users of the light have also been paying heavily for the education and experience of amateur tradesmen and inexperienced contractors, and have neglected to avail themselves of the professional services of the experienced electrical engineer. People who would not build houses without the architect, nor construct bridges without the engineer, nor make their wills without the lawyer, rush wildly into the use of electricity without any professional assistance, where, above all things, experience and knowledge are essential to prevent disaster and disappointment. Large installations have been completed without specifications to guide the contractor, and without inspection to see that the work has been properly done. The user has paid violently for his temerity, and fires and accidents have been the result. The heavy price of wiring

a rented house, and the expensive character of the fittings proposed, have deterred many from adopting the light, even when it is within their reach. Highly insulated wire is unfortunately expensive. All cheap wires are nasty and dangerous. There is nothing that becomes the electric light better than simplicity, and its effect is frequently marred by elaborate brass work. It possesses also most active and widespread opponents, both in oil and gas—opponents who have benefited by its introduction, and who are not slow to profit by its advance. The improvements in gas and oil lamps are as marked as the advancements in electric light, and as means of artificial illumination alone—that is as far as light-giving power is concerned—there is little choice between the three, but oil and gas cannot lose those elements of discomfort and ill-health which differentiate them from the cool and pure glow lamp.

A very important question arises for discussion. Legislation has slipped in to place the virtual control of the supply of electrical energy in the hands of the local authority of the district to be served. Is this supply to be the result of the capital of private enterprise, or is it to be effected by raising money on the security of the rates?

It is argued that the supply of electricity being a purely commercial undertaking, it should therefore be carried out by a limited liability company. The Acts of 1882 and 1888 do not encourage monopoly, but rather court competition, and competition attracts capital. Competition properly regulated and controlled secures economy in supply, and certainly enforces economy in working, while it encourages improvements, and induces perfection of apparatus and novelty in processes. These arguments are plausible, but are easily refuted by those who desire to uphold vested monopolies. Direct competition always means ultimately enhanced cost to the public, for the same public has to pay for double plant, and each competitor only gets half revenue.

The supply of light is in precisely the same category as the supply of water or the supply of gas, and the days have certainly passed when the public will tamely submit to the transference of their right to such vested interests as those of water or gas companies.

It is very easy to argue pro or con on each side. The local authority has to regard the security of traffic, the safety of person, the repression of crime, and the proper supervision of the premises of its ratepayers. It is the custodian of the public interests. It has to control the health, cleanliness, comfort, and beneficial sanitation of its habitable dwellings. It therefore must secure the best light, and if it can do this, and at the

same time relieve the rates which are generally creeping up to dangerous dimensions, then its action would be wise and economical. But it would be entering into commercial rivalry with an active competitor—the Gas Companies; and its commercial control by such a shifting authority as a committee of a Town Council or of a Local Board, subject to the changes of political warfare—to the vagaries of press dictation, and to the fear of November elections—is a very doubtful proceeding. On the other hand, in many instances, such bodies have successfully dealt with the water question, the tramways, and even with the gas. In fact, one-third of the gas capital (21 millions) in this country is in the hands of 173 Local Authorities, and more than half a million of profits go to the reduction of rates.

Bradford has already grappled with the question. It has established a central station for the supply of the electric light. Brighton, St. Pancras, and Bristol are doing the same, and many other places are following suit. They are shying at the probability of handing over their districts to a speculative company, with a virtual though not a legal monopoly, to supply electrical energy for 42 years. Many corporations contemplate a middle course. They have obtained the power for themselves, but they have farmed for shorter terms the right of supply to private enterprise, which can do what they are afraid to do, viz., speculate and experiment. The Board of Trade has sanctioned and facilitated such a transfer of statutory rights.

It is surprising that Gas Administrations in England have not been more enterprising in developing Electric Lighting. In Vienna, Rome, and Stockholm the Gas Companies have established Central Stations, and the progress of the industry in those cities is very great. The proper function of gas is to supply heat, not light, and as a source of power it has a future more brilliant than its past. If it could be supplied as fuel it would remove the troubles of coal transit and storage, of ash and dust removal, of smoke and of stoking. It has even been shown that it is cheaper to convert coal into gas on the spot, and to use the gas as the source of power, than to apply the coal direct for the production of steam in boilers. The waste of energy in the use of coal is enormous. The energy contained in one pound of coal if burnt in one hour is theoretically sufficient to supply 5·6 horse-power for that hour. The best practical result yet obtained by the steam engine is scarcely one horse-power.

The electric light is unquestionably the light of the future. Its use is advancing with leaps and bounds. Not only is it naturally the proper source of light, but economically it must

eventually supplant its rivals. When electrical energy is generally distributed through our towns, and its supply is continuous, and properly controlled, so that it is always within the reach of all; and when means can be devised to wire up houses as cheaply as they are now fitted for gas, everyone will take it, not alone for its beauty, but because it is, above all, a source of health and comfort.

WORKING HOURS FOR WORKING MEN.

LECTURE TO WORKING CLASSES.

By B. W. RICHARDSON, M.D., F.R.S.

DR. RICHARDSON brought the work of the Congress to a close by delivering a lecture to the working classes. Choosing for his subject, "Working Hours for Working Men," the Lecturer opened by expressing regret that at such congresses as these the working classes could not take an active part throughout with the other members, and he anticipated the day when this would certainly be done. He then proceeded to treat on work as every man's portion, and on the value of work, not only as a fact, but as an idea, provocative of good results even from the humblest worker. Next he dwelt on the will in relation to work, and coming to the apportionment of work in relation to hours of work, from a sanitary and health point of view alone, he fixed on the period of eight hours as an excellent standard of time, not absolute, because quality of work varied so much, but as a fair average. The reason why such a standard is not followed, is not so much the fault of the employer or employed, as of the public at large, which continually, in the most exacting manner, makes hard workers keep long hours really for no useful purpose whatever. One part of the great reformation in hours of labour should therefore begin by lessening the demand for long hours through all classes of the community. Bodily powers and hours of work then came under review, in which review it was first shown that, whether he will or not, every man has to perform an amount of work which is rather startling when it is fully computed. Thus the work performed by the heart of a man every twenty-four hours, equal to the task of raising one hundred and twenty-two tons one foot, is of itself a striking illustration of work that must be done. This was followed by a description of added work thrown upon the body by daily labour; and here it was indicated that it is not usually the case that work injures by being thrown on the body as a whole, but

by its being thrown upon one particular part or organ of the body, which thereupon wears out first, and is the cause, by its failure, of premature death. From the same circumstance certain occupations wear out life much sooner than others, and in these limitation of hours of work ought always to be insured. Three classes of work are of special moment: (1) where with bodily exertion the intensest watchfulness is demanded—example, the railway engine driver; (2) where the work is one continued grind and monotony—example, the postman; (3) where the work is excessively hard, as in pile driving, by which the full natural work of 240 foot tons per day may be raised to a third more. Dr. Richardson also noticed occupations in which the body, while at work, is in a bent position. In every such instance the period of eight hours for work is the maximum, and is often too long. In other occupations where work is intermitted or is very light, although hours may seem long, the labour may not be hurtful. In essence the argument went to show that for health's sake work ought to be measured out according to the strain which it puts on the body or the mind, or on both together; and the lecturer's contention was that work might be measured out on the principle of adapting this application of the powers of man to his proper working necessities.

Some objections which might be made to the arguments that had been advanced were next stated and met: such as the objection that man is not a mere machine; that some luxuries, like indulgences in alcoholic drinks, may wear out more determinately and rapidly than the hardest work; and that many men who have no occasion to work injure themselves by physical pleasures and labours quite as much as those who work for their bread. The objections were admitted in so far as results might be concerned, but it was urged that between these self-imposed means for shortening life and the work which is inflicted by assumed necessity during daily working-class labour there is no necessary connection whatever.

To the varieties of wearing labours to which reference had already been made, Dr. Richardson added several others, and supplied a number of facts showing how under many occupations specified life was necessarily shortened. He showed also how in the same occupation, that of the blacksmith for example, the value of life is reduced by the addition of hours of extra work to hours of ordinary and fair work.

The latter part of the lecture was devoted to the subject of relaxation of work, days of rest and of recreation—holidays. The necessity for full recreation was strongly insisted on. Of all things, Sunday ought to be retained as a day of rest from labour, not in the fashion of the Jewish Sabbath, nor in the

stern Puritan fashion, but as a day of pure and rational rest, with change of mind as of body from the common toils of the week to communion with the Lord of Nature in all His works and ways, and through those who present the beautiful in nature with the greatest art and greatest purity. With an eight hours system of labour, there must be introduced a better system of recreation during week days, in which good music must play a first part. Dr. Richardson repudiated *in toto* the notion that working men and women were not wishing for better and healthier pleasures than any they had up to this time enjoyed. To them recreation has never yet come in good form, but it will come in good form with the effect of lightening the pressure of common labour, by inducing new labourers to enter the wider fields of art and learning for the instruction and entertainment of the people.

Bank holiday formed the last topic, on which debatable subject Dr. Richardson broke new ground. He contended that bank holiday, from its crush, its shortness, and head over heels character, and with its entire dependence on the weather for pleasure or pain, ought to be revised, and that working men and women, like those of other classes, should have their longer vacation at convenient times or as they required it for the recreation and health of them and their families.

Touching the whole question of labour, an example bearing to millions of minds a meaning as beautiful as it is forcible requires to be set. The yoke must be made easy, the burden light, before the healthy working heart can beat out to its full days the healthy body and the healthy mind.

OBJECTS OF THE INSTITUTE, RULES FOR THE ADMISSION OF MEMBERS, &c.

The Objects of the Institute are: To promote the advancement of Sanitary Science in all or any of its branches, and to diffuse knowledge relating thereto.

Examinations are held, and Certificates of Competency in Sanitary knowledge are granted. The Examinations are held in London and also in Provincial centres, and as at present arranged, are adapted for Local Surveyors and Inspectors of Nuisances.

Courses of Lectures and Demonstrations for Sanitary Officers, specially adapted for Candidates preparing for the Institute's Examination for Inspectors of Nuisances, are held twice a year preceding these Examinations; a nominal admission fee is charged for each course.

A Congress for the consideration of subjects relating to Hygiene, and an Exhibition of Sanitary Apparatus and Appliances, are usually held annually by the Institute.

Fellows, Members, and Associates are entitled to attend all meetings and Congresses of the Institute, and to take part in the discussions, and have free admission to any Conversazione given by the Institute, and to Exhibitions of Sanitary Appliances held in connection with the Institute, so long as they continue to pay their Subscription.

Holder of Half-Guinea Congress Tickets are entitled to the use of the Reception Room in the town of meeting, and to admission to the Presidential and other Addresses; to all the Meetings of the Congress; to the Exhibition of the Institute; and to any Conversazione given by the Institute.

At the Congress many valuable papers in connection with Sanitary Science are read and discussed, and are printed in the volume of Transactions, which volume also contains a Report upon the Exhibition of Sanitary Apparatus and Appliances held in connection with the Congress.

Sessional Meetings of the Institute are held in London from time to time, for the reading of papers and for discussions upon subjects connected with Sanitary Science.

Lectures and Demonstrations for Medical Men, on subjects relating to Hygiene, are given in the Summer months.

Lectures on Domestic Hygiene, specially intended for Ladies, are given during Lent.

The Parkes Museum, which is maintained by the Institute, contains a great variety of the most approved forms of apparatus and appliances relating to health and domestic comfort—for instance, the drainage of the Museum itself has been planned by Mr. ROGERS FIELD, M.INST.C.E., and Professor W. H. CORFIELD, M.A., M.D., and has been arranged so as to be open to inspection; by which means a practical illustration is afforded of one of the best methods of overcoming difficulties commonly met with in the drainage of town houses.

There is a continuous water supply, and about forty of the most approved forms of Sanitary Apparatus, consisting of Closets, Water Waste Preventers, Flush Tanks, &c., are arranged in a separate corridor, and may be seen in operation.

Various forms of Drain Pipes, Soil Pipes, Disconnecting Apparatus, and Models of Systems of Drainage, are on exhibition.

Numerous methods of Ventilation and Warming are exhibited.

Stoves, Fire-places, and Gas Stoves, which combine recent Hygienic improvements, are in use in the Museum, and others are on exhibition. Cowls and Terminals for Chimneys, Air Shafts, and Drain Ventilators, are on view.

Various gas-lights, arranged to prevent the products of combustion from mixing with the air of the room, are in use in different parts of the building.

Specimens showing methods of, and materials for, house construction, as well as materials applicable to the treatment of walls, floors, and ceilings are exhibited, together with Models and Plans of Dwellings, Hospitals, and other buildings.

The Museum contains an admirable collection illustrating the constituents and preparation of food, arranged by Mr. THOMAS TWINING, of Twickenham.

Professors of Hygiene are allowed the use of the Museum for Demonstrations to their Students.

In order to preserve the Educational character of the Museum, it

is essential that the Council should be continually adding new inventions to the collection, and as the space is limited, it is necessary for them to retain the power of changing the exhibits from time to time; this precludes any charge being made to exhibitors for space in the Museum.

There is a large Library of Sanitary Literature, which contains, in addition to standard works on Sanitary Science, a collection of Reports of Medical Officers of Health over the whole country; and a Reading Room supplied with the principal Sanitary periodicals, both home and foreign.

The Council earnestly request authors of works on Hygiene and the allied Sciences to present copies of their books to the Library.

The Museum is open daily from 10 a.m. to 6 p.m., and on Mondays to 8 p.m., and is free to the public except when Lectures or Meetings are being held. The Library and Reading Room are open daily from 10 a.m. to 6 p.m., for the use of Members, Associates, and Students.

Members are elected by ballot by the Council. The Admission Fee payable by a Member is £3 3s., and the Annual Subscription £2 2s.

Any person elected a Member who shall either be a Medical Officer of Health, or have from some Examining Body a Sanitary Science Certificate (the sufficiency of which Certificate shall be recognised by the Council), or be both a Surveyor having his appointment from some Parliamentary Sanitary Authority and a Member or Associate Member of the Institution of Civil Engineers, or hold the Certificate of the Sanitary Institute of Great Britain or of this Institute, of competency for the appointment of a Local Surveyor, shall pay the smaller Annual Subscription of £1 1s., and shall be exempt from the payment of any Entrance Fee.

Members desirous of becoming Life Members may do so on payment of £21, in lieu of the Annual Subscription.

Fellows are elected by the Council from the Members of one year's standing, on one or other of the following grounds:—

1. That he is an eminent man of science. 2. That he is a person of distinction as a legislator or an administrator. 3. That he is a person who has done noteworthy sanitary work.

Honorary Fellows.—Foreigners distinguished in connection

with sanitary science can be elected by the Council. Honorary Fellows are not corporate members of the Institute.

Associates are elected by ballot by the Council. The Admission Fee payable by Associates is £2 2s., and the Annual Subscription £1 1s.

Associates who, at the time of their election, shall either have received the Certificate of the Sanitary Institute of Great Britain or of this Institute, of competency for the appointment of Inspector of Nuisances, or who have held the appointment of Inspector of Nuisances in any district at the date of the incorporation of the Institute, shall pay the smaller Annual Subscription of 10s. 6d., and shall be exempt from the payment of any Entrance Fee.

Associates are not Corporate Members of the Institute.

Forms of application for admission to the Institute, and the Examinations; and all further information can be obtained from the Secretary.

The Following Arrangements have been made for the Session, 1891.

Sessional Meetings for Communications and Discussions on Sanitary Subjects, Wednesdays, February 11th, March 11th, and April 8th, at 8 p.m.

Lectures and Demonstrations for Sanitary Officers, specially adapted for Candidates preparing for the Institute's Examination for Inspectors of Nuisances. Two Courses each of Sixteen Lectures on Tuesdays and Fridays at 8 p.m., the first commencing on January 30th, and the second on October 6th.

Examinations for Surveyors and Inspectors of Nuisances:—*For Dates and Towns in which they are held, see page 289.*

Lectures on Domestic Hygiene, specially intended for Ladies. A Course of Four Lectures on Tuesdays and Fridays at 3 p.m., commencing March 3rd.

Ordinary General Meeting for 1891, Tuesday, March 17th.

EXAMINATIONS IN SANITARY SCIENCE FOR LOCAL SURVEYORS AND INSPECTORS OF NUISANCES.

BOARD OF EXAMINERS.

Chairman.

PROF. W. H. CORFIELD, M.A., M.D. OXON. F.R.C.P.

Registrar.

G. J. SYMONS, F.R.S.

R. W. PEREGRINE BIRCH, M.INST.C.E.	LOUIS PARKES, M.D., PUB. HEALTH CERT. LOND.
A. WYNTER BLYTH, M.R.C.S.	PROF. H. ROBINSON, M.INST.C.E.
H. PERCY BOULNOIS, M.INST.C.E.	H. SAXON SNELL, F.R.I.D.A.
SIR DOUGLAS GALTON, K.C.B., D.C.L., LL.D., F.R.S.	J. F. J. SYKES, M.D., B.SO. PUB. HEALTH.
HENRY LAW, M.INST.C.E.	ERNEST TURNER, F.R.I.D.A.
W. H. MICHAEL, Q.C., F.C.S., M.R.C.S.	

THE great and increasing importance of the duties devolving upon Local Surveyors and Inspectors of Nuisances, in connection with the various Acts relating to Public Health, Drainage and Water Supply, the Sale of Food and Drugs, &c., led the Council of the Sanitary Institute of Great Britain in 1877 to establish Voluntary Examinations, to appoint a Board of Examiners, and to grant Certificates of Competency in Sanitary knowledge.

The Sanitary Institute, in which the older body has been incorporated, is continuing this important work.

The Examinations are arranged in two grades, and are intended to enable Local Surveyors and Inspectors of Nuisances, or persons desirous of becoming such, or of obtaining the Certificate of the Institute, to prove their competency in the subjects of Examination. A register of successful Candidates is kept at the Offices of the Institute, and a copy will be forwarded to Local Boards and Sanitary Authorities on application. Many Boards and Corporations require Candidates, when making applications for appointments, to produce a certificate of this kind.

Up to Dec., 1890, 33 Examinations had been held; 1132 Candidates had been examined, 170 as Local Surveyors, and 962 as Inspectors of Nuisances; of these 657 passed the Examinations and received Certificates, 70 as Local Surveyors, and 587 as Inspectors.

In order to make the Examinations for Inspectors more accessible to persons residing in the country, the Council have arranged to hold periodical Examinations in the following centres, in addition to the Examinations held in London, provided that at least 20 Candidates send in applications for Examination:—Newcastle-on-Tyne; Liverpool, Leeds or Manchester; Birmingham or Bristol; London.

These Examinations in the Provinces will be carried out in the same way as the Examinations in London, and similar Certificates will be granted. It is hoped that later on arrangements may be made for holding them also in Scotland and in Ireland.

Each Examination occupies a portion of two days. On the first day the Examination of Surveyors occupies six hours—viz., usually from 11 a.m. till 2 p.m., and from 3 till 6 p.m., and consists of written papers only. Inspectors of Nuisances have three hours' written Examination on the first day—viz., usually from 11 a.m. to 2 p.m. On the second day the Examination, for each class, usually commences at 11 a.m., and is *viva voce*, with one or more questions to be answered in writing, if deemed necessary.

Every Candidate is required to furnish the Board of Examiners with satisfactory testimonials as to age and personal character, and to give two weeks' notice previous to presenting himself for Examination. The fee for Examination must be paid to the Secretary, by Post-Office order or otherwise; 10s. 6d. on making application, and the remainder at least one week before the day of Examination. On the receipt of the fee, a ticket will be forwarded admitting to the Examination.

No one under 21 years of age is admitted to the Examinations.

A Certificate of Competency, signed by the Examiners and bearing the Seal of the Institute, is granted to each successful Candidate; but it must be distinctly understood that no Certificate will be granted to any Candidate unless he can write legibly, spell correctly, and possesses a fair knowledge of arithmetic, so that he may be able to prepare a report on any subject connected with his duties, creditable to himself and to the Authority employing him.

The fees payable for the Examination are as follows:—

As Surveyors, £5 5s.

As Inspectors of Nuisances, £3 3s.

But when the Examinations are held in Provincial Towns, £1 1s. extra will be charged to the Candidate in order to cover the expenses incurred in holding an examination out of London.

Unsuccessful Candidates are allowed to present themselves at any other Examination within twelve months on payment of half fees.

The probable date of the Examinations for 1891 are as follows:—

For Surveyors—

London—Friday and Saturday, June 5th and 6th.

For Inspectors of Nuisances—

Birmingham—Friday and Saturday, February 13th and 14th.

London— " " April 10th and 11th.

Newcastle— " " June 26th and 27th.

London— " " December 4th and 5th.

Manchester— " " December 18th and 19th.

The forms to be filled up before the Examination, by Candidates and by those persons recommending them, will be supplied on application to the Secretary.

SYLLABUS of SUBJECTS for EXAMINATION.

FOR LOCAL SURVEYORS.

- (1.) LAWS AND BYE-LAWS—A thorough knowledge of the Acts affecting Sanitary Authorities, as far as they relate to the duties of Local Surveyors; also, of the Model Bye-Laws issued by the Local Government Board.
- (2.) SEWERAGE AND DRAINAGE—The Sanitary arrangements of houses,

including internal drainage, the construction of water-closets, privies, and dry-closets, the removal and disposal of refuse; the Sanitary defects of Builders and Plumbers' work; the Sanitary principles of Sewerage and Drainage and their application in the preparation of schemes for, and in the construction of, Sewerage works; the flushing and ventilation of sewers, and the treatment and disposal of sewage.

- (3.) WATER SUPPLY OF TOWNS AND HOUSES—The sources of water, methods of collecting, purification (filtration, softening, &c.), and distribution. The Sanitary principles of Water Supply, and their application in the preparation of schemes for, and in the construction of, Water-works; the various ways in which water is likely to become polluted, and the best means of ensuring its purity.
- (4.) STRUCTURAL—Regulation of Cellar Dwellings and Lodging Houses, and of Baths and Wash-houses; General principles of Ventilation and their practical application; the amount of air and space necessary for men and cattle: the means of supplying air, and of ensuring its purity.
- (5.) HIGHWAYS AND STREETS—The Sanitary principles which should be observed in the construction and cleansing of streets and roads.

Candidates will be required to make free-hand sketches.
Any person having passed the above Examination and received the Certificate for Local Surveyor is, upon proposal and election as Member of the Institute, by virtue of holding such Certificate, exempt from payment of the Entrance Fee, and will only be called upon to pay the reduced subscription of £1 1s. annually.

FOR INSPECTORS OF NUISANCES.

Duties of Inspectors of Nuisances as defined by the Local Government Board.

Syllabus of Subjects for Examination.

(1.) He shall perform, either under the special directions of the Sanitary Authority, or so far as authorized by the Sanitary Authority, under the directions of the Medical Officer of Health, or in cases where no such directions are required, without such directions, all the duties specially imposed upon an Inspector of Nuisances by the Public Health Act, 1875, or by the Orders of the Local Government Board, so far as the same apply to his office.

(2.) He shall attend all meetings of the Sanitary Authority when so required.

(3.) He shall by inspection of the District, both systematically at certain periods, and at intervals as occasion may require, keep himself informed in respect of the nuisances existing therein that require abatement under the Public Health Act, 1875.

(4.) On receiving notice of the existence of any nuisances within the District, or of the breach of any by-laws or regulations made by the Sanitary Authority for the suppression of nuisances, he shall, as early as practicable, visit the spot, and inquire into such alleged nuisance or breach of by-laws or regulations.

(5.) He shall report to the Sanitary Authority any noxious, or offensive businesses, trades, or manufactories established within the District, and the breach or non-observance of any by-laws or regulations made in respect of the same.

(6.) He shall report to the Sanitary Authority any damage done to any works of water supply, or other works belonging to them, and also any case of wilful or negligent waste of water supplied by them, or any fouling by gas, filth, or otherwise, of water used for domestic purposes.

The Provisions of the Acts and Model Bye-Laws relating to the duties of Inspectors of Nuisances.

A knowledge of what constitutes a Nuisance.
Methods of Inspection, of Dwellings, Cellar Dwellings, Dairies, Milk-shops, Markets, Slaughter-houses, Cow-sheds, and Nuisances especially connected with Trades and Manufactories.

The Physical Characteristics of good Drinking Water—the various ways in which it may be polluted, by Damage to Supply Works or in Houses, and the means of preventing pollution—Methods of Water Supply.

(7.) He shall from time to time, and forthwith upon complaint, visit and inspect the shops and places kept or used for the sale of butchers' meat, poultry, fish, fruit, vegetables, corn, bread, flour, or milk, or as a slaughter-house, and examine any animal, carcase, meat, poultry, game, flesh, fish, fruit, vegetables, corn, bread, flour, or milk which may be therein; and in case any such article appear to him to be intended for the food of man, and to be unfit for such food, he shall cause the same to be seized, and take such other proceedings as may be necessary in order to have the same dealt with by a Justice: Provided, that in any case of doubt arising under this clause, he shall report the matter to the Medical Officer of Health, with the view of obtaining his advice thereon.

(8.) He shall, when and as directed by the Sanitary Authority, procure and submit samples of food, drink, or drugs suspected to be adulterated, to be analysed by the analyst appointed under "The Sale of Food and Drugs Act, 1875," and upon receiving a certificate stating that the articles of food, drink, or drugs are adulterated, cause a complaint to be made, and take the other proceedings prescribed by that Act.

(9.) He shall give immediate notice to the Medical Officer of Health of the occurrence within the district of any contagious, infectious, or epidemic disease; and whenever it appears to him that the intervention of such officer is necessary in consequence of the existence of any nuisance injurious to health, or of any overcrowding in a house, he shall forthwith inform the Medical Officer of Health thereof.

(10.) He shall, subject to the directions of the Sanitary Authority, attend to the instructions of the Medical Officer of Health with respect to any measures which can be lawfully taken by an Inspector of Nuisances under the Public Health Act, 1875, for preventing the spread of any contagious, infectious, or epidemic disease of a dangerous character.

(11.) He shall enter from day to day, in a book to be provided by the Sanitary Authority, particulars of his inspections and of the action taken by him in the execution of his duties. He shall also keep a book or books, to be provided by the Sanitary Authority, so arranged as to form, as far as possible, a continuous record of the sanitary condition of each of the premises in respect of which any action has been taken under the Public Health Act, 1875, and shall keep any other systematic records that the Sanitary Authority may require.

(12.) He shall at all reasonable times, when applied to by the Medical Officer of Health, produce to him his books, or any of them, and render to him such information as he may be able to furnish with respect to any matter to which the duties of Inspector of Nuisances relate.

(13.) He shall, if directed by the Sanitary Authority to do so, superintend and see to the due execution of all works which may be undertaken under their direction for the suppression or removal of nuisances within the district.

Any person having passed the above Examination and received the Certificate for Inspectors of Nuisances is, upon proposal and election as Associate of the Institute, by virtue of having such Certificate, exempt from payment of the Entrance Fee, and will only be called upon to pay the reduced subscription of 10s. 6d. annually.

The Characteristics of good and bad Food (such as Meat, Fish, Milk, Vegetables).

The sale of Food and Drugs' Act.

The Regulations affecting persons suffering or recovering from Infectious diseases, and some knowledge of such diseases—The principles of Ventilation, and simple methods of Ventilating Rooms—Measurement of Cubic Space.

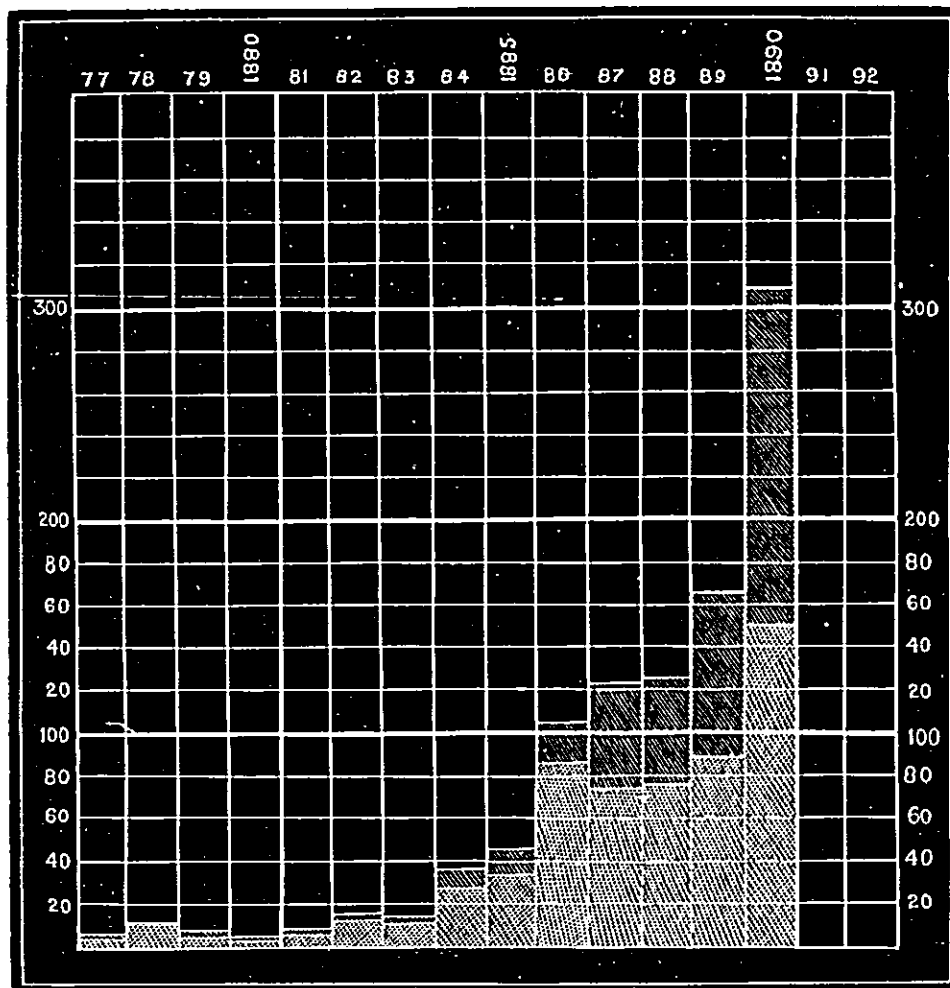
Disinfectants and Methods of Disinfection.

A Knowledge of the General Duties of the Office, and Methods of keeping the necessary Books and Records, Writing and Spelling.

The proper conditions of good Drainage—The advantages and disadvantages of various Sanitary Appliances for Houses—Inspection of Builders and Plumbers' work—Scavenging and the Disposal of Refuse.

Table shewing the number of Candidates examined and certified each year; and Diagram relating to the Inspectors' Examination only.

Year.	Number Examined.			Certificated.				
	Surveyor	Inspector	Total.	Number.			Per cent. of Total.	
				Surveyor	Inspector	Total.	Surveyor.	Inspector.
1877	3	5	8	2	3	5	67	60
1878	11	10	21	3	10	13	27	100
1879	4	6	10	2	4	6	60	67
1880	10	3	13	6	2	8	60	67
1881	7	7	14	2	6	8	29	86
1882	6	15	21	3	13	16	50	87
1883	7	13	20	3	11	14	43	85
1884	14	36	50	7	27	34	60	75
1885	20	44	64	5	33	38	25	75
1886	19	105	124	9	86	95	47	82
1887	17	122	139	7	75	82	41	61
1888	25	124	149	8	77	85	32	62
1889	9	165	174	5	89	94	56	64
1890	18	307	325	8	151	159	44	49
	170	962	1132	70	687	657	41	61



EXHIBITIONS OF SANITARY APPARATUS AND APPLIANCES.

The Exhibitions of Sanitary Appliances are held annually in connection with the Autumn Congress, and unpatented exhibits are protected by a certificate granted by the Board of Trade, under the Patents Designs and Trade Marks Act, 1883.

Judges are appointed by the Council to examine the several exhibits, and award Medals and Certificates of Merit to such objects as they may consider worthy.

Selected exhibits of such a nature as to require practical trials which cannot be carried out on the spot, are submitted to such trials subsequent to the close of the Exhibition.

The Exhibits are arranged in the following Classes:—

CLASS I.—BUILDING MATERIALS, CONSTRUCTION AND MACHINERY.

- Sec. 1.—Materials and Construction.
- " 2.—Damp-proof Courses.
- " 3.—Paints & other Protectives.
- " 4.—Wall Papers and Coverings.
- " 5.—Flooring.
- " 6.—Decorative Materials.
- " 7.—Machinery and Mechanical Appliances.
- " 8.—Laundry Appliances.

CLASS II.—WATER SUPPLY AND SEWERAGE.

- Sec. 1.—Apparatus for Water Supply.
- " 2.—Filtering & Softening Water.
- " 3.—Water Waste Preventers.
- " 4.—Flushing and Watering.
- " 5.—Sinks.
- " 6.—Baths and Lavatories.
- " 7.—Water Closets.
- " 8.—Urinals.
- " 9.—Sewers, Drain Pipes, and Accessories.
- " 10.—Traps and Gullies.
- " 11.—Dry Closets.
- " 12.—Sewage Treatment.
- " 13.—Miscellaneous Sanitary Goods.

CLASS III.—HEATING, LIGHTING AND VENTILATING.

- Sec. 1.—Heating Apparatus.
- 2.—Cooking Apparatus.

Sec. 3.—Smoke Preventing Appliances.

- " 4.—Lighting, including Electric Lighting.
- " 5.—Ventilating Gas Burners.
- " 6.—Ventilators.

CLASS IV.—PERSONAL HYGIENE, FOODS, FILTERS & DISINFECTANTS.

- Sec. 1.—Clothing.
- " 2.—Beds and other Furniture.
- " 3.—Hospital and Sick-room Appliances.
- " 4.—Domestic Appliances.
- " 5.—School Fittings.
- " 6.—Gymnastic Apparatus.
- " 7.—Foods.
- " 8.—Domestic Filters.
- " 9.—Mineral Waters.
- " 10.—Soaps and other Detergents.
- " 11.—Antiseptics & Disinfectants.
- " 12.—Disinfecting Apparatus.

CLASS V.—MISCELLANEOUS.

Articles of Sanitary interest not included in the above Classes, such as:—

- Sec. 1.—Scientific Instruments.
- " 2.—Books and Periodicals
- " 3.—Prevention of Accidents.
- " 4.—Respirators & Face Guards for Unhealthy Occupations.
- " 5.—Fire Preventing Appliances.
- " 6.—Methods for the Disposal of the Dead, &c., &c., &c.
- " 7.—Sundries.

EXHIBITIONS HELD IN CONNECTION WITH THE CONGRESSES OF THE INSTITUTE.

	1877.	Leamington	1878.	Stafford.	1879.	Croydon.	1880.	Exeter.	1882.	Newcastle.	1883.	Glasgow.	1884.	Dublin.	1885.	Leicester.	1886.	York.	1887.	Bolton.	1889.	Worcester.	1890.	Brighton.
Number of Exhibitors	117	116	189	106	110	126	134	135	130	112	108	108	108	108	108	108	108	108	108	108	108	108	108	108
Number of Exhibits	294	319	710	500	600	750	900	1,000	900	800	900	900	900	900	900	900	900	900	900	900	900	900	900	900
Space occupied (in square ft.) ... ..	.....	.....	.....	3,725	14,520	20,000	40,000	30,000	30,000	25,000	28,000	30,000	30,000	30,000	30,000	30,000	30,000	30,000	30,000	30,000	30,000	30,000	30,000	30,000
Number of days Exhibition was open	14	16	17	19	25	25	19	19	25	25	25	19	17	26	29	23	23	26	29	23	23	23	23	18
Total number of Visitors ... ..	.....	.....	.....	8,955	8,373	20,000	35,000	37,000	30,000	27,000	23,000	35,000	37,000	30,000	27,000	23,000	30,000	27,000	23,000	23,000	23,000	23,000	35,000	35,000
Number of Medals awarded	13	13	12	12	15	21	16	12	15	15	21	18	34	16	14	23	16	12	14	9	23	23	23	23*
Number of Special Certificates	None.	6	9	7	4	13	11	7	4	4	13	11	11	12	9	11	12	9	9	9	None.	None.	None.	None.
Number of Certificates	None.	22	38	40	72	58	83	40	72	72	58	83	79	64	40	79	64	40	40	40	56	56	56	67*
Number of Exhibits deferred for further trial ... ..	.....	7	52	30	37	44	39	30	37	37	44	39	119	42	46	46	42	46	46	46	67	67	67	67

* These do not include all the awards which may be given for Exhibits selected for further practical trial.

CONGRESS AND EXHIBITION AT BRIGHTON, 1890.

Awards of the Judges of the Exhibition.

MEDALS.

- BURMANTOFT'S WORKS, LIMITED, *Leeds*, for Exhibit of Decorative Pottery and Faience.
- CLEMENS, ABELL & Co., *Worcester*, for Street Sweeping Machine.
- GREENALL, JOHN, 120, *Portland Street, Manchester*, for Greenall's Steam Washer.
- CLIFF, JOSEPH, & SON, *Leeds Fire Clay Company, Leeds*, for "Ceil" Slop Sink.
- CLIFF, JOSEPH, & SON, *Leeds Fire Clay Company, Leeds*, for "Imperial" Porcelain Bath.
- TYLOR, J., & SONS, 2, *Newgate Street, London, E.C.*, for "Ariston" Slop Sink and Water-closet combined.
- MOULE'S PATENT EARTH CLOSET CO., 5a, *Garrick Street, London, W.C.*, for Moule's Earth Closets.
- BURMANTOFT'S WORKS, LIMITED, *Leeds*, for Decorative Faience Fire-places and Mantels.
- STOTT, J., & Co., 174, *Fleet Street, London*, for Mercury Gas Governor.
- HAYWARD BROTHERS & ECKSTEIN, 187, *Union Street, London, S.E.*, for Reflecting Pavement and Roadway Lights.
- THE CELLULAR CLOTHING CO., LIMITED, 75, *Aldermanbury, London, E.C.*, for Cellular Fabrics.
- BURROUGHS, WELLCOME & Co., *Snow Hill Buildings, London, E.C.*, for Improvements in Pharmaceutical Preparations.
- DANN, A., *The Creamery, Western Road, Brighton*, for Model Working Dairy.
- HAMMER, GEORGE M., & Co., 370, *Strand, London, W.C.*, for School Furniture.
- BRAND & Co., 11, *Little Stanhope Street, Mayfair, London, W.*, for Meat Preparations.
- CLARK, J. J., *Goldstone Farm Bread Factory, West Brighton*, for Improvements in Bread Making.
- CALVERT, F. C., & Co., *P.O. Box 513, Manchester*, for Carbolic Acid and Preparations of it.
- LYON, WASHINGTON, 85, *Asylum Road, Peckham, S.E.*, for Steam Disinfecter.
- ALLEN, W. H., & Co., 13, *Waterloo Place, London, S.W.*, for Sanitary Publications.

- BRIGHTON VOLUNTEER FIRE BRIGADE, *Brighton*, for Models of Fire Extinguishing Appliances.
 LONDON, BRIGHTON, AND SOUTH COAST RAILWAY, *London*, for Models of Railway Rolling Stock and Appliances.
 HAYWARD BROS. & ECKSTEIN, 187, *Union Street, London, S.E.*, for Self-locking Coal Plate.
 SWIFT, JAMES, & SON, 81, *Tottenham Court Road, London W.*, for Microscopic Apparatus.

CERTIFICATES.

- HAMMER, GEORGE M., & Co., 370, *Strand, London, W.C.*, for Exhibit of Church Fittings.
 SMEATON, JOHN, SON & Co., 50, *Great Queen Street, London, W.C.*, for Excelsior Dust Shoot.
 BEAUMONT, E. A. B., *Regency Square, Brighton*, for Crutch with Side Handle.
 MERRYWEATHER & SONS, *Greenwich Road, London, S.E.*, for Armoured India-rubber Hose.
 SMITH, COLLIER & Co., 29, *Aldermanbury, London, E.C.*, for Venetian Blind Fittings.
 WIRE-WOVE ROOFING Co., *Queen Victoria Street, London*, for Wire-wove Roofing.
 BEVES & Co., 117, *Church Street, Brighton*, for Wood Moulding.
 HARRIS, J. F. & G., 58 & 60, *Wilson Street, Finsbury, E.C.*, for Fancy Wood Decorations.
 CRESSWELL, HENRY, 562, *Western Road, Hove, Brighton*, for Decorative Tiles and Pottery.
 HAINES, J., 70, *Church Road, Brighton*, for Artistic Pottery and Porcelain.
 BRIGHTON WATER WORKS, *Brighton*, for Baker's Water Hydrant.
 CLEMENS, ABELL & Co., *Worcester*, for Improved Chain Pump.
 CLIFF, JOSEPH, & SONS, *Leeds Fire-clay Company, Wortley, Leeds*, for White Enamelled Fire-clay Sinks.
 TYLOR, J., & SONS, 2, *Newgate Street, London, E.C.*, for Lavatory Basins and Fittings.
 BOSTEL BROS., 18, *Duke Street, Brighton*, for Lavatories.
 SMEATON, JOHN, SON & Co., 50, *Great Queen Street, London, W.C.*, for Imperial Spray Bath.
 BURN & BAILLIE, 14, *Newcastle Street, Farringdon Street, London*, for Combination Bath Fittings.
 BURN & BAILLIE, 14, *Newcastle Street, Farringdon Street, London*, for Lavatory with Overflow which can be cleansed.
 BURN & BAILLIE, 14, *Newcastle Street, Farringdon Street, London, E.C.*, for Hinged Grating for Overflow of Bath.

- TYLOR, J., & SONS, 2, *Newgate Street, London, E.C.*, for "Weir" Overflow Valve Water-closet.
 TYLOR, J., & SONS, 2, *Newgate Street, London, E.C.*, for "Column" Water-closet.
 BURN & BAILLIE, 14, *Newcastle Street, Farringdon Street, London, E.C.*, for Improved Urinal.
 DOULTON & Co., *Lambeth, London, S.E.*, for "Special" Urinal.
 BOSTEL BROS., 18, *Duke Street, Brighton*, for Collar Joint for connecting Water-closet to Soil Pipe.
 BOSTEL, D. T., 73, *Ebury Street, London*, for Union Joint for connecting Water-closet to Soil Pipe.
 BURN & BAILLIE, 14, *Newcastle Street, Farringdon Street, London*, for Cast Iron Drain Pipes Inspection Chamber and Traps.
 DURHANS, T. H., & SONS, 43, *Upper Baker Street, London*, for Metallic Jointed Manhole Cover with Metal-faced Joint.
 CLIFF, JOSEPH, & SONS, *Leeds Fire-clay Company, Wortley, Leeds*, for Winsor's Channel Bends.
 BURN & BAILLIE, 14, *Newcastle Street, Farringdon Street, London*, for Brass Traps for Baths and Sinks.
 CLIFF, JOSEPH, & SONS, *Leeds Fire-clay Company, Wortley, Leeds*, for Stokes's Gully.
 CLIFF, JOSEPH, & SONS, *Leeds Fire-clay Company, Wortley, Leeds*, for "Beauchiff" Disconnecting Trap.
 BURN & BAILLIE, 14, *Newcastle Street, Farringdon Street, London*, for India-rubber Expanding Plug for Drain-testing.
 CLEMENS, ABELL & Co., *Worcester*, for Street Watering Van.
 SANITARY & DOMESTIC ENGINEERING Co., 212, *High Road, Kilburn, London*, for Gradient Indicating Blocks.
 FLOWER, THOMAS JAMES MOSS, *Liverpool Chambers, Corn Street, Bristol*, for Adjustable Gradient Indicator.
 FLOWER, THOMAS JAMES MOSS, *Liverpool Chambers, Corn Street, Bristol*, for Watt's Asphyxiator for Testing Drains.
 HEIN, H., 41, *Holborn Viaduct, London*, for Cast and Sheet Iron Ventilating Gratings with Louvre Valves.
 HEIN, H., 41, *Holborn Viaduct, London*, for Round Ventilating Valves.
 EAGLE RANGE FOUNDRY COMPANY, 176, *Regent Street, London*, for Eagle Grate.
 EAGLE RANGE FOUNDRY COMPANY, 176, *Regent Street, London*, for Improvements in Eagle Ranges.
 REED, C. G., & SON, 26, *North Street, Brighton*, for Stoves, Mantel-pieces, and Brass Work.
 PETERS, BARTSCH & Co., *Derby*, for Chemical Heat Retainers.
 IMPERIAL SMOKE CONSUMER Co., 63, *Borough Road, London*, for Boiler-covering Bricks.
 WILSON, CHARLES, & SONS, *Leeds*, for Gas Kettle.
 HAYWARD BROTHERS & ECKSTEIN, 187, *Union Street, London, S.E.*, for Mica Flap Outlet Ventilator with "Hit and Miss" Front.
 HAYWARD BROTHERS & ECKSTEIN, 187, *Union Street, London, S.E.*, for Ornamental "Hit and Miss" Air Bricks.

- HAYWARD BROTHERS & ECKSTEIN, 187, *Union Street, London, S.E.*, for the Southwark Universal Venetian Ventilator.
- KITE, C., & Co., *Christopher Works, Chalton Street, London, N.W.*, for Wall Inlet Ventilator.
- WALL, DAVID WILLIAM, 2, *Camberwell Road, London, S.E.*, for Sanitary Hat Linings.
- WALKER, WALTER, *Brighton*, for Wire Mattresses and Adjustable Bed Rests.
- BURROUGHS, WELLCOME & Co., *Snow Hill Buildings, London, E.C.*, for Medicine Chests and Pocket Cases.
- MILLS, J., 24, *Northwood Road, Brighton*, for "Excelsior" Adjustable Invalid Chair and Couch.
- BRIGDEN, J. L., & Co., 187, *Western Road, Brighton*, for "Bath" Chair.
- DANN, A., *The Creamery, Western Road, Brighton*, for "Victoria" Churn.
- WILLIAMS, A., 190, *Brunswick Road, Bromley, London, E.*, for Embroidery Machine.
- HAINES, J., 70, *Church Road, Brighton*, for China Slop Pails.
- HALLIWELL & Co., *Pool Valley, Brighton*, for Wicker Mail Cart.
- HALLIWELL & Co., *Pool Valley, Brighton*, for "Harrow" Safety Bicycle.
- EDMUNDS, JOSEPH, 10, *Stonefield Terrace, Liverpool Road, London, N.*, for Currie Powder and Paste.
- WYBORN, EDWARD, 32, *Marine Parade, Brighton*, for Case showing the Relative Constituents of Various Milks.
- THE MORRIS TUBE AMMUNITION Co., LIMITED, 11, *Haymarket, London, S.W.*, for Circulating Arrangement for Filters.
- BURROUGHS, WELLCOME & Co., *Snow Hill Buildings, London, E.C.*, for Lanoline and Preparations containing it.
- EDGE, H. K., 9, *Farringdon Road, London, E.C.*, for Hydroleine.
- LEVER BROS., *Port Sunlight, Birkenhead*, for Sunlight Soap.
- TUCKER, JOHN, & Co., 51, *Puddington Street, London, W.*, for Preparation of Eucalyptol.
- BEAL, JOHN, & SON, 55, *East Street, Brighton*, for Fancy Stationery, Bindings, and Machine Ruling.
- SHARP, BURT, 79, *West Street, Brighton*, for Specimens of Photography.

SELECTED FOR PRACTICAL TRIAL.

- ASPINALL & Co., *New Cross and Peckham, London, S.E.*, Aspinall's Enamel.
- D'OILY & Co., LIMITED, 405, *Oxford Street, London, W.*, Wall Papers and Hangings.
- OLIVER, FRANK & Co., 153, *Western Road, Brighton*, Upholstery Silks.

- PETERS, BARTSCH & Co., *Derby*, Indestructible Combination Washers for Flanged Joints.
- CROSSLEY BROTHERS, *Openshaw, Manchester*, and 10, *St. Bride Street, London, E.C.*, Horizontal Gas Engine.
- BURGESS, HENRY JOHN, 42, *New England Road, Brighton*, High Pressure Ball Valve.
- TYLOR, J., & SONS, 2, *Newgate Street, London, E.C.*, Quarter-turn Screw-down Tap.
- BURGESS, HENRY JOHN, 42, *New England Road, Brighton*, High Pressure Bib Tap.
- BOSTEL, D. T., 73, *Ebury Street*, and 24, *Charing Cross, London, S.W.*, Rubber Tube Ball Valve.
- BOSTEL BROS., 18 and 19, *Duke Street, Brighton*, Professor Thompson's Water Tap.
- LONDON WATER METER Co., 2, *Chancery Lane, London, E.C.*, Water Meters.
- TYLOR J., & SONS, 2, *Newgate Street, London, E.C.*, Household Water Meter.
- TYLOR J., & SONS, 2, *Newgate Street, London, E.C.*, Positive Water Meter.
- BOSTEL BROS., 18 & 19, *Duke Street, Brighton*, Anti-Calcaire.
- DOULTON & Co., *Lambeth, London*, Thirlmere Waste-preventing Cistern.
- TYLOR J., & SONS, 2, *Newgate Street, London, E.C.*, Tower Waste Preventer.
- TYLOR, J. & SONS, 2, *Newgate Street, London, E.C.*, Bean's Waste Preventer.
- DOULTON & Co., *Lambeth, London*, Automatic Flush Tank.
- RAINBOW ENGINEERING COMPANY, 9, *Victoria Street, London, S.W.*, Risher System of Heating the Water of Swimming Baths.
- BURN & BAILLIE, 14, *Newcastle Street, Farringdon Street, London, E.C.*, Valve Water-closet, with Basin and Valve-box in one piece of earthenware.
- JONES, JOHN, 40, *Sydney Street, Chelsea, S.W.*, Manhole Cover for Drains.
- KING, HENRY, 7, *Clarence Place, High Street, Kensington, London, W.*, Improved Double Seal Manhole Cover.
- ARCHER PIPE Co., LIMITED, *Avenue Mansions, Piccadilly Circus, London, W.*, Archer Pipe Joint.
- CLIFF, JOSEPH, & SONS, *Leeds Fire-clay Co., Leeds*, Double Seal Pipe Joints.
- DOULTON & Co., *Lambeth, London*, Self-adjusting Joints.
- JONES, JOHN, 40, *Sydney Street, Chelsea, S.W.*, Drain Stoppers.
- SMEATON, JOHN, SON & Co., 50, *Gt. Queen Street, London, W.C.*, Cast Lead Eclipse Trap.
- WILSON, CHARLES, & SONS, *Carlton Works, Leeds*, Open Gas Fire.
- SUGG, WILLIAM, & Co., *Vincent Works, Westminster*, "Charing Cross" Gas Fire.
- FREEMAN, EMERY & Co., 27, *Freeman Street, Birmingham*, Gas Fire.

- GREENALL, JOHN, & Co., 120, *Portland Street, Manchester*, Marsh Greenall's Regenerating Gas Heating Stove.
- HEIM, HERMAN, 41, *Holborn Viaduct, E.C.*, Improved Helios Stove.
- IMPERIAL SMOKE CONSUMER Co., 63, *Borough Road, London, S.E.*, Boiler Non-Conducting Composition.
- FREEMAN, EMERY & Co., 27, *Freeman Street, Birmingham*, Artizan Gas Cooking Stove.
- SUGG, WILLIAM, & Co., *Vincent Works, Westminster*, "Westminster" Kitchener.
- SMEATON, JOHN, SON & Co., 50, *St. Queen Street, London, W.C.*, for Improved Fire Bars and Bridge.
- IMPERIAL SMOKE CONSUMER Co., 63, *Borough Road, London, S.E.*, Barnes' Sectional Bridge for Boilers.
- IMPERIAL SMOKE CONSUMER Co., 63, *Borough Road, London, S.E.*, Invicta Smoke Consuming Appliances.
- SUGG, W., & Co., *Vincent Works, Westminster*, Regenerative Fish-tail Gas Burner.
- MERRYWEATHER & SONS, *Greenwich Road, London, S.E.*, Electric Hand Lamp for Examining Drains.
- BURGESS, HARRY JOHN, 42, *New England Road, Brighton*, Gas Utilizer.
- SUGG, W., & Co., LIMITED, *Vincent Works, Westminster*, Sun Burners.
- STOTT, J., & Co., 174, *Fleet Street, E.C.*, and *Vernon Works, Oldham*, "Stott Thorp" Ventilating Reflex Gas Light.
- KITE, C., & Co., *Christopher Works, Chalton Street, London, N.W.*, "Simplex" Water Jet Air Propeller.
- KITE, C., & Co., *Christopher Works, Chalton Street, London, N.W.*, Fixed Exhaust and Downcast Drain Ventilators.
- JONES, JOHN, 40, *Sydney Street, Chelsea*, Cowl for Preventing Down Draughts.
- SUGG, WILLIAM, & Co., *Vincent Works, Westminster*, Cowl for Preventing Down Draughts.
- MOORE, F. AUGUSTUS, 25, *Bedford Row, London, W.C.*, "M.P." Noiseless Flue Extractor Ventilator.
- MOORE, F. AUGUSTUS, 25, *Bedford Row, London, W.C.*, "M.P." Chimney Cowl.
- KITE, C., & Co., *Christopher Works, Chalton Street, N.W.*, Ridge Ventilator.
- KITE, C., & Co., *Christopher Works, Chalton Street, N.W.*, Under Roof Ventilator.
- MOORE, F. AUGUSTUS, 25, *Bedford Row, London, W.C.*, "M.P." Roof Ventilator.
- BURROUGHS, WELLCOME & Co., *Snow Hill Buildings, London, E.C.*, Paper Fibre Lint.
- RIZINE FOOD COMPANY, 41, *Gracechurch Street, London, E.C.*, Rizine Food.
- EDGE, H. K., 9, *Farringdon Road, London, E.C.*, Essence of Beef.
- EDGE, H. K., 9, *Farringdon Road, London, E.C.*, British Lion Sauce.

- CLARK, J. J., *Goldstone Farm Bread Co., West Brighton*, Germ Bread and Flour.
- BARTHAM, A., *Hastings*, Delft Rye Yeast.
- BUSH, J. P., *Manufacturing Co., 32, Snow Hill, London, E.C.*, Bovinine.
- META-CHA TEA Co., 37, *St. Mary Ave, London, E.C.*; and 118, *St. James's Street, Brighton*, Assam Tea.
- COWAN, COLIN CAMPBELL, *London*, Baking Powder and Scotch Oatmeal.
- THE HAILE WESTON SPA Co., 37, *St. Mary Ave, London, E.C.*, and *St. Nots, Hunts*, Crystal Waters.
- SHELVEY & Co., *German Place, Brighton*, Mineral Waters.
- TUCKER, JOHN, & Co., 51, *Puddington Street, London*, Eucalyptus Soap.
- EVERSHED, JOHN, & SON, *Station Street, Brighton*, Primrose Soap.
- SYDNEY, EDWARD, 177, *Farrant Avenue, Wood Green, London, N.*, Quilaline.
- MERRYWEATHER & SONS, *Greenwich Road, London, S.E.*, Microbolizer.

The name of one of the Judges being prominently associated with J. TYLOR & SONS' "Clear way" Regulator Valve-closet (Mr. ROGERS FIELD's pattern), this Exhibit has been excluded from competition for Awards.

NOTE.—A complete classified list of the Awards given at all the Exhibitions held by the Institute, can be obtained on application to the Secretary.

CONTRIBUTIONS TO THE LIBRARY DURING 1890.

In addition to the works enumerated in the following list, valuable donations of back numbers of Reports, and other official publications have been received from: Dr. Alfred Carpenter (33 vols.), Prof. W. H. Corfield (20 vols.), G. J. Symons (5 vols.)

* * For publications of Societies and Institutions, &c., see under "Academies."

ACADEMIES (AMERICAN).

Manitoba, Historical and Scientific Society. Two Provisional Governments in Manitoba, containing an interesting Discussion of the Riell Rebellion. By Rev. Prof. Bryce, LL.D., 11 p., 8vo. Winnipeg, 1890. *The Society.*

— *Historical and Scientific Society.* Land and Sea Birds nesting within the Arctic Circle in the Lower Mackenzie River District, as observed by R. R. Macfarlan. 35 p., 8vo. Winnipeg, 1890. *The Society.*

— *Historical and Scientific Society.* An Apparatus for the Collection of Dust and Fungi. By S. G. Dixon, M.D. 3 p., 8vo. Detroit, 1889. *The Society.*

— *Historical and Scientific Society.* Annual Report for 1889. 12 p., 8vo. Winnipeg, 1890. *The Society.*

— *Historical and Scientific Society.* An Application of the Water Spray to the Ventilation of Water Closets. *The Society.*

Philadelphia, College of Physicians. Transactions, Third Series, Vol. XI., 1889. 125 p., 8vo. Philadelphia, 1889. *The College.*

Toronto, Canadian Institute. Annual Report, 1888-9, being Part of an Appendix to the Report of the Minister of Education, Ontario, 1889. 118 p., 8vo. Toronto, 1889. *The Institute.*

— *Canadian Institute.* Proceedings, Third Series, Vol. VII. 181-308 p., 8vo. Toronto, 1890. *The Institute.*

ACADEMIES (AUSTRALIAN).

Melbourne, Inter-colonial Medical Congress of Australia. Transactions of Second Session held in Melbourne, Victoria, Jan., 1889. 1,029 p., 8vo. Melbourne, 1889.

— *The Secretary (Professor H. B. Allen).* **Australian Health Society.** Health Lectures for the People. 125 p., 8vo. Melbourne, 1889. *The Society.*

— *Working Men's College.* Report, 1889. 107 p., 8vo. Melbourne, 1890. *The College.*

Melbourne, Australian Health Society. Fourteenth Annual Report, 1888-9. 16 p., 8vo. Melbourne, 1889. *A. Lindall.*

— *Victorian Institute of Engineers.* Rules for Electrical Installations. 11 p., 8vo. Melbourne, 1889. *The Institute.*

New South Wales, Royal Society. Journal and Proceedings for 1888, Vol. XXII., 389 p., 8vo. Sydney, 1889. *The Society.*

— *Royal Society of.* Journal and Proceedings, 1889, Vol. XXIII., Parts I. and II., and Catalogue of Library. 534 p., 8vo. Sydney, 1890. *The Society.*

South Australian School of Mines and Industries, and Technological Museum. Annual Report, 1889. 40 p., 8vo. Adelaide, 1890. *School of Mines.*

ACADEMIES (BRITISH).

Glasgow Institute of Engineers and Shipbuilders in Scotland. Transactions, Vol. XXXIII., 1889-90. 286 p., 8vo. Glasgow, 1890. *The Institute.*

Hull and District Sanitary Association. Fifth Annual Report, for 1889. *The Association.*

London Association of Municipal and Sanitary Engineers and Surveyors. Proceedings, Vol. XVI., 1889-90. 276 p., 8vo. London, 1890. *The Society.*

— *Association of Public Sanitary Inspectors of Great Britain.* Seventh Annual Report, Session 1890. 27 p., 8vo. London, 1890. *The Association.*

— *Reports of the Homes for Inebriates Association,* together with Sixth Annual Report of the Dalrymple Home at Rickmansworth. 14 p., 8vo. London, 1890. *The Association.*

— *Royal Institute of British Architects.* Journal of Proceedings, 1890. 4to. Fortnightly. *The Society.*

— *Royal Institution of Great Britain.* Proceedings, Vol. XII., Part III. 379-614 p., 8vo. London, 1890. *The Institute.*

— *Society of Arts Journal.* 8vo. Weekly. *The Society.*

— *Society of Architects.* Proceedings for 1890. 8vo., monthly. London. *The Society.*

— *Society of Engineers.* Transactions, 1889, and General Index, 1861-1889. 248 p., 8vo. London, 1890. *The Society.*

— *Surveyors' Institution.* Transactions. Vol. XXIII. Parts 1, 2, 3, 4. 122 p., 8vo. London, 1890.

— *St. Thomas's Hospital.* Reports, Vol. XVIII. 540 p., 8vo. London, 1890. *The Hospital.*

— *University College Calendar.* Session, 1890-91. 334 p., 8vo. London, 1890. *The College.*

Newcastle-on-Tyne, North of England Institute of Mining and Mechanical Engineers. Transactions, 1890. Vol. XXXVIII. Parts 4 and 5. 75-202 p., 8vo. Newcastle, 1890.

— *Report of the French Commission on the use of explosives, in the presence of Fire-damp, in Mines.* Parts 1 and 2. 112 p., 8vo. Newcastle, 1890. *The Institute.*

ACADEMIES (CONTINENTAL).

- Amsterdam.** Verslagen en Mededeelingen der Koninklijke Akademie Van Wetenschappen. Vol. VI., 650 p., Svo.; and Vol. VII., 600 p., Svo. Amsterdam, 1889-90.
Royal Academy of Sciences.
- Jaarboek Van de Koninklijke. Akademie Van Wetenschappen. Gevestigde Amsterdam Voor 1889. 59 p., Svo. Amsterdam, 1890.
Royal Academy of Sciences.
- Italy, Società Royal Italiana d'Hygiene.** Les Institutions Sanitaires en Italie. 630 pages, 4to. Milan, 1885. *Prof. A. Corradi.*
- Paris.** Société centrale des Architectes Français. Annuaire pour l'année 1890. 72 p., Svo. Paris, 1890. *The Society.*
- Rome.** Giornale della Reale Società Italiana D'Igiene. Svo. 1890. Monthly.
-
- Black, Surgeon-Major.** Brighton Beaches after Storms of Oct. 15th and Dec. 8th, 1886. 8 p., Svo. London, 1887. *The Author.*
- Blyth, A. Wynter.** A Manual of Public Health. 653 p., Svo. London, 1890. *The Author.*
- Board of Agriculture.** Agricultural Produce Statistics of Great Britain. Showing the estimated total produce, the extent in statute acres, and the estimated average yield per acre of the principal crops for the year 1889. 53 p., Svo. London, 1890. *The Board.*
- Third Annual Report on Insects and Fungi injurious to the crops of the Farm, the Orchard, and the Garden, by C. Whitehead, F.L.S. 74 p., Svo. London, 1890. *The Board.*
- Bouchardat, A.** Traité d'Hygiène publique et privée basée sur l'étiologie. 1350 p., Svo. Paris, 1887. *The Author.*
- Canalis, Dr. Pietro.** Note sulla epidemia colerica del 1887 nella città di Messina. 24 p., folio. Rome, 1889.
- Studi Sulla infezione Malarica. 32 p., folio. Torino, 1889. *Direzione della Sanità Publica.*
- Carpenter, Dr. A.** On London Fogs. 46 p. Croydon, 1890. *The Author.*
- Sanitation, Reprints from the Report of the Church Congress. 7 p. Svo. London, 1890. *The Author.*
- Catalogue, International Health Exhibition Library.** 153 p., Svo. London, 1884. *Professor J. Marshall.*
- Compton, R. E. B.** Artificial Lighting in Relation to Health. 27 p., Svo. London, 1884. *The Author.*
- Cooper, C. H.** Scarlatina in its Relation to Cow's Milk at Wimbledon and Merton, 1886-7. 10 p., Svo. London, 1888. *The Author.*
- Corradi, Prof. A.** Il X Anno della R Società Italiana d'Igiene, relazione del Prof. Corradi. 7 p., Svo. Milan, 1889. *The Author.*

- Corradi, Prof. A.** Del Commercio degli Stracci in relazione all'Igiene publica. 42 p., Svo. Milan, 1888. *The Author.*
- L'Influenza Origine et acceptions diverses de cette parole. Série chronologique des épidémies d'influenza en Italie La grand épidémie de 1580. 30 p., Svo. 1890. *The Author.*
- Crimp, W. Santo.** Sewage Disposal Works. 277 p., Svo. London, 1890. *The Author.*
- Crispi, Sig.** Norme e programmi per il conferimento delle attestazioni di idoneità. 3 p., folio. Rome, 1890. *Direzione della Sanità Publica.*
- Regolamento Speciale per 1° Servizi di Ispezione e per 1° Laboratori Municipali di Vigilanza Igienica e Sanitaria. 33 p., folio. Rome, 1890. *Direzione della Sanità Publica.*
- Regolamento Speciale per la Vigilanza Igienica sugli Alimenti sullo Bovande e sugli oggetti d'uso domestico. 33 p., folio. Rome, 1890. *Direzione della Sanità Publica.*
- Dixon, Samuel G., M.D.** Education in America. Excerpt from "Medical and Surgical Reporter." 5 p., Svo.
- Druetti, Dott. G.** Sullo Stato Sanitario Degli emigranti nelle traversate transatlantiche. 10 p., folio. Rome, 1890.
- Drysdale, Dr. J., and Dr. J. W. Hayward.** Health and Comfort in House Building. 154 p., Svo. London and New York, 1890. *The Authors.*
- Fazio, Dott. Eugenio.** Batterii dell'Acque minerali loro importanza Biologica ed igienica. 40 p., Svo. Naples, 1890. *The Author.*
- Micro-organismi nei vegetali usati freschi nell'alimentazione. 14 p. Svo. Excerpt from "Reforma Medica," September, 1889. *The Author.*
- Influences climatiques et sanitaires des Forêts dangers du déboisement. Communication faite a la IX. Congrès International de Médecine, 1887. *The Author.*
- Fazio, Professor E. Revista.** Internazionale D'Igiene, March, 1890. Monthly. Naples, 1890.
- Fraser, W.** Cardiff Union Rivers' Pollution Report, 13th August, 1890. 8 p., Svo. 1890. *The Author.*
- Greenwich Magnetical and Meteorological Observations, 1887.** 188 p., 4to. London, 1889. *The Astronomer Royal.*
- Hobrecht, J.** Die Canalisation von Berlin. 330 p., Svo., and Atlas of 57 plans. Berlin, 1884. *The Author.*
- Holdsworth, W. A.** Weights and Measures Acts, 1878-89. 180 p., Svo. London, 1890. *Purchased.*
- Hong Kong, Sanitary State of, in 1865.** Excerpt from "Edinburgh Medical Journal," 1869. 8 p., Svo. *W. T. Black.*
- Iowa State Board of Health, Monthly Bulletin for 1890.** Svo. Des Moines, 1890.
- State of. Fifth Biennial Report of the Board of Health for the period ending June 30th, 1889. 276 p., Svo. Des Moines, 1889. *The Board.*

- Japan. A Summary of the Four Annual Reports of the Central Sanitary Bureau attached to the Home Department of the Imperial Japanese Government, 1884 to 1887. 132 p., 8vo. Tokio, 1890.
Central Sanitary Bureau.
- Imperial Navy. Annual Report on the Health of, for 22nd year of Meiji, 1889. 53 p., 8vo. Tokio, 1889.
Kanehiro Takaki.
- Kemp, J. The Public Works of Haverhill. 21 p., 8vo. London, 1890.
The Author.
- Knight's Annotated Model By-laws. Third Edition. 242 p., 8vo. London, 1890.
Purchased.
- Latham, Baldwin. Bombay, Sanitation of. 112 p., 8vo. London, 1890.
The Author.
- Leet, C. H. The Ship's Surgeon of To-Day. 46 p., 8vo. Liverpool, 1889.
The Author.
- Limner, Luke (John Leighton). "Madre Natura" versus the Moloch of Fashion. 119 p., 8vo. London, 1874.
The Author.
- Local Government Board. Eighteenth Annual Report and Supplement, containing Report of Medical Officer, 1888. 524 p., 8vo. London, 1889.
- Local Government Board. *Medical Department.* Dr. Bruce Low's Report on Diphtheria in the Barnstaple Rural Sanitary District, July, 1890.
- Dr. Airy's Report on Diphtheria and Fever in Grays Sub-District of the Orsett Registration District, 1889. 7 p. London, 1890.
- Dr. Airy's Report on an Outbreak of Diphtheria in 1889, in the Stamford Rural Sanitary District (Suffolk). 6 p. London, 1890.
- Dr. Barry's Report on General Sanitary condition of the Easingwold Rural Sanitary District. 14 p. London, 1890.
- Dr. Bruce Low's Report on an Outbreak of Diphtheria in the Parish of Brinkworth, in the Rural Sanitary District of Malmesbury, Wilts. 8 p. London, 1890.
- Dr. Parson's Report on certain Outbreaks of Diphtheria in the Leek Rural Sanitary District.
- Mr. Spear's Report on an Outbreak of Fever at Northop Hall, in the Holywell Rural Sanitary District. 2 p. London, 1890.
- Dr. Parsons' Report on the Recent Prevalence of Fever in the Bedlingtonshire Urban Sanitary District, and on the General Sanitary Condition of that District, January, 1890.
- Dr. Blaxall's Report upon an Outbreak of Diphtheria at Berkhamstead, and upon the Sewerage of the Town, April, 1890.
- Dr. Ballard's Report on a Special Prevalence of Enteric Fever during Recent Years in Chester (Reprint).
- Dr. Parsons' Report on the Prevalence of Enteric Fever in the Cowpen Urban Sanitary District, Northumberland, May, 1890.

- Local Government Board.—(con.) Dr. Parsons' Report on the Water Supply of Barrowby, in the Grantham Rural Sanitary District, October, 1890.
- Mr. Spear's Report on an Outbreak of Enteric Fever in the Pemberton Urban Sanitary District, Lancashire, May, 1890.
- Mr. Spear's Report on the Prevalence of Diphtheria and Croup in the Registration Sub-District of Pontypridd, and upon the Sanitary Condition and Administration of the Sanitary areas therein contained, February, 1890.
- Dr. Barry's Report on the General Sanitary circumstances and administration of the Rawdon Urban Sanitary District, July, 1890.
- Mr. Spear's Report on the Prevalence of Fever in the Runcorn Urban Sanitary District, July, 1890.
- Dr. Parsons' report on an Epidemic of Pneumonia at Scotter, Lincolnshire, and in the neighbouring places. 21 p., folio. London, 1890.
- Dr. Barry's Report on the general Sanitary condition of the Sealecoate's Rural Sanitary District, June, 1890.
- Mr. Spear's Report on the Prevalence of Diphtheria and Croup in the Staleybridge Urban Sanitary District, and on the general Sanitary circumstances of the District, June, 1890.
- Mr. Spear's Report on the continued Prevalence of Diphtheria in the Tredegar Urban Sanitary District, February, 1890.
- Maguire, W. R. Domestic Sanitary Drainage and Plumbing. 437 p., 8vo. London, 1890.
The Author.
- Massachusetts State Board of Health. Twenty-first Annual Report. 457 p., 8vo. Boston, 1890.
The Board.
- MEDICAL OFFICERS' AND ANALYSTS' REPORTS.
- Aberdeen. Report of the Medical Officer of Health and Sanitary Inspector, Monthly, 1890.
Dr. M. Hay.
- Birmingham, City of. Report on the Health of, for 1889.
Dr. A. Hill.
- Bolton. Report on the Health of, for the Year 1889.
E. Sergeant.
- Chelmsford and Malden Rural Sanitary Authority. Report of the Medical Officer of Health, 1889, and Supplement.
Dr. J. C. Thresh.
- Chelsea. Annual Report for 1889 of the Medical Officer of Health.
Dr. Edward C. Seaton.
- Cromer. Annual Report of the Medical Officer of Health for the Urban Sanitary District, 1889. 7 p., 8vo. Norwich, 1890.
T. Shephard.
- Erpingham Union Rural Sanitary District. Annual Report of the Medical Officer of Health for the Years 1888 and 1889.
L. T. Taylor.

- Hackney.** Report on the Sanitary condition of, for the year 1889. *Dr. J. W. Tripe.*
- Hastings.** Annual Report on the Health, Sanitary condition, &c., for 1889, and for quarter ending December 31st, 1889. *C. Knox Shaw.*
 — Report on the Health, Sanitary condition, &c., quarterly, for 1890. *C. Knox Shaw.*
- Kettering.** Medical Officer of Health's Report, and Sanitary Inspector's Report for 1889. *J. W. Dryland.*
- Liverpool.** *City and Port Sanitary Authority.* Report of the Medical Officer of Health as to the work done by the Officers during the year 1889. *Dr. J. Stopford Taylor.*
 — Report on the Health of Liverpool during the Year 1889. *Dr. J. Stopford Taylor.*
- Newcastle-on-Tyne.** Report of the Medical Officer of Health on the Sanitary Condition of, with Tabular Returns of Sickness and Mortality during 1889. *H. E. Armstrong.*
- Nottingham.** Annual Report of the Medical Officer of Health for 1888. *Dr. B. A. Whitledge.*
- River Tyne Port Sanitary Authority.** Annual Report of the Medical Officer of Health. *Dr. H. E. Armstrong.*
- Scarborough Rural Sanitary Authority.** Annual Report on the Sanitary Condition of the District for 1889. *Dr. R. Cuff.*
- Stratford-on-Avon Combined Sanitary District.** Sixteenth Annual Report, 1889. *G. H. Fosbrooke.*
- St. Faith's Union Rural Sanitary District.** Annual Report of the Medical Officer of Health for the Years 1888 and 1889. *S. T. Taylor.*
- St. George's, Hanover Square.** Medical Officer's Report for year ending March 25th, 1890. 21 p., 8vo. London, 1890. *Prof. W. H. Corfield,*
 — Public Analyst's Report for 1889, ending March. *Charles E. Cassal.*
- St. Mary Abbott's, Kensington.** Annual Report on the Health, Sanitary Condition, &c., for 1889. *Dr. T. O. Dudfield.*
 — Public Analyst's Report for 1889, ending March. *Charles E. Cassal.*
- St. Mary's, Battersea.** Public Analyst's Report for 1889, ending March. *Charles E. Cassal.*
- St. Pancras.** Thirty-fourth Annual Report of the Medical Officer of Health on the Vital and Sanitary Condition for 1889. *Dr. J. F. J. Sykes.*
 — Report of the Medical Officer of Health on the Influenza Epidemic of 1889-90. *Dr. J. F. J. Sykes.*
- Torquay Local Board.** Annual Report of the Medical Officer of Health for 1889. *P. Q. Karkcek.*
- Wandsworth.** Report on the Sanitary Condition of the several parishes comprised in the Wandsworth District during the year 1889, by the Medical Officer of Health. *J. Baxter.*

- Watford Local Board of Health.** Seventeenth Annual Report by the Medical Officer of Health, 1889. *Dr. A. T. Brett.*
- Whitechapel District.** Annual Report on the Sanitary Condition of for the year 1889. *Dr. J. Loane.*
- Wolverhampton.** Report on the Health of, for the year 1889. *Dr. . Malet.*
-
- Melbourne, Royal Sanitary Commission.** Second Progress Report, Water Supply of the Metropolitan Area.
 — Third Progress Report, Drainage and Sewerage.
 — Final Report of Royal Commission on Sanitary Condition of. 60 p., folio. Melbourne, 1890. *Royal Society Commission.*
- Metropolitan Asylums Board.** Reports for year 1889. 160 p., 8vo., and Maps. London, 1890. *The Board.*
- Michaels, M. J. P.** De la restauration des Maxillaires à la suite de l'ablation totale des os de la Face. 14 p., 8vo. Chateauroux, 1890.
- Michigan State Board of Health.** Sixteenth Annual Report, year ending June, 1888. 328 p., 8vo. Lausing, 1889. *Dr. H. B. Baker.*
- Molesworth, Sir Guildford, and J. Emerson Dowson's** Decimal Coinage, Weights and Measures popularly explained. 32 p., 8vo. London, 1890. *Decimal Association.*
- New York State Board of Health.** Monthly Bulletin, 1890. 4to., New York, 1890. *The Board.*
 — Tenth Annual Report. 532 p., 8vo. Albany, 1890. *The Board.*
 — State of. Local Boards of Health in. 209 p., 8vo. Albany, 1890. *Dr. L. Balch.*
- North, S. W.** The Milk Trade as affecting the Public Health. 8 p., 8vo. Leeds, 1889. *The Author.*
- Nottingham.** Meteorology of for 1889. Folio, tables and diagrams. *P. Boobyer, M.B.*
- Ontario Provincial Board of Health.** Report on Sewage disposal at the London Asylum. 8 p., 8vo. Toronto, 1890. *Col. G. E. Waring, Junr.*
- Ottavio, Prof. Leoni.** Relazione sul Servizio del 1° Semestre del 1890. 8 p., folio. Rome, 1890. *Direzione della Sanità Publica.*
- Pagliani, Prof. Luigi.** Relazione al consiglio superiore di Sanità intorno allo ordinamento, della direzione della sanità publica. 100 p., folio. Rome, 1890. *Ministero dell' interno.*
 — Circa I fatti principali riguardanti l'igiene e la Sanità publica nel regno. 9 p., folio. Rome, 1890.
 — Stato dei cimiteri nei comuni del regno al 31 Dicembre, 1889. 34 p., folio. Rome, 1890.
- Palmberg, Dr. A.** Traité de l'Hygiène Publique d'après ses applications dans différents pays d'Europe. Traduit du suédois sous le direction de M. A. Hamon. 618 p., 8vo. Paris, 1891. *Author and Translator.*

- Patents.** Abridgements of Specifications relating to Alkalies, Oxides, and Salts. Division II. and III. (two books), 1867-1876.
 ——— Wearing Apparel. Division III. and IV., 1877-1883 (two books); Division I. and II., 1877-1883 (two books).
 ——— Bleaching and Dyeing and Printing Calico and other Fabrics and Yarns, 1877-1883.
Pean, M. De l'Ablation Totale des os de la face. 9 p., 8vo. Chateauroux, 1890.

PERIODICALS.

- | | |
|---------------------------------|---------|
| British Medical Journal | Weekly |
| Builder | " |
| Building World | Monthly |
| Contract Journal | Weekly |
| Direzione della Sanità Publica | Monthly |
| Engineering and Building Record | Weekly |
| Industries | " |
| Journal d'Hygiène | " |
| Local Government Chronicle | " |
| Metropolitan | " |
| Municipal Record | " |
| Nursing Record | Monthly |
| Plumber and Decorator | " |
| Practitioner | " |
| Public Health | " |
| Sanitarian | " |
| Sanitary News | Weekly |
| Sanitary Record | Monthly |
| Sei-i-Kawi Medical Journal | " |
- Reeves, R. H.** Sewer Ventilation and Sewage Treatment. 57 p., 8vo. London, 1889. *The Author.*
Registrar-General, England. Weekly and Quarterly Returns of Births, Deaths, and Marriages for the year 1890.
 ——— Annual Summary of Births, Deaths, and Causes of Deaths in London and other great towns, 1889. 55 p., 8vo. London, 1890. *Registrar-General.*
 ——— *Scotland.* Weekly and Quarterly Returns of Birth, Deaths, and Marriages for the year 1890.
 ——— Thirty-third Detailed Annual Report of the Registrar-General of Births, Deaths, and Marriages, in Scotland. Abstracts of 1887. 459 p., 8vo. Edinburgh, 1889.
Richardson, Dr. B. W. Health of Nations. A Review of the Works of Edwin Chadwick. 377 p. and 440 p., 2 vols., 8vo. 1887. *Purchased.*
Rome, Ministero dell' intern Direzione della Sanità publica. Bollettino Sanitario. Monthly.
 ——— Annali dell' Istituto d' Igiene sperimentale dell' Università di Roma pubblicati per cura del Prof. Angelo Celli. Volume II. Serie II. 248 p., 8vo. Rome, 1890. *Prof. Dr. Celli.*

- Russell, Dr. J. B.**, on some of the Relations of the Business of the Dairy Farmer to Public Health. 20 p., 8vo. Glasgow, 1890. *The Author.*
Sadler, Mrs. S. H. Management of Children by a Mother. 690 p., 8vo. London, 1889. *The Author.*
Schofield, Dr. A. T. Health at Home Tracts. 190 p., 8vo. London. *The Author.*
 ——— Manual of Personal and Domestic Hygiene. 163 p., 8vo. London. *The Author.*
Sears, John Edward. Architects, Surveyors and Engineers' Compendium. 4to. 1890. *Prof. T. H. Lewis.*
Simon, Sir John. English Sanitary Institutions. 496 p., 8vo. London, Paris, New York, Melbourne, 1890. *The Author.*
Stratton's Public Health Acts. 270 p., 8vo. London, 1890. *Purchased.*
Thompson, Dr. J. A. An Address delivered at the Second Session of the Australian Association for the Advancement of Science. 31 p., 8vo. Sydney, 1890. *The Author.*
 ——— *Dr. J. Ashburton.* New South Wales. A Record of the Sanitary State, on December 31st, 1887. 23 p., 8vo. Sydney, 1890. *The Author.*
United States. Tenth Census, 1880. Social Statistics of Cities. Part II., Vol. XIX. 843 p., 4to. Washington, 1887. *Rogers Field.*
United States Army. Report of the Surgeon-General of the Army to the Secretary of War, for the year ending June 30th, 1889. 207 p., 8vo. Washington, 1889. *The Surgeon-General.*
Waring, Col. G. E. The Sewerage of Columbus, Ohio. 24 p., 8vo. Columbus, 1890. *The Author.*
Waring, G. E., jun. Sewerage and Land Drainage. 406 p., 4to. New York and London, 1889. *The Author.*
Whittall, J. H. Elementary Lecture on the Theory of Life Assurance. 27 p., 8vo. London, 1890. *The Author.*

LIST OF HON. FELLOWS, FELLOWS, MEMBERS, AND ASSOCIATES.

(Additions and Corrections up to December, 1890).

HON. FELLOWS, 28; FELLOWS, 151;
MEMBERS, 423; ASSOCIATES, 329.—TOTAL, 931.

HONORARY FELLOWS.

AUSTRIA-HUNGARY.

- Date of Election.
1890. June. VON GRUBER, Prof. Franz Ritter, 1, Tiefer Graben 3,
Vienna.
1890. June. FODOR, Dr., Professor of Hygiene, Buda-Pesth.

BELGIUM.

1890. June. PUTZEYS, Dr. Felix, Professor of Hygiene at the Univer-
sity of Liège.

EGYPT.

1890. Dec. GREENE, Dr. H. R., Pasha, Chief of the Sanitary
Department, Cairo.

FRANCE.

1890. June. BROUARDEL, Dr. Paul, Prof. and Dean of the Faculty
of Medicine, Paris.
1890. June. CORNIL, Dr. V., Senator, 19, Rue St. Guillaume, Paris.
1890. June. ALPHAND, M., Director of Public Works, Paris.
1890. June. PASTEUR, Prof. Louis, Paris.
1890. June. SANTA, Dr. Prosper de Piétra, Paris.
1890. June. VALLIN, Dr. Emile, Professor of Hygiene, Director of
the School of the Military Sanitary Service, Lyons.
1890. June. DAVY, Mariè, President of the French Society of Hygiene.

GERMANY.

1890. June. HOBRECHT, Dr., Engineer, Berlin.
1890. June. VON HOFMANN, Prof. A. W., Professor of Chemistry,
Berlin.
1890. June. KOCH, Dr., Director of the Hygienic Institute, Berlin.
1890. June. PETTENKOFER, Dr., Professor of Hygiene at the University
of Munich.
1890. June. ROTH, Prof. Dr. W., Surgeon-General, 6, Kaizer Wil-
helm Platz, Dresden.
1890. June. VIRCHOW, Dr. Rudolph, Professor of Pathology, Berlin.

HOLLAND.

1890. June. DE MEYER, Dr. van Overbeek, Professor of Hygiene
at the State University of Utrecht, Netherlands.

ITALY.

1890. June. BETOCCHI, Com^{ro}. Alessandro, Prof., Civil Engineer,
Ministry of Public Works, Rome.
1890. June. CORRADI, Prof. Alfonso, Rector of the University of Pavia.
1890. June. PACCHIOTTI, Dr. Giacinto, Professor of Hygiene, Turin.

ROUMANIA.

1890. June. FELIX, Dr. J., Professor of Hygiene, Bucharest.

RUSSIA.

1890. June. SUZOR, Comte de, Architect-in-chief, Ligue de Cadets 21,
St. Petersburg.

SWITZERLAND.

1890. June. GUILLAUME, Dr., Director of the Federal Bureau of
Statistics, Berne.

TURKEY.

1890. June. ZOËROS, A., Pasha, Professor at the School of Medicine,
Director of the Bacteriological Institute, Secretary-
General of the Administration of Public Medicine
and Hygiene, Constantinople.

UNITED STATES.

1890. June. BILLINGS, Dr. John S., Washington, D.C.
1890. June. BOWDITCH, Dr. Henry J., Boston.
1890. June. WALCOTT, Dr. Henry P., Cambridge, Massachusetts.

FELLOWS (FELLOW SAN. INST.)

† Marked thus have passed the Examination of the Institute for Local Surveyors.

1889. Dec. ABEL, Sir Frederick, C.B., F.R.S., 1, Adam Street,
Adelphi, W.C.
1888. Oct. ADAMS, G. E. D'Arcy, M.D., D.P.H., CAMB., F.G.S.,
1, Clifton Gardens, Maida Vale, W.
1888. Oct. AITKEN, Prof. Sir William, M.D., F.R.S., Woolston, near
Southampton.
1888. Oct. ALBANY, H.R.H. The Duchess of, Claremont, Esher.
1888. Oct. ANGELL, Lewis, M.INST.C.E., F.K.C.LOND., Town Hall,
Stratford, E.
1890. Feb. ANNINGSOON, Bushell, M.A., M.D., Cambridge.
1888. Oct. ARCHER, John A., 79, Larkhall Rise, S.W.
1889. Dec. ARMISTEAD, William, M.B., M.O.H., Shelford, Cambridge.
1889. Dec. BARRY, Charles, F.S.A., 1, Victoria Street, S.W.

1888. Dec. BASS, Hamar Alfred, M.P., *Burton-on-Trent*.
 1888. Oct. BELL, C. W., J.P., D.L., *Feuchurst, East Grinstead, Sussex*.
 1888. Oct. BIRCH, R. W. Peregrino, M.INST.C.E., 5, *Queen Anne's Gate, S. W.*
 1889. Dec. BLOMFIELD, SIR A. W., M.A., F.R.I.B.A., 6 *Montagu Place, W.*
 1888. Oct. BLYTH, A. Wynter, M.R.C.S., L.S.A., *Court House, Marylebone*.
 1888. Oct. †BOULNOIS, H. Percy, M.INST.C.E., *City Engineer, Liverpool*.
 1890. Jan. BOWMAN, SIR William, BART., M.D., LL.D., F.R.S., 5, *Clifford Street, Bond Street, W.*
 1890. Jan. BRETT, A. T., M.D., M.O.H., *Watford House, Watford*.
 1888. Oct. BRIGHTEN, W. G., 108, *Fenchurch Street, E.C.*
 1889. Dec. BROCK, J. H. E., M.D., B.SO.LOND., 115, *Adelaide Road, South Hampstead*.
 1888. Oct. BROWN, Harry, *University College, Gower Street, W.C.*
 1888. Oct. BROWNING, Benjamin, L.R.C.P., M.R.C.S., D.P.H.CAMB., 1, *Westbourne Terrace, W.*
 1888. Oct. BURBERY, J. Stone, *Trent House, West Cowes, I. of W.*
 1888. Oct. BURDETT, Henry C., F.S.S., F.L.S., *The Lodge, Porchester Square, W.*
 1888. Oct. BURGESS, Peter, M.A., M.B., *Driffield, Yorkshire*.
 1888. Oct. CAMBRIDGE, H.R.H. THE DUKE OF, K.G., *Gloucester House, Park Lane, W.*
 1888. Oct. CAREW, R. R., *Carpenters, Watford, Herts*.
 1888. Oct. CARPENTER, Alfred, M.D. LOND., M.R.C.S., D.P.H.CAMB., *Heath Lodge, Morland Park, Croydon*.
 1888. Oct. CARTER, R. Brudenell, F.R.C.S., 27, *Queen Anne Street, Cavendish Square, W.*
 1888. Aug. CASSAL, Charles E., F.I.C., F.C.S., *Town Hall, Kensington, W.*, (*Vestry Hall, Mount Street, Grosvenor Square, W.*), (*Brenne House, Wandsworth Common, S. W.*).
 1890. May. CATES, Arthur, F.R.I.B.A., 7, *Whitehall Yard, S. W.*
 1888. Oct. CLARK, F. Le Gros, F.R.S., *The Thorns, Sevenoaks, Kent*.
 1888. Oct. COLLINS, H. H., F.R.I.B.A., 61, *Old Broad Street, E.C.*; and 5, *Randolph Road, W.*
 1889. Dec. COLLINS, Wm. J., M.D., B.SO.LOND., D.P.H., 1, *Albert Terrace, Regent's Park, N. W.*
 1888. Oct. COLMAN, J. J., M.P., *Carrow House, Norwich*.
 1888. Aug. CORFIELD, PROF. W. H., M.A., M.D.OXON., F.R.C.P.LOND., 19, *Savile Row, W.*
 1888. Oct. CRAWFORD, Sir Thomas, M.D., K.O.B., 5, *St. John's Park, Blackheath*.
 1888. Oct. CUTLER, Thomas William, F.R.I.B.A., 5, *Queen Square, Bloomsbury*.
 1888. Oct. DAVEY, Alexander George, M.D., L.R.C.P., M.R.C.S., 9, *Belvedere Street, Ryde, Isle of Wight*.

1888. Oct. DERBY, RT. HON. EARL OF, D.C.L., LL.D., F.R.S., 33, *St. James' Square, London, S. W.*
 1888. Oct. DOULTON, SIR Henry, *Lambeth, S. W.*
 1890. Feb. DOWSON, A., 3, *Gl. Queen Street, Westminster*.
 1888. Oct. DOYLE, Patrick, C.E., F.G.S., *Indian Engineering, Spence's Hotel, Calcutta*.
 1888. Aug. DUDFIELD, T. Orme, M.D., L.R.C.P., M.R.C.S., 14, *Ashburn Place, Cromwell Road, S. W.*
 1888. Oct. DYKE, T. J., F.R.C.S., *The Hollies, Merthyr Tydfil*.
 1888. Oct. EATON, John, M.D., *Montreal House, Cleator Moor, Cumberland*.
 1888. Oct. ELLIS, W. Horton, F.R.MET.SOC., *Hartwell House, Exeter*.
 1888. Oct. EVANS, SIR T. W., *Allestree Hall, Derby*.
 1890. Dec. EWART, Joseph, M.D., F.R.C.P., J.P., *Montpelier House, Montpelier Terrace, Brighton*.
 1888. Oct. FAYRE, Sir Joseph, K.O.S.I., M.D., F.R.C.P., F.R.C.S., LL.D., F.R.S., 53, *Wimpole Street, W.*
 1888. Oct. FIELD, Basil, B.A., 36, *Lincoln's Inn Fields, W.C.*
 1888. Aug. FIELD, Rogers, B.A., M.INST.C.E., 7, *Victoria Street, Westminster, S. W.*
 1888. Oct. FLOWER, MAJOR Lamorock, 48, *Holland Road, W.*
 1888. Nov. FORTESCUE, RT. HON. EARL, 40, *Belgrave Square, S. W.*, (*Castle Hill, South Molton, Devon*).
 1888. Aug. GALTON, SIR Douglas, K.C.B., D.C.L., LL.D., F.R.S., 12, *Chester Street, Grosvenor Place, S. W.*
 1888. Oct. GOWERS, William Richard, M.B., 50, *Queen Anne Street, W.*
 1888. Oct. GRANTHAM, R. B., M.INST.C.E., *Northumberland Chambers, Northumberland Avenue, S. W.*
 1888. Oct. GRIMSHAW, Thomas Wrigley, M.D., *Priorsland, Carrickmines, Dublin*.
 1888. Oct. HARKER, J., M.D., J.P., *Hazel Grove, Carnforth, Lanc.*
 1890. May. HARRIS, Alfred E., L.R.C.P., L.R.C.S., M.O.H., *Health Offices, Sunderland, (Brookside Villa, Sunderland)*.
 1888. Oct. HARRIS, Thomas, F.R.I.B.A., 6, *Southampton Street, Bloomsbury Square, W.C.*
 1890. Jan. HARRISON, C., M.D., D.P.H.CAMB., *Newland, Lincoln*.
 1888. Oct. HART, Ernest, 38, *Wimpole Street, W.*
 1888. Oct. HAVILAND, A., M.R.C.S., *International Club, Charing Cross, S. W.*
 1890. June. HEHIR, Patrick, M.D., F.R.C.S., D.P.H., *Hyderabad, Deccan, India*.
 1890. Jan. HILL, Alfred, M.D., M.R.C.S., L.S.A., *The Council House, Birmingham*.
 1888. Oct. HILL, M. Berkeley, M.B., F.R.C.S., 66, *Wimpole Street, W.*
 1888. Dec. HIME, Thomas Whiteside, A.B., M.B., L.R.C.S., 54, *Horton Road, Bradford*.
 1888. Oct. HODSON, George, M.INST.C.E., *Abbey Buildings, Princes Street, Westminster, (Loughborough)*.

1889. Dec. HOPE, E. W., *Municipal Offices, Liverpool.*
 1888. Oct. HUMPHRY, SIR G. M., M.D., F.R.S., *Cambridge.*
 1889. Dec. HUNTER, SIR William Guyer, K.O.M.G., M.P., M.D.,
 F.R.C.P., 21, *Norfolk Crescent, Hyde Park, W.*
 1890. Jan. ILIFFE, William, M.R.C.S., 41, *Osmaston Street, Derby.*
 1888. Oct. JONES, LIEUT.-COL., A.S. V. C., ASSOC.M.INST.C.E.,
Culverside, Carshalton, Surrey.
 1888. Aug. JUDGE, Mark H., A.R.I.B.A., 15, *Connaught Square, W.*
 1888. Oct. KELLY, Charles, M.D., F.R.C.P., *Ellesmere, Gratwicke
 Road, Worthing.*
 1888. Dec. KINGDON, J. A., *Grocer's Hall, E.C.*
 1888. Oct. LATHAM, Baldwin, M.INST.C.E., F.R.MET.SOC., F.O.S.,
 F.S.S., 13, *Victoria Street, S.W.*, (*Nantwich House,
 Park Hill Rise, Croydon.*)
 1888. Oct. LAW, Henry, M.INST.C.E., F.R.MET.SOC., 17, *Victoria
 Street, S.W.*, (245, *Vauxhall Bridge Road.*)
 1889. Dec. LAWRENCE, SIR Trevor, BART., M.P., 57, *Prince's Gate,
 S.W.*
 1888. Oct. LAWSON, INSPECTOR-GENERAL R., LL.D., F.S.S., 20,
Lansdowne Road, Notting Hill.
 1888. Oct. LEAF, Charles J., F.L.S., F.S.A., 6, *Sussex Place, Regent's
 Park, N.W.*
 1888. Dec. LEAF, W., 6, *Sussex Place, Regent's Park, N.W.*
 1888. Aug. LEWIS, PROF. T. Hayter, F.S.A., F.R.I.B.A., 12, *Kensing-
 ton Garden Square, S.W.*
 1888. Oct. LIVESKY, J., M.INST.C.E., 2, *Victoria Mansions, Victoria
 Street, Westminster, S.W.*
 1888. Dec. LONGSTAFF, G. B., M.D., M.A., D.P.H., *Southfield Grange,
 Wandsworth, S.W.*
 1888. Dec. LUBBOCK, SIR John, BART., M.P., D.C.L., F.R.S., *Lombard
 Street, E.C.*
 1888. Oct. MACKAY, John Alexander Dixie, B.A.OXON., 1, *West-
 bourne Terrace, W.*
 1888. Oct. MANSERGH, James, M.INST.C.E., 5, *Victoria Street, S.W.*
 1888. Oct. MARSHALL, John, F.R.S., 10, *Savile Row, W.*
 1889. Dec. MARTEN, H. J., M.INST.C.E., *The Birches, Codsall,
 Wolverhampton.*
 1888. Oct. MEATH, RT. HON. EARL OF, 83, *Lancaster Gate, Hyde
 Park.*
 1888. Dec. MICHAEL, W. H., Q.C., 45, *Bedford Square, W.C.*,
(Foxgrove Road, Beckenham, Kent), (*King's Bench
 Walk, Temple.*)
 1890. Jan. MURPHY, Shirley F., M.R.C.S., 41, *Queen Anne Street, W.*
 1890. June. NEWSHOLME, Arthur, M.D., M.R.C.S., L.S.A., D.P.H., M.O.H.,
Town Hall, Brighton, (15, *College Road, Brighton.*)
 1888. Dec. NIGHTINGALE, Miss F., 10, *South Street, Grosvenor
 Square, W.*
 1890. May. NORTH, Samuel W., M.R.C.S., F.G.S., M.O.H., *Micklegate,
 York.*

1888. Aug. NORTHUMBERLAND, HIS GRACE THE DUKE OF, K.G.,
 D.C.L., LL.D., 2, *Grosvenor Place, S.W.*
 1890. Nov. NOTTER, Professor J. Lane, B.A., M.D., D.P.H., *Leigh
 Grange, Woolston, Southampton.*
 1888. Oct. OHREN, Magnus, ASSOC.M.INST.C.E., F.C.S., *Lower
 Sydenham.*
 1888. Oct. OLLARD, J. F., *The Manor House, North Runcton,
 King's Lynn.*
 1888. Oct. OLLARD, William Ludlam, *Musticott House, Walsoken,
 Wisbeach, Norfolk.*
 1889. Nov. PAGET, Charles Edward, M.R.C.S., D.P.H., M.O.H., *Town
 Hall, Salford.*
 1888. Oct. PAGET, J., J.P., *Stuffynwood, Mansfield.*
 1888. Aug. PARKES, Charles Henry, *Netherfield, Weybridge.*
 1888. Oct. PARKES, Louis Colman, M.D., M.R.C.S., D.P.H., 61,
Cadogan Square, S.W.
 1888. Oct. PEGGS, J. Wallace, ASSOC.M.INST.C.E., 9, *Welbeck Man-
 sions, Cadogan Terrace, S.W.*, (21, *Queen Anne's
 Gate, S.W.*)
 1888. Oct. PLUMBE, Rowland, F.R.I.B.A., 13, *Fitzroy Square, W.*
 1888. Aug. POORE, George Vivian, M.D., F.R.C.P., 30, *Wimpole St., W.*
 1890. Jan. POWELL, Francis Sharp, M.P., 1, *Cambridge Square,
 W.*, (*Horton Old Hall, Bradford.*)
 1888. Oct. PRITCHARD, E., M.INST.C.E., F.O.S., 2, *Storey's Gate,
 S.W.*, (37, *Waterloo Street, Birmingham.*)
 1888. Oct. RAWLINSON, SIR Robert, K.C.B., M.INST.C.E., 11, *The
 Boltons, Brompton, S.W.*
 1890. Feb. REDWOOD, T. Hall, M.D., *The Lawn, Rhymney.*
 1888. Oct. REYNOLDS, PROF. J. Russell, M.D., F.R.C.P., F.R.S., 38,
Grosvenor Street, W.
 1888. Nov. RICHARDSON, Benjamin Ward, M.D., LL.D., F.R.S., 25,
Manchester Square, W.
 1888. Oct. RICHARDSON, J., M.INST.C.E., *Methley Park, Leeds.*
 1890. Jan. RIPON, MOST HON. MARQUESS OF, K.G., D.C.L., F.R.S.,
 1, *Carlton Gardens, S.W.*
 1888. Oct. ROBINS, Edward Cookworthy, F.S.A., F.R.I.B.A., 46,
Berners Street, W.
 1888. Oct. ROBINSON, PROF. Henry, M.INST.C.E., 13, *Victoria
 Street, S.W.*, (54, *Boundary Road, N.W.*)
 1888. Oct. RUSSELL, HON. F. A. Rollo, F.R.MET.SOC., *Pembroke
 Lodge, Richmond Park.*
 1888. Oct. RUSSELL, Jas. A., M.A., F.R.C.P. EDIN., M.B., B.SC., F.R.S.E.,
Woodville, Canaan Lane, Edinburgh.
 1890. Jan. RUSSELL, J. B., M.D., LL.D., M.O.H., *Glasgow.*
 1889. Jan. SALT, Thomas, M.P., 85, *St. George's Square, S.W.*
 1889. Dec. SEATON, Edward Cox, M.D., F.R.C.S., 35, *George Street,
 Hanover Square, W.*
 1888. Oct. SHAW, George, 20, *King Edward Street, Newgate St., E.C.*
 1888. Dec. SIEVEKING, SIR E. H., M.D., 17, *Manchester Square, W.*

1889. Nov. SMITH, James, Osborn, A.R.I.B.A., 31, Southampton Street, Strand, W.C., (65, Frithfield Gardens, Uxbridge Road, W.).
1888. Oct. SMITH, William Robert, M.D., F.R.S.E., F.C.S., B.Sc., D.Ph. Camb., 74, Great Russell Street, W.C., (Plumstead, Kent).
1888. Oct. SNELL, H. Saxon, F.R.I.B.A., 22, Southampton Buildings, W.C., and Lynden Lodge, Elmfield Road, Bromley, Kent.
1888. Oct. STEELE, John Charles, M.D., Guy's Hospital, S.E.
1889. Mar. STEPHENS, Henry C., M.P., Avenue House, Finchley.
1888. Oct. STRONG, Henry John, M.D., Whitgift House, George Street, Croydon.
1888. Oct. SYKES, J. F. J., M.B., B.Sc., D.P.H., 171, Camden Road, N.W.
1888. Aug. SYMONS, G. J., F.R.S., 62, Camden Square, N.W.
1889. Dec. TAYLOR, J. Stopford, M.D., M.O.H., 6, Grove Park, Liverpool.
1889. Dec. TAYLOR, John W., M.D., B.Sc., J.P., M.O.H., Examiner in Medical Jurisprudence, and for the final B.Sc. in the department of Public Health, University of Edinburgh, Rothesay House, Scarborough.
1888. Oct. TEMPLE, RIGHT REV. Frederick, D.D., LORD BISHOP OF LONDON, The Palace, Fulham.
1888. Oct. THOMPSON, John, M.D., F.R.C.S., J.P., Lynton House, Bideford.
1889. Dec. THOMPSON, SIR Henry, M.B., 35, Wimpole Street, W.
1888. Oct. THORNE, R. Thorne, M.B., 45, Inverness Terrace, W.
1888. Oct. TURBERVILL, Col. T. Picton, Ewenny Priory, Bridgend, Glamorgan.
1888. Oct. TURNER, Ernest, F.R.I.B.A., 246, Regent Street, W.
1888. Aug. TWINING, Thomas, Perryn House, Twickenham.
1889. Feb. TYNDALL, Professor John, F.R.S., Hind Head House, Shotter Mill, near Petersfield.
1889. Dec. WALFORD, Edward, M.D., D.P.H.CAMB., M.R.C.S., M.O.H., Town Hall, Cardiff.
1888. Oct. WARING, Col. G. E., Jun., M.INST.C.E., Newport, Rhode Island, U. S. America.
1888. Oct. WATERHOUSE, Alfred, R.A., 20, New Cavendish St., W.
1888. Aug. WESTMINSTER, HIS GRACE THE DUKE OF, K.G., Grosvenor House, W.
1888. Oct. WHITELEGGE, Benjamin Arthur, M.D., B.Sc., D.P.H.CAMB. Wakefield.
1888. Oct. WILLIAMS, Dawson, M.D., 25, Old Burlington Street, W.
1888. Oct. WILSON, George, M.A., M.D., F.R.S.E., 7, Avon Place, Warwick.
1889. Jan. WIX, H. A., 3, King's Bench Walk, Temple, E.C.

ORDINARY MEMBERS (MEM. SAN. INST.)

† Marked thus have passed the Examination of the Institute for Local Surveyors.

‡ Marked thus have passed the Examination of the Institute for Inspectors of Nuisances.

1889. Dec. ACLAND, SIR Henry W., K.O.B., M.D., D.C.L., F.R.S., Broad Street, Oxford.
1890. May. ADAMS, Frederick Edward, M.D., D.P.H., Wellingborough, Northampton.
1889. Mar. ADAMS, James, M.D., M.O.H., Springwell, Barnes, Surrey.
1889. Feb. ADDIS, William Judson, Executive Engineer and Secretary to the Bassein Municipality, Bassein, Burmah.
1889. Mar. ADKINS, George, L.H.C.P.LOND., D.P.H., M.O.H., Yealmpton, Plympton, Devon.
1888. Dec. AIRY, Hubert, M.A., M.D., Local Government Board, S.W.
1888. Oct. ALDAM, William, Frickley Hall, near Doncaster.
1889. Feb. ALDWINCKLE, Thomas William, F.R.I.B.A., 2, East India Avenue, Leadenhall Street, E.C.
1888. Oct. ALEXANDER, W. C., Aubrey House, Campden Hill, W.
1889. Nov. ALLAN, Francis J., M.D., D.P.H. (EDIN.), 53, Devonshire Street, Portland Place, W.
1889. Apr. ALLFREY, Charles Henry, M.D., F.R.C.S., D.P.H., Plas Newydd, Princes Road, St. Leonards-on-Sea.
1888. Oct. AMES, H. St. Vincent, M.A., Cote House, Westbury-on-Trym, Bristol.
1888. Oct. ANDERSON, Geo., C.E., 35a Great George Street, Westminster, S.W.
1889. Jan. †ANDERSON, John Reid, The Cottage, Gibson's Hill, Norwood, S.E.
1890. Dec. ANDERSON, John, ASSOC.M.INST.C.E., Town Hall, Montrose, N.B.
1888. Oct. ANDRESEN, August F., Priory Cottage, Mill Lane, West Hampstead.
1888. Oct. ANDREW, CAPT. C. W., 286, Kennington Park Road, S.E.
1889. Mar. ANDREWS, G. R., Surveyor, Johannesburg, South Africa.
1888. Oct. ANDREWS, Jonathan, 10A, Mount Street, Berkeley Square, W.
1890. Apr. ANGELL, A. Torrington, 2, Drayton Gardens, S.W.
1888. Oct. †ANGELL, John A., ASSOC.M.INST.C.E., 50, Leyspring Rd., Leytonstone, Essex.
1889. Nov. ANSON, Frederick Henry, M.A., ASSOC.M.INST.C.E., 15, Dean's Yard, Westminster, S.W.
1888. Oct. ARMSTRONG, PROF. H. E., PH.D., F.R.S., 55, Granville Park, Lewisham, S.E.
1890. Oct. ASPINALL, Miles, 11, Kendrick Street, Stroud.

1888. Oct. AUMONIER, F., 110, *High Street, Manchester Square, W.*
 1888. Oct. BAKER, SIR Benjamin, K.C.M.G., M.INST.C.E., 2, *Queen's Square Place, Westminster.*
 1888. Oct. BAKER, R., *Ballingdon House, Green Lanes, N.*
 1888. Oct. BANNER, E. G., *Wessex House, Northumberland Avenue, W.C.*
 1890. May. BARTON, John Isaac, *Ryde, (Ventnor), Isle of Wight.*
 1890. May. BATEMAN, James, *Assistant Engineer, Natal Government Railway.*
 1888. Oct. BATHURST, THE RT. HON. THE EARL, 20, *Grosvenor Gardens, S.W.*
 1888. Oct. BAUGH, Alfred C., *Egerton Street, Wrexham.*
 1888. Oct. BEAN, Alexander Thomas, 7, *Victoria Street, S.W.*
 1888. Dec. †BEARD, E. T., *The Colonial College, Hollesley Bay, Suffolk.*
 1888. Oct. BEARD, George, *Thickthorn, Kenilworth.*
 1888. Oct. BEARD, Neville, *The Mount, Ashbourne.*
 1889. Dec. BEARDMORE, George Russell, L.R.C.P.LOND., M.R.C.S., L.S.A., D.P.H.CAMB., *Warwick House, Upper Street, Islington.*
 1888. Oct. BECK, Marcus, M.B., 30, *Wimpole Street, W.*
 1888. Oct. BEDDOE, John, B.A., M.D., F.R.S., *Mortimer House, Clifton, Bristol.*
 1888. Oct. BEEVOR, Mrs. Elizabeth, 129, *Harley Street, W.*
 1888. Oct. BELL, Thomas, L.R.C.P. LOND., *Uppingham, Rutland.*
 1888. Dec. †BENJAMIN, Horace Bernton, F.R.G.S., 28, *Albemarle Street, W., (37, Upper Grosvenor Street, W.).*
 1888. Oct. BENNETT, Hugh, M.R.C.S., *Builth Wells, Brecon.*
 1888. Oct. BERNARD, William Larkins, 39, *Broad Street, Bristol.*
 1888. Oct. †BERRINGTON, R. E. W., ASSOC.M.INST.C.E., *Graisleley, Wolverhampton.*
 1888. Oct. BICKERSTETH, E. R., F.R.C.S., 2, *Rodney Street, Liverpool.*
 1888. Oct. BLACK, SURG.-MAJOR W. G., 2, *George Square, Edinburgh.*
 1889. Mar. BLAIR, William Nisbet, ASSOC.M.INST.C.E., *Town Hall, Bootle-cum-Linacre.*
 1888. Oct. BLASHILL, T., F.R.I.B.A., *Superintending Architect, London County Council, Spring Gardens, S.W.*
 1889. Nov. BLEKSLEY, Arthur Herbert, J.P., *Borough of Kimberley, Griqualand West, Cape Colony.*
 1889. Mar. BLUMER, Frederick Milnes, B.A., M.B., M.O.H., *Foregate Street, Stafford.*
 1889. Feb. BOLDING, John T., 19, *South Moulton Street, W.*
 1888. Oct. BOND, Frederick Adolphus, M.B., C.M.EDIN., D.P.H.EDIN., *Seerscroft, Faygate, Sussex.*
 1890. Apr. BOOBYER, Philip, M.B., M.R.C.S., M.O.H., *The Guildhall, Nottingham.*

1888. Dec. BOSTOCK, H., *The Oaklands, Rowley Avenue, Stafford.*
 1888. Oct. BOX, M. H.
 1888. Oct. BRACE, W. H., M.D., 7, *Queen's Gate Terrace, S.W.*
 1888. Oct. BRACKETT, Wm., 42, *London Road, and 27, High Street, Tunbridge Wells.*
 1888. Oct. BLADSHAW, James D., B.A., M.B., M.R.C.P., M.R.C.S., 30, *George Street, Hanover Square, W.*
 1889. Mar. BREBNER, George Reith, M.D., D.P.H., *Bensham Lodge, West Croydon.*
 1888. Oct. BRIDGES, J. H., M.B., F.R.C.P., *The Brambles, Wimbledon.*
 1888. Nov. BRISTOWE, John Syer, M.D., F.R.S., 13, *Old Burlington Street, W.*
 1889. Apr. BRODIE, John Shanks, ASSOC.M.INST.C.E., *Town Hall, Whitehaven, Cumberland.*
 1889. Mar. BROOKE, Walter, ASSOC.M.INST.C.E., *Town Surveyor, Richmond, Surrey.*
 1889. Apr. BROOKE, William, M.D., M.O.H., *Shaw, near Oldham.*
 1888. Oct. BROWN, William Ibbs, *St. Michael's Avenue and Guildhall, Northampton.*
 1888. Oct. BRYANT, Thomas, F.R.C.S., 65, *Grosvenor Street, W.*
 1888. Dec. BUCKTON, Mrs. 27, *Ladbroke Square, W.*
 1888. Dec. †BUNTEX, Charles, *Casilla, 448, c/o L. J. Lowe, Calle Rivadaira 165, Buenos Ayres.*
 1890. Apr. BURDWOOD, James Watson, M.O.H., *Bourne, West Cottage, Bourne, Lincoln.*
 1888. Dec. BURMESTER, Miss E., 9, *Park Square, W.*
 1890. Jan. BURR, Alfred, F.R.I.B.A., 85, *Gower Street, W.C.*
 1889. Apr. BURTON, Samuel Hubert, F.R.C.S., M.O.H., 50, *St. Giles's Street, Norwich.*
 1889. Jan. †BURTON, W. Kinninmond, *Professor of Sanitary Engineering, Imperial University, Tokio, Japan.*
 1889. Feb. †CAMPBELL, Adam Horsburgh, ASSOC.M.INST.C.E., *Borough Surveyor's Office, Stratford-on-Avon.*
 1888. Oct. CAMPBELL, Charles, *Nepscend, Sheffield.*
 1888. Oct. CAMPBELL, HON. Dudley, 1, *Mitre Court Buildings, Temple.*
 1889. Mar. CAMPBELL, Kenneth Findlater, ASSOC.M.INST.C.E., *Borough Engineer, Stockton-on-Tees.*
 1888. Oct. CARLINE, John, ASSOC.M.INST.C.E., *Lewisham Board of Works, S.E.*
 1889. Mar. CARLTON, George Brody, ASSOC.M.INST.C.E., *Knighton, Oak Hill Road, Beckenham.*
 1888. Nov. CARRITT, Ernest, 18 & 19, *Great St. Helens, E.C.*
 1890. Nov. CHART, Robert Masters, *Mitcham, Surrey.*
 1888. Oct. CHATTERTON, George, M.INST.C.E., 46, *Queen Anne's Gate, S.W.*
 1888. Oct. CHATTOCK, Miss Frances C., *Solihull, Birmingham.*

1888. Oct. CLARKE, James Wright, 17, *Shelgate Road, Northcote Road, Wandsworth.*
 1888. Oct. CLARKSON, J. W., M.R.C.S.E., L.R.C.P.L., *c/o Messrs. H. S. King & Co., Pall Mall, S.W.*
 1890. Oct. †CLOTHIER, Samuel Thompson, *Street, Somerset.*
 1888. Oct. COATES, C., F.R.C.P., 10, *Circus, Bath.*
 1888. Oct. COCK, Frederick, M.D., 1, *Porchester Houses, Porchester Square.*
 1888. Oct. COKE, William Harriott, M.R.C.S., *Whitfield House, Ashford, Kent.*
 1888. Oct. COLLINGRIDGE, W., M.A., M.D., D.P.H., *Port of London Sanitary Offices, Greenwich, S.E.*
 1888. Oct. COLLINSON, John, 90, *Cromwell Road, S.W.*
 1888. Oct. †COMBER, P. F., M.INST.C.E. IRELAND, *Fairy Hill, Bray, Co. Wicklow.*
 1888. Oct. †COOPER, C. H., ASSOC.M.INST.C.E., *Local Board Offices, Wimbledon.*
 1888. Oct. COOPER, Francis A., ASSOC.M.INST.C.E., *c/o H. F. Cooper, Nottingham and Notts Bank, Newark.*
 1888. Oct. COOPER, Henry W., 27, *Upper George Street, Edgware Road, W.*
 1888. Nov. COOPER, John, jun., *Croydon.*
 1889. Jan. †COOPER, William, 32, *Chcetham Street, Chcetham, Manchester.*
 1888. Oct. CORBETT, Joseph, 9, *Albert Square, Manchester.*
 1888. Oct. CORSAN, John R., 80, *Gray's Inn Road, W.C.*
 1888. Oct. COURTNEY, MAJOR D. C., R.E., 22, *Collingham Gardens, Kensington, S.W.*
 1889. Oct. COWAN, Peter Chalmers, B.SC. (EDIN.), ASSOC.M.INST.C.E., 9, *College Gardens, Belfast.*
 1888. Oct. COWTAN, Frank, 309, *Oxford Street, W.*
 1890. Oct. †‡CRAIG, G. A., *Wood's Temperance Hotel, High Street, Berwick-on-Tweed.*
 1888. Oct. CRANBROOK, THE RT. HON. VISCOUNT, G.C.S.I., 17, *Grosvenor Crescent, S.W.*
 1889. June. CREGEEN, Hugh Stowell, 42, *Freelands Road, Bromley, Kent.*
 1888. Oct. †CRIMP, W. Santo, ASSOC.M.INST.C.E., F.G.S., *London County Council, Spring Gardens.*
 1888. Oct. CROMBIE, James, M.B., D.P.H.EDIN., *The Butts, Brentford.*
 1888. Oct. CROWLEY, Frederick, *Ashdell, Alton, Hants.*
 1889. Mar. CUFF, Robert, M.B., M.R.C.S., M.O.H., 28, *Huntriss Row, Scarborough.*
 1888. Oct. CUNNINGHAM, SIR H. S., K.C.I.E., 11, *Egerton Gardens, S.W.*
 1888. Oct. †CURWEN, John F., 51, *Highgate, Kendal.*
 1890. Mar. DABBS, George Henry Roque, M.D., M.R.C.S., M.O.H., *Highfields, Shanklin, I. of Wight.*

1888. Oct. †DARCH, John, 74, *Sarsfield Road, Balham, S.W.*
 1890. Oct. †DAVIS, Neville Brookes, 32, *Ashburnham Road, Bedford.*
 1888. Oct. DAWSON, Charles James, *Surveyor to the Local Board Barking.*
 1888. Oct. DAY, Ernest, F.R.I.B.A., 5, *Foregate Street, Worcester.*
 1890. Nov. DAY, William White, M.D., D.P.H.CAMB., *Church Street Lower Edmonton.*
 1888. Oct. DEBENHAM, F. G., *Cheshunt Park, Herts.*
 1888. Oct. DE CHAUMONT, Miss Anna Kennedy Francois, *Alladale, Woolston, Southampton.*
 1889. Nov. DE COURCY-MEADE, Thomas, ASSOC.M.INST.C.E., 1, *Park Villas, The Park, Highgate, N.*
 1888. Oct. DE SOLDENHOFF, Richard, 12, *Newport Road, Cardiff.*
 1888. Oct. DENNIS, Nelson F., *Town Surveyor, West Cowes.*
 1889. May. DIXEY, Harry Edward, M.D., *Woodgate, Great Malvern.*
 1889. Apr. DONALD, James Turner, L.R.C.S., M.O.H., *Paisley.*
 1889. Apr. DONOVAN, Dennis D., L.R.C.P., L.R.C.S., *Superintendent Medical Officer of Health, City of Cork.*
 1888. Oct. DOUGLAS, George, *Burslem.*
 1888. Oct. DOULTON, James Duncan, *Lambeth.*
 1890. Jan. DRUMMOND, Edward, M.D., M.R.C.S., D.P.H.CAMB., *Rome.*
 1888. Dec. DRURY, Edward Dru, F.S.A., F.R.I.B.A., 35, *Bucklersbury, E.C.*
 1889. Nov. DUNLOP, Archibald, M.D., M.R.C.S., M.O.H., *Hollywood, Belfast.*
 1889. Apr. EATON-SHORE, George, ASSOC.M.INST.C.E., *Borough Engineer, 190, Edlestone Road, Crewe.*
 1888. Oct. EBURY, RT. HON. LORD, *Moor Park, Rickmansworth.*
 1888. Oct. ECCLES, Miss Jane Helen, 3, *Dean's Yard, Westminster, S.W.*
 1888. Oct. ELFORD, John, *Borough Surveyor, Poole, Dorset.*
 1888. Dec. EMERSON, W., F.R.I.B.A., 8, *The Sanctuary, S.W.*
 1889. May. ENGLISH, Edgar, M.R.C.S., L.S.A., D.P.H., *High Street, Mexborough, Rotherham.*
 1889. Jan. ERICHSEN, J. Eric, F.R.S., 6, *Cavendish Place, W.*
 1888. Nov. EVERS, SURG.-MAJOR B., *care of Messrs. Watson Bros., 27, Leadenhall Street, E.C.*
 1889. Jan. FARRER, SIR T. H., BART., 27, *Bryanston Square, W.*
 1888. Oct. FAWCETT, William Milner, M.A., F.R.I.B.A., 1, *Silver Street, Cambridge.*
 1888. Oct. FERNIE, C. W. B., *Keythorpe, Leicester.*
 1888. Oct. FIELD, Horace, 14, *Gray's Inn Square, W.C.*
 1888. Oct. FINLAY, David W., B.A., M.D., F.R.C.P., D.P.H.CAMB., 9, *Lower Berkeley Street, W.*
 1888. Oct. FISHER, T. J., 50, *Thorne Road, South Lambeth.*
 1888. Oct. FORDE, H. C., M.INST.C.E., 4, *Great Winchester St., E.C.*
 1888. Oct. FOSTER, Reginald Le Neve, F.O.S., *North Road, Droylston, Manchester.*

1888. Oct. FRANK, Philip, M.D., *Cannes, France.*
 1888. Oct. FRASER, James, M.INST.C.E., 100, *Castle Street, Inverness.*
 1889. Jan. FRASER, W. J., ASSOC.M.INST.C.E., 98, *Commercial Road, E.*
 1888. Nov. FRYER, James, 13, *Bloomsbury Street, Vincent Square, S.W.*
 1888. Oct. GALTON, Francis, F.R.S., 42, *Rutland Gate, S.W.*
 1889. Mar. GANGE, Frederick A., M.D., M.O.H., *Faversham, Kent.*
 1888. Oct. †GEEN, Harry, *Hillside, Okehampton, Devon.*
 1889. June. GIBSON, Charles Philip, L.R.C.P., M.R.C.S., M.O.H., *Wetherby, Yorkshire.*
 1889. Dec. †GIBSON, William, *Bonhay Road, Exeter.*
 1889. Jan. †GILBY, Charles, *Bath.*
 1888. Oct. GILL, D., *Farleigh, Weston-super-Mare.*
 1888. Dec. GLADSTONE, J. H., PH.D., F.R.S., 17, *Pembridge Square, W.*
 1888. Dec. GLEN, A. W., 33, *Davies Street, Berkeley Square, W.*
 1890. Mar. GODFREY, Robert, ASSOC.M.INST.C.E., *King's Heath, Worcestershire.*
 1889. Nov. GOODYEAR, Herbert, ASSOC.M.INST.C.E., *Colchester, Essex.*
 1889. June. GOUDE, Herbert, M.D., D.P.H., *Small-pox and Vaccination Hospital, Highgate Hill, Upper Holloway, N.*
 1889. Apr. GRANT, Ogilvie, M.B., C.M.EDIN., M.O.H., *Queen Mary's House, Inverness.*
 1888. Oct. GRAY, Alexander, 25, *Greenhill Road, Hampstead, N.W.*
 1890. Apr. GREATOROX, Albert Daniel, *Municipal Offices, Southampton.*
 1888. Oct. GRELLIER, William, F.R.I.B.A., 6, *Queen Anne's Gate, S.W.*
 1888. Oct. GROVES, Joseph, B.A., M.D., F.G.S., *Carisbrooke, Isle of Wight.*
 1890. Jan. GRUGEN, William, D.P.H., 11, *Montpelier Road, Ealing, W.*
 1888. Oct. HALL, E. T., F.R.I.B.A., 57, *Moorgate Street, E.C.*
 1888. Oct. HANCOCK, Charles, M.A.OXON, 2, *The Cloisters, Temple, E.C., and Reform Club, S.W.*
 1890. Dec. HANSON, John, *Victoria Chemical Works, Wakefield.*
 1889. Apr. HARDIE, Gordon K., M.D., *Florence Road, Ealing.*
 1889. Mar. HARDING, J. R., ASSOC.M.INST.C.E., *Surveyor, Epsom, Surrey.*
 1889. Apr. HARE, C. J., M.D., F.R.C.P., *Berkeley House, 15, Manchester Square, W.*
 1889. Mar. HARPUR, William, M.INST.C.E., *Town Hall, and 197, Severn Road, Cardiff.*
 1890. Apr. HARRIS, Arthur Wellesley, M.R.C.S., L.S.A., D.P.H., M.O.H., *High Street, Southampton.*
 1888. Oct. HARRIS, William John, M.R.C.S.E., L.S.A., F.R.MET.SOC., *Church House, Heene, Worthing.*

1888. Oct. HARRISSON, Thomas Harnett, ASSOC.M.INST.C.E., *Central Buildings, North John Street, Liverpool.*
 1888. Dec. HARROLD, Miss C., 10, *Church Road, Edgbaston, Birmingham.*
 1888. Oct. HASLAM, Lewis, *Ravenswood, near Bolton.*
 1889. Nov. HASTINGS, George Woodyatt, M.P., *Barnards Green House, Nr. Malvern.*
 1888. Oct. HAYWARD, C. F., F.S.A., F.R.I.B.A., 47, *Museum Street, Bloomsbury, W.C.*
 1888. Oct. HEAD, Henry, 41, *Wimpole Street, W.*
 1889. Feb. HEAD, Mrs. H., 41, *Wimpole Street, W.*
 1888. Oct. HELLYER, S. Stevens, 21, *Newcastle Street, Strand, W.C.*
 1889. Mar. HERBERT, Johnson, L.R.C.P., 7, *Abbey Terrace, West Cliff, Whitby.*
 1889. Jan. HILL, Pearson, 6, *Pembridge Square, W.*
 1888. Oct. HILL, Samuel, A.R.I.B.A., 16, *Russell Square, W.C.*
 1888. Oct. HILL, William H., *Town Hall, Kensington.*
 1888. Dec. HILL, Miss F. M. Davenport, 25, *Belsize Avenue, N.W.*
 1888. Dec. HILL, Miss R. Davenport, 25, *Belsize Avenue, N.W.*
 1889. Mar. HODGETTS, E. A. Brayley, 39, *Redcliffe Square, South Kensington, S.W.*
 1888. Oct. HODGSON, Shadworth H., 45, *Conduit Street, W.*
 1890. Apr. HOLBERTON, Henry Nelson, L.R.C.P., M.R.C.S., D.P.H., *East Moulsey.*
 1888. Oct. HOLMES, Timothy, M.A., F.R.C.S., 18, *Great Cumberland Place, W.*
 1888. Oct. HOLT, H. P., ASSOC.M.INST.C.E., F.G.S., *The Cedars, Didsbury, Manchester.*
 1889. Mar. HOOLEY, Cosmo C., ASSOC.M.INST.C.E., *The Union Offices, Barton-upon-Irwell, Manchester.*
 1889. Nov. HOOPER, Charles, M.R.C.S., M.O.H., *Aylesbury, Bucks.*
 1889. Jan. †‡HOUGHTON, John, *Poplar Road, King's Heath, near Birmingham.*
 1888. Oct. HOWARD, E., 84, *Upper Whitecross Street, E.C.*
 1888. Oct. HOWE, George, 41, *Wigmore Street, W.*
 1890. June. †HOY, Peter, 2, *Dudley Place, W.*
 1888. Oct. †HUBBER, Frank, 85, *South Street, Exeter.*
 1888. Dec. INGLIS, Cornelius, M.D., 1, *Albert Mansions, Victoria Street, S.W.*
 1890. May. IVOR-MOORE, T., *R. E. Establishment, Barbadoes, West Indies.*
 1890. Nov. †JAMES, Arthur Charles, *Assist.-Surveyor, Borough Surveyor's Office, Cambridge.*
 1889. May. JAMES, Charles Alfred, L.R.C.P., M.R.C.S., D.P.H., 24, *Cazenove Road, Stamford Hill, N.*
 1890. Jan. JONES, Frederick Felix, M.O.H., *Llanfyllm, Montgomery.*
 1888. Oct. JONES, John Watkin, *Maesyffynon, Tonalaw, near Pont-y-pridd, South Wales.*

1889. May. JOWETT, William, *Lower Hall, Mellor, Stockport.*
 1889. Apr. KEEP, Claudio Charles, *York House, Handsworth, Birmingham.*
 1889. Mar. KEMPSTER, William Henry, M.D., M.O.H., *Oak House, Battersea.*
 1888. Oct. KENNETT-BARRINGTON, Sir Vincent Hunter B., 65, *Albert Hall Mansions, Kensington Gore, S.W.*
 1889. Jan. KINSEY, W. Barns, M.INST.C.E., F.G.S., *Park House, Lennard Road, Croydon.*
 1889. Mar. KINSEY-MORGAN, A., M.R.C.S., L.S.A., M.O.H., *Bournemouth.*
 1889. Dec. KIRBY, Oscar John, *Engineer and Manager Water Works, Batley.*
 1889. Mar. KIRWAN, Surgeon-Major A., D.P.H., *Colwyn, Carygate Avenue, Aldershot.*
 1889. Mar. KYLE, Thomas W., M.D., D.P.H., M.O.H., *Measham, Atherstone.*
 1888. Oct. LACY, William George, 24, *Ringford Road, West Hill, Wandsworth.*
 1889. May. LAINO, R., M.R.C.S., L.R.C.P., F.R.MET.SOC., M.O.H., 29, *Waterloo Road, Blyth, Northumberland.*
 1888. Dec. LAVENDER, Charles Henry Nalder, 2, *Ulster Terrace, Regent's Park, N.W.*
 1888. Oct. LAWRENCE, Edwin, 10, *Kensington Palace Gardens, W.*
 1888. Oct. LE GRAND, A., 100, *Bunhill Row, E.C.*
 1888. Oct. LEMON, James, M.INST.C.E., F.R.I.B.A., F.S.I., F.G.S., *Lansdowne House, Southampton, (Palace Chambers, Westminster).*
 1888. Oct. LEONARD, Hugh, 7, *Hanover Square, W.*
 1888. Oct. LE ROSIGNOL, Francis, F.S.I., 1, *Gresham Buildings, Basinghall Street, E.C., (29, Penn Road Villas, Camden Road, N.).*
 1889. June. LETTS, Thomas Hollins, 185, *Earls Court Road, South Kensington.*
 1888. Oct. LINGARD, Alfred, M.R.C.S., L.S.A., D.P.H.CAMB., *St. Ermins Mansions, Westminster.*
 1888. Oct. LINGARD, J. Edward, ASSOC.M.INST.C.E., *Rodney Chambers, Derby.*
 1888. Oct. LLOYD, Robert Samuel, 84 & 85, *Whitecross St., E.C.*
 1888. Oct. LLOYD, Thomas, *The Square, Winchester.*
 1890. Mar. LOANE, Joseph, M.R.C.P.E., D.P.H., M.O.H., 98, *Tresillian Road, St. John's, S.E.*
 1889. Apr. LOCKWOOD, Phillip Causton, M.INST.C.E., 1, *Gloucester Place, Brighton.*
 1889. Jan. LOWE, Mrs. Thomas, *Solihull, Birmingham.*
 1888. Oct. LYON, Washington, 85, *Asylum Road, Peckham, S.E.*
 1888. Dec. McARTHUR, A., M.P., 79, *Holland Park, W.*
 1890. Oct. McBEATH, William, M.A., M.D., D.P.H., *New Swindon, Wilts.*

1888. Oct. MACASSEY, L. Livingston, M.INST.C.E., 1, *Elm Court, Temple, E.C.*
 1888. Oct. McINTOSH, James, *Duneevan, Outlands Park, Weybridge.*
 1888. Oct. ‡MACKENZIE, F. Morell, M.R.C.S., L.S.A., 10, *Hans Place, S.W.*
 1888. Oct. MACKAY, John B., 2, *Bouverie Street, Fleet Street, E.C.*
 1888. Oct. McKIE, Hugh Umsworth, ASSOC.M.INST.C.E., 111, *Palace Chambers, 9, Bridge Street, Westminster.*
 1888. Oct. MACLAGAN, James McGrigor, M.D., *Riding-Mill-on-Tyne, Northumberland.*
 1889. Jan. McLEAN, SURGEON-GEN. W. Campbell, C.B., M.D., *Army Medical School, Netley.*
 1888. Oct. McMORRAN, Alexander, *Galloway House, Carlton Road, Putney.*
 1890. Apr. McNEILL, Roger, M.D., D.P.H., J.P., *Gesto Hospital, Edinbane, Isle of Skye, Inverness.*
 1889. Mar. MACNAMARA, Charles Edward, L.K.Q.C.P.I., D.P.H., 11, *Cambridge Gardens, Notting Hill, W.*
 1888. Oct. †MAGUIRE, William Robert, F.R.MET.SOC., 10, *Dawson Street, Dublin, and Town Hill, Dalkey, Co. Dublin.*
 1888. Oct. MALTBY, Frederic Thomas, ASSOC.M.INST.C.E., *Borough Engineer, Dorchester.*
 1890. July. MARSDEN, James Aspinall, M.R.C.S., L.S.A., D.P.H., M.O.H., *Standish, Wigan, Lancashire.*
 1888. Dec. MARSHALL, John Ingham F., M.R.C.S., 28, *St. Saviour-gate, York.*
 1888. Dec. MARTINDALE, William, 10, *New Cavendish Street, W.*
 1888. Oct. MARTINEAU, E. H., F.R.I.B.A., 30, *Weymouth Street, Portland Place, W.*
 1888. Oct. MASON, Hugh H., M.R.C.S., *Abbey Lodge, Barking.*
 1889. Nov. ††MASSEY, Joseph Bennett, 64, *Burns Street, Burnley, Lancaster.*
 1888. Oct. MATHEWS, J. Douglass, F.R.I.B.A., F.S.I., 11, *Dowgate Hill, E.C.*
 1888. Oct. †MAWBEY, E. G., ASSOC.M.INST.C.E., *Borough Engineer and Surveyer, Town Hall, Leicester.*
 1888. Oct. MELISSENO, G. C. A. Melisurgo, ASSOC.M.INST.C.E., *Palazzo Cocozzo, 76, Via Poerio, Naples.*
 1888. Oct. †METCALF, John W., *Ravenstone, Ashby-de-la-Zouch.*
 1888. Oct. MIDDLETON, Reginald E., M.INST.C.E., M.I.M.E., 49, *Parliament Street, S.W.*
 1888. Oct. MINEARD, George Edward, F.R.H.S., 70, *Philbeach Gardens, Earls Court, S.W.*
 1888. Oct. MOCATTA, F. D., 9, *Connaught Place, W.*
 1888. Oct. MONTAGU, Samuel, 12, *Kensington Palace Gardens, W.*
 1888. Oct. MOORE, J. H., *St. Michael's Lodge, Bournemouth.*
 1890. Mar. MORGAN, William Pringle, B.A., M.B., B.CH., D.P.H., *Hardis House, Seaford.*
 1889. July. MORISON, John, M.D., D.P.H., *Victoria Street, St. Albans.*

1888. Oct. †MORLEY, J. G., ASSOC.M.INST.C.E., *Town Hall, Stratford, E.*
 1889. May. MORRIS, Pryce Jones Langford, M.R.C.S., L.R.C.P., M.O.H., *Halesworth, Suffolk.*
 1888. Oct. MOSELEY, George, F.R.C.S., 27, *Willbury Road, Hove, Brighton.*
 1888. Oct. MOUAT, F. J., M.D., 12, *Durham Villas, Kensington, W.*
 1888. Oct. MOUAT, SURGEON-GENERAL J., C.B., F.R.C.S., 108, *Palace Gardens Terrace, W.*
 1888. Oct. MUMBY, B. H., M.D., M.R.C.S., M.O.H., *Portsmouth.*
 1889. Apr. MUNCE, James, ASSOC.M.INST.C.E., *Town Hall, Belfast.*
 1889. Dec. MUNDAY, Major Henry, 23, *Oakley Square, N.W.*
 1889. Apr. MURPHY, Francis Henry Swinton, M.D., D.P.H., *The Army Medical Department, Belmont, Queenstown.*
 1889. Jan. MYERS, BRIGADE-SURGEON A. B. R., M.R.C.S., L.S.A.
 1888. Oct. NANSON, Tom, 9, *Park Crescent, Stockwell Park Road, S.W.*
 1888. Nov. NASH, BRIGADE-SURGEON William, M.D., 18, *Victoria Street, Westminster, S.W.*
 1889. May. NASMYTH, Thomas Goodall, M.B., C.M., D.P.H., F.R.S.E., *Cowdenbeath, Fife.*
 1889. Mar. NELSON, E. M., *Hanger Hill House, Ealing.*
 1888. Oct. NELSON, George H., *The Lawn, Warwick.*
 1888. Oct. NEWTON, Edward, F.R.C.S., 85, *Gloucester Place, Hyde Park, W.*
 1888. Oct. NICOL, W. E., *Ballogie, Aboynce, Aberdeen.*
 1888. Oct. †NICHOLS, H. Bertram, ASSOC.M.INST.C.E., *Grosvenor Chambers, Corporation Street, Birmingham.*
 1890. Dec. NUNN, F. C., ASSOC.M.INST.C.E., *Eastnor, Sydenham Hill, Surrey.*
 1888. Oct. PAGE, Herbert Markant, M.D., D.P.H.CAMB., M.R.C.S., 16, *Prospect Hill, Redditch.*
 1888. Dec. PAGET, G. E., M.A., 3, *Sunderland Terrace, Westbourne Park, W.*
 1888. Oct. PAGLIARDINI, T., 21, *Alexander Street, Westbourne Park, W.*
 1889. May. PARKER, G. R., M.R.C.S., L.R.C.P., M.O.H., 34, *King Street, Lancaster.*
 1889. Mar. PARKER, John, ASSOC.M.INST.C.E., 42, *Dryden Street, Nottingham.*
 1890. Mar. †PARKER, John, ASSOC.M.INST.C.E., *City Engineer, Hereford.*
 1888. Oct. PARKES, Miss P., 8, *Grove Road, Surbiton, S.W.*
 1888. Oct. PARSONS, H. Franklin, M.D., *Local Government Board, Whitehall, S.W.*
 1889. Mar. PARTRIDGE, Thomas, M.R.C.P.I., M.K.Q.C.S.I., L.S.A., M.O.H., *Stroud, Gloucester.*
 1889. May. PATTEN, Charles Arthur, L.R.C.P., M.O.H., *Ealing.*

1888. Oct. PATTINSON, S., *Ruskington, Sleaford, Lincoln.*
 1888. Dec. PEAKE, Francis, *The Waldrons, Croydon.*
 1888. Dec. PEEL, Edmund, *Brynffys, Ruabon, North Wales.*
 1888. Oct. †PHILLIPSON, Burton R., *Baygot Street, Dublin.*
 1890. Oct. †‡POGGIO, Eloi John, 20, *Marylands Road, Harrow Road, W.*
 1888. Oct. POWELL, George Thompson, *Rotherwood, Sydenham Hill, (28 and 29, St. Swithin's Lane, E.C.).*
 1888. Oct. POWELL, J., 10, *St. George's Crescent, Liverpool.*
 1888. Dec. PRIESTLY, Mrs. Eliza, 17, *Hertford Street, Mayfair.*
 1888. Oct. PRITCHETT, G. E., F.S.A., F.R.I.B.A., *Oak Hall, Bishop's Stortford, (1, Hanway Place, Oxford Street, W.).*
 1888. Oct. PULLAR, Robert, J.P., F.R.S.E., *Tayside, Perth.*
 1888. Oct. PULLIN, T. H. S., M.D., F.R.C.S., F.S.A., *Sidmouth, Devon.*
 1888. Oct. PURNELL, W. J., *Vincent Row, Vincent Street, Westminster.*
 1888. Oct. PURNELL, E. W., *Vincent Row, Vincent Street, S.W.*
 1888. Oct. QUAIN, R., M.D., F.R.S., 67, *Harley Street, W.*
 1889. Nov. †‡RADCLIFFE, Joseph, F.R.MET.SOC., *The Waterworks, Todmorden, Lancaster.*
 1890. Nov. RADFORD, John Charles, ASSOC.M.INST.C.E., *Surveyor, 113, High Street, Putney.*
 1888. Oct. †RADFORD, W. H., ASSOC.M.INST.C.E., A.R.I.B.A., *Pelham Chambers, Angel Row, Nottingham.*
 1889. Mar. †RAILTON, James, *Town Hall, Lower Edmonton.*
 1890. Apr. RAINGER, Charles Henry, 9, *Bath Place, Cheltenham.*
 1889. Mar. READ, Richard, ASSOC.M.INST.C.E., *City Surveyor, Gloucester.*
 1890. Nov. REID, George, M.D., D.P.H., M.O.H., *St. Mary's Grove, Stafford.*
 1888. Nov. REYNOLDS, Mrs. Russell, 38, *Grosvenor Street, W.*
 1890. Mar. RHODES, John William, 3, *Clifford's Inn, Fleet Street, E.C.*
 1888. Oct. RIDINGS, H. Sadleir, M.A., M.INST.C.E., *Town Hall, Walthamstow.*
 1888. Oct. ROBERTS, Frederick F., M.D., 102, *Harley Street, W.*
 1890. Jan. ROBERTS, Richard Lawton, M.D., D.P.H.CAMB., M.R.C.S., L.S.A., *Ruabon, North Wales.*
 1888. Dec. ROBINS, Edward, 105, *Regent Street, W.*
 1888. Dec. ROE, SURGEON-MAJOR, E. A. H., 17, *Whitehall Place, S.W.*
 1889. Apr. ROGERS, George Arthur, M.R.C.S.E., L.S.A., M.O.H., 404, *Commercial Road, E.*
 1888. Oct. ROTH, W. M.D., 6, *Kaizer Wilhelm Platz, Dresden, N.*
 1888. Oct. RUSSELL, RIGHT HON. LADY Agatha, *Pembroke Lodge, Richmond Park, Surrey.*
 1889. Mar. SANDELL, Henry W. Adrian, M.R.C.S., M.O.H., *Leighton Buzzard.*

1889. Mar. SCHOFIELD, Gerald, M.R.C.S., L.R.C.P., D.P.H., *Durham House, Bournemouth.*
 1888. Oct. SCOTT, Bowes, *Broadway Chambers, S.W.*
 1889. Mar. SCOTT, Hugh Hamilton, ASSOC.M.INST.C.E., *Town Hall, Hove, Brighton.*
 1888. Oct. SCOTT-MONCRIEFF, W. D., M.I.M.E., 86, *Newman Street, W.*
 1888. Oct. SCRIVEN, J. Barclay, M.R.C.S., 95, *Oxford Gardens, North Kensington.*
 1888. Dec. SEARLES-WOOD, Herbert D., F.R.I.B.A., 157, *Wool Exchange, E.C.*
 1889. Jan. SELBY, Pridcaux, *Koroit, North Park, Croydon.*
 1889. Mar. SELLERS, William, Junr., M.D., M.O.H., *Bank House, Radcliffe, Manchester.*
 1889. Mar. SHADWELL, St. Clair B., L.R.C.P., M.R.C.S., M.O.H., *Lynhurst, Walthamstow.*
 1889. Mar. SHAW, Charles Knox, L.R.C.P., M.R.C.S., M.O.H., 2, *Pevensey Road, St. Leonards-on-Sea.*
 1889. Apr. SHAW, Josephus, M.R.C.S., L.S.A., M.O.H., 151, *Lower Road, Rotherhithe.*
 1889. Mar. SHIRTLIFF, Edward Matthew, M.D., M.O.H., *Elm Side, Kingston-on-Thames.*
 1889. Jan. SHONE, Isaac, *Gt. George Street Chambers, S.W.*
 1888. Oct. SHONKSMITH, John Henry, *Micklegate, York.*
 1888. Oct. SILLAR, W. C., *St. James' Lodge, Kidbrooke Park Road, Blackheath, S.E.*
 1888. Dec. SIMPSON, William John, M.D., D.P.H.CAMB., *Health Officer, Calcutta.*
 1888. Oct. SIORDET, James Lewis, M.B., F.R.C.P., *Mentone, Alpes-Maritimes, France.*
 1888. Oct. SKRINE, Henry Duncan, *Claverton Manor, Bath.*
 1888. Oct. SMEATON, J., 56, *Great Queen Street, Lincoln's Inn Fields, W.C.*
 1889. June. †† SMITH, Charles Chambers, *Union Offices, Gargrave Road, Skipton, Yorkshire.*
 1888. Oct. SMITH, Percival Gordon, F.R.I.B.A., *Highfield, Stonebridge Park, Willesden.*
 1888. Oct. SMITH, R. W., *Mount Rundell, Harborne, Birmingham.*
 1888. Oct. SMITH, Thos. Fredk. H., F.R.C.S., L.S.A., *Farningham, Kent.*
 1889. Feb. SMITH, T. V., 111, *Grosvenor Road, S.W.*
 1889. Mar. SMITH, William Howard, ASSOC.M.INST.C.E., *City Surveyor, Carlisle.*
 1889. Jan. SNELL, Alfred, W., A.R.I.B.A., 1, *Park Road, Wimbledon.*
 1889. Apr. SOUTHAM, Arthur, ASSOC.M.INST.C.E., 60, *Old Town, Clapham.*
 1889. Mar. SQUANCE, Thomas Coke, M.D., F.R.MET.SOC., M.O.H., 4, *Beauclerc Terrace, Sunderland.*

1888. Oct. STAINTHORPE, W. Waters, M.D., D.P.H. EDIN., *Kirkleatham, Redcar.*
 1888. Oct. STANSFIELD-BRUN, J., ASSOC.M.INST.C.E., F.R.I.B.A., *District Surveyor, Bradford-on-Avon.*
 1889. Jan. STEAVENSON, W. E., M.D., D.P.H., 15, *Mansfield Street, Portland Place, W.*
 1889. Apr. STEEL, William D., M.D., M.O.H., D.P.H., *Neville Street, Abergavenny.*
 1889. Mar. STEEVES, George Walter, B.A., M.D., M.O.H., 53, *Parkfield Road, Liverpool.*
 1888. Oct. STEPHENSON, J. Gordon L., ASSOC.M.INST.C.E., M.I.M.E., F.G.S., 6, *Drapers Gardens, E.C., and 14, Mawilla Gardens, Notting Hill, W.*
 1890. Oct. STEVENS, Joseph Wallace, *Belph, Whitwell, near Chesterfield.*
 1888. Oct. STEVENSON, Thos., M.D., 45, *Gresham Road, S.W.*
 1889. Mar. STEWART, Alan, *Maldon, Essex.*
 1889. Jan. STIFF, Ebenezer, *London Pottery, Lambeth.*
 1890. Mar. STIRLING, Alex. W., M.D., M.O.H., *Shaftesbury House, Grays, Essex.*
 1888. Oct. STONE, W. H., *Lea Park, Godalming.*
 1888. Oct. STREET, William C., A.R.I.B.A., ASSOC.INST.C.E., 7, *Victoria Street, Westminster, S.W.*
 1888. Dec. SUDELEY, RIGHT HON. LORD, 7, *Buckingham Gate, S.W.*
 1889. Jan. †SWAINSON, John Henry, M.S.A., ASSOC.M.INST.C.E., 59, *Hope Street, Wrexham.*
 1889. Jan. †SWAN, Harold, 49, *Belleville Road, Wandsworth Common.*
 1888. Dec. SWINBURNE, C. A., *Belgrave Mansions, Grosvenor Gardens, S.W.*
 1889. Mar. SYKES, Matthew Carrington, L.R.C.P., M.R.C.S., D.P.H., *Barnsley.*
 1888. Oct. †TATTERSALL, W., 90, *Arden Terrace, Accrington.*
 1888. Oct. TAYLOR, Charles, M.R.C.S., L.S.A., 3, *Lorraine Road, Holloway, N.*
 1889. Jan. TAYLOR, Wm. Fredk., M.D., M.R.C.S., L.S.A., *Brisbane, Queensland.*
 1888. Oct. TEALE, T. Pridgin, M.A., M.B., F.R.C.S., F.R.S., 38, *Cookridge Street, Leeds.*
 1888. Oct. THOMAS, Walter, ASSOC.M.INST.C.E., *Castleknowie, and Town Hall, Dover.*
 1888. Oct. †THOMAS, W. E. C., ASSOC.M.INST.C.E., *Eaglesbush, Neath.*
 1889. Feb. THOMPSON, Thomas William, L.R.C.P., M.R.C.S., D.P.H., M.O.H., *Med. Inspr., Local Government Board, S.W.*
 1890. June. †THOMSON, Gilbert, 75, *Bath Street, Glasgow.*
 1888. Oct. THORNEYCROFT, Lieut.-Col., *Tettenhall Towers, Wolverhampton.*
 1888. Oct. THORNLEY, J. E., *Lyndon, Bickenhill, Birmingham.*
 1890. Jan. THRESH, John Clough, M.B., B.S., D.SC., F.I.C., F.C.S., M.O.H., *Chelmsford.*

1889. Jan. THRING, RIGHT HON. LORD, K.C.B., F.R.G.S., 5, *Queen's Gate Gardens, S.W.*
1889. July. THURSFIELD, W. N., M.D., D.P.H., M.O.H., *Shrewsbury.*
1888. Dec. TITMAS, William, 34, *Grafton Street, W.C.*
1888. Oct. TRAVERS, William, M.D., F.R.C.S., 2, *Phillimore Gardens, W.*
1888. Dec. TREW, J. Fletcher, 12, *Clarence Street, Gloucester, (22, Broad Street, Bristol).*
1889. Nov. TRIPE, John W., M.D., M.R.C.S., M.O.H., F.R.MET.SOC., *Town Hall, Hackney.*
1888. Oct. TYNDALE, Walter Clifford, *Horse Guards, Whitehall, S.W., (St. Stephen's Road, Ealing).*
1889. Mar. UNDERHILL, A. S., M.D., B.A., M.R.C.S., D.P.H., *Great Bridge, Tipton.*
1888. Dec. VACHER, Francis, F.R.C.S., M.O.H., 31, *Shrewsbury Road, Birkenhead.*
1888. Oct. VALON, William A., ASSOC.M.INST.C.E., *Connaught Mansions, Victoria Street, S.W., (Ramsgate).*
1889. Nov. WADDY, Henry Edward, F.R.C.P., D.P.H., Camb., *Rhossili, Brunswick Road, Gloucester.*
1888. Oct. WAKEFIELD, Miss E. M., *Broughton, Longdon, Rugby.*
1888. Oct. WALLACE, William, 27A, *Old Bond Street, W.*
1890. Oct. †‡ WALLIS, Arthur Gray, 46, *Talbot Street, Southport.*
1888. Oct. WALLIS, H. Sowerby, F.R.MET.SOC., 25, *Northwood Road, Highgate, N.*
1890. Apr. WALLIS, Isabel White, 49, *Clifton Hill, St. John's Wood, N.W.*
1890. Nov. WHEELER, Charles, 12, *Dovecote Villas, Wood Green.*
1889. Jan. WELCH, Henry, M.D., B.Sc., D.P.H. EDIN., *Public Health Offices, Blackpool.*
1888. Nov. WELLS, SIR T. Spencer, BART., M.D., F.R.C.S., 3, *Upper Grosvenor Street, W.*
1888. Dec. † WHITCOMBE, Arthur, 48 & 50, *Howland Street, Fitzroy Square, W.*
1888. Oct. WHITE, William, F.S.A., F.R.I.B.A., 30a, *Wimpole Street, W.*
1889. Apr. WIGHTWICK, Fallon Percy, M.B., M.R.C.S., L.R.C.P., D.P.H., *St. John's, Horsleydown, S.E.*
1888. Oct. WILKINSON, W. B., *Northumberland Street, Newcastle-on-Tyne.*
1888. Oct. ‡ WILKINSON, William, *Town Hall, Salford, (20, Aldren Street).*
1888. Oct. WILLIAMS, C. T., M.A., M.D., F.R.C.P., F.R. MET. SOC., 47, *Upper Brook Street, W.*
1889. Dec. WILLIAMS, William, M.A., M.B., D.P.H. OXON, M.R.C.S., L.S.A., *The Royal National Hospital, Ventnor.*
1889. Apr. WILLIS, George, L.F.P.S.G., M.O.H., *Clifton House, Bailieston, Glasgow.*
1888. Oct. † WILSON, J. B., *Kirklandhow, Arlecdon, Carnforth.*

1888. Oct. WITHERS, J. B. Mitchell, F.R.I.B.A., 73, *Surrey Street, Sheffield.*
1888. Oct. †‡ WITTS, J. W., M.S.E., *Borough Engineer's Office, Leeds.*
1888. Oct. WOOD, Jacob, *Highbury Park, N.*
1888. Nov. WOOD, William, M.D., 99, *Harley Street, W.*
1889. Mar. WOODMAN, John, M.D., F.R.C.S., M.O.H., *Southernhay, Exeter.*
1888. Oct. WOODWARD, Edward Francis, 43, *Southwell Street, Bristol.*
1889. Jan. † WORTH, John Edward, ASSOC.M.INST.C.E., F.R.MET.SOC., *Coombes Croft House, High Road, Tottenham.*
1888. Oct. WYNDHAM, REV. FRANCIS M., M.A., OXON, *St. Charles College, St. Charles Square, W.*
1889. May. YARROW, George Eugene, M.D., M.O.H., *Oakley House, 317, City Road, E.C.*
1888. Oct. YULL, W., ASSOC.M.INST.C.E., 3, *Fenchurch Avenue, E.C.*

ASSOCIATES (ASSOC. SAN. INST.)

‡ Marked thus have passed the Examination of the Institute for Inspectors of Nuisances.

1888. Oct. ‡ ABRAMS, Henry, 5, *Westmoreland Road, Bromley, Kent.*
1889. Nov. ‡ ADAMS, Albert E., *Local Board Offices, Wood Green.*
1888. Oct. ‡ ADAMS, H. J., 25, *Coleford Road, Wandsworth.*
1888. Oct. ADAMS, Miss Rose (LADIES' SANITARY ASSOCIATION), 22, *Berners Street, Oxford Street, W.*
1888. Oct. AITKEN, Charles, *Inglefield, Totland Bay, Isle of Wight.*
1889. Jan. ‡ ALLEN, William Henry, 22, *Maira Street, Cardiff.*
1890. Nov. ‡ AMOR, Alfred, *Octagon Chambers, Nelson Street, Bath.*
1888. Oct. ‡ AMOR, Daniel C., 39, *Shirley Road, Freemantle, Southampton.*
1889. May. ‡ ANDERSON, Tom, 32, *Harrington Street, Hampstead Road, N.W.*
1890. July. ANNETT, William Fenn, 5, *Church Street, Kensington.*
1889. Apr. BAKER, William, 2, *Chetwynd Road, Lawrence Road, Southsea.*
1890. Mar. ‡ BAILEY, G., 159, *Parrock Street, Gravesend.*
1889. July. ‡ BAILEY, William, 74, *Wilmslow Road, Withington, Manchester.*
1889. June. ‡ BAINTON, John, *Scunthorpe, near Doncaster.*
1890. Feb. ‡ BALSTER, Herbert, *Town Hall, Margate.*

1888. Oct. BAMLETT, Adam Carlisle, *Thirsk, Yorkshire.*
 1889. Jan. †BARFOOT, James, 124, *Surrey Lane, Battersea.*
 1888. Oct. †BARRON, John, 81, *Landor Road, Stockwell, S.W.*
 1888. Oct. †BASCOMBE, H. C., 18, *Oxford Street, Tottenham, Bristol.*
 1889. June. †BASSETT, William Joshua, 10, *Elizabeth Street, Eaton Square, S.W.*
 1889. Feb. †BATEMAN, Charles G., *Durban, Natal.*
 1890. Apr. †BAXTER, Frank E., 374, *Kennington Road, S.E.*
 1888. Oct. †BAXTER, John, 374, *Kennington Road, S.E.*
 1889. Jan. †BECK, William Coker, *Hastings.*
 1889. Jan. †BEEL, Joseph Hicks, *The Alverstoke Local Board, Gosport.*
 1889. June. †BIRCH, John Ernest William, 107, *Cobden Road, South Norwood, S.E.*
 1890. May. †BIRD, William Fred., *Heath Villa, Radstock, Somerset.*
 1890. July. †BISHOP, William F., 8, *Francis Place, Nine Tree Hill, Bristol.*
 1888. Oct. †BLACK, Andrew E., 57, *Academy Street, Inverness.*
 1888. Dec. BLAKE, E. T., M.D., 47, *Scymour Street, Hyde Park, W.*
 1889. June. BLAND, William, 420, *Liverpool Road, Patricroft.*
 1890. May. †BOND, George, 28, *Kew Bridge Road, Brentford.*
 1890. Jan. †BOND, William Henry, *St. Giles Board of Works, Holborn, W.C.*
 1888. Oct. †BOSTEL, G. Stanford, 18, *Duke Street, Brighton.*
 1889. Jan. †BOYER, William T., *Acton, W.*
 1889. July. †BOWYER, Harry David, *Park Street, Slough.*
 1888. Oct. †BOYCE, W., *Board of Works, High Street, Poplar, E.*
 1888. Oct. BOYD, Richard Wade, 105, *New Bond Street, W.*
 1888. Oct. BREZE, John, *Poynton Lodge, Wellington, Salop.*
 1888. Oct. BROAD, Clement B., *Stamford Brook Lodge, Ravenscourt Park, W.*
 1890. Nov. †BROOK, John, *Albany Place, Stratford-on-Avon.*
 1890. Nov. BROUGHTON, Thomas, *Garston, near Liverpool.*
 1890. Nov. †BROWN, Edward, *Local Board Offices, Burgess Hill.*
 1888. Oct. †BROWN, R. Railston, 1, *Blenheim Terrace, Bridlington Quay, Yorkshire.*
 1888. Oct. †BROWN, W. E., 19, *Havelock Road, Hastings.*
 1890. Jan. †BRYAN, George John, 4, *South Norwood Hill, S.E.*
 1888. Oct. BUCHAN, W. Paton, *Fairyknowe, Cambuslang, Lanarkshire, N.B.*
 1888. Oct. BUCKERIDGE, Walter, 5, *Alexander Street, Westbourne Park, W.*
 1888. Oct. †BUGLER, W. J., *Alpha House, Putney.*
 1888. Dec. BURN, Robert G. N., 14, *Newcastle Street, Farringdon Street, E.C.*
 1888. Oct. BURROUGHS, S. M., *Snow Hill, E.C.*
 1889. Oct. †BUNSCOUGH, Frederick Peter, 18, *Spring Hill Terrace Oswaldtwistle, Lancashire.*
 1889. May. †BUTLAND, R. J., *Town Hall, Brighton.*

1890. Apr. †BUTTERWORTH, Arthur, *Board of Works, Mavey Road, Plumstead.*
 1889. Feb. †BUXTON, Anthony, *Carisbroke, Isle of Wight.*
 1890. Feb. †CALLAWAY, Albert Henry, *Grosvenor Villa Evesham Place, Stratford-on-Avon.*
 1888. Oct. †CAPTEN, Joseph H., 32, *Exeter Street, Sloane Street, S.W.*
 1889. Apr. †CHANEY, William H., 36, *Essex Street, Strand.*
 1888. Oct. CHEEK, Philip, 4, *Wharves, Goods Station, King's Cross.*
 1889. Feb. †CHRISTIE, David, 76, *Brunswick Avenue, Hull.*
 1888. Oct. †CLARKSON, Joseph, 76, *Linaker Street, Southport.*
 1889. Jan. †CLAYTON, Edward, *Mansfield, Notts.*
 1890. June. †CLIFTON, Henry Chas., 50, *Porchester Road, Bayswater.*
 1888. Oct. †COBIAN, C., *The Shrubbery, Gravesend.*
 1888. Oct. COBIAN, G. R., 3, *Edwin Street, Gravesend.*
 1890. Apr. †COCKBURN, Henry Mace, 27, *Claremont Road, West Kilburn, N.W.*
 1890. Dec. †COOK, William Gough, 395, *Kennington Road, S.E.*
 1889. Feb. †COOPER, William George, *Sanitary Inspector, Bournemouth.*
 1890. Jan. †COPESTICK, George Christopher, 1, *Arboretum Square, Arboretum Street, Derby.*
 1890. Jan. †CORBETT, Richard Lawrence, *Oakenyates, Salop.*
 1889. Jan. †CORDON, Robert Curtis, *Hillside Cottage, Duffield, Derby.*
 1890. June. †CORRICK, Alfred.
 1889. Mar. COTTE, Arthur Thomas, *Selly Oak, Near Birmingham.*
 1890. Mar. COURT, Thomas Henry, 103, *King's Road, Peckham, (140, Tanners Hill, Deptford).*
 1889. Jan. †COWPER, Joseph, 22, *Talma Road, Brixton.*
 1888. Oct. COWPER-COLES, Cowper Bickerton, 95, *Wigmore Street, W.*
 1890. June. †CROCKER, Thomas William, *Vestry Hall, Pancras Road, N.W.*
 1889. June. †CROCKWELL, George E., 14, *Church Street, Ilfracombe.*
 1888. Oct. †CROGHAN, Thomas Andrew, 37, *Devonshire Gardens, Buxton.*
 1890. Feb. †CROSSE, Hammond William, *St. Mary's Cottage, Putney.*
 1890. Feb. †CROSSLEY, James, 30, *Shaftesbury Street, Eccles.*
 1890. Jan. †CROWTHER, William Christopher, 51, *Hind Street, Stockton-on-Tees.*
 1889. June. †DALTRY, John, *Sanitary Inspector, Wellington, Salop.*
 1888. Oct. †DARLEY, George, 49, *St. Marks Street, Woodhouse, Leeds.*
 1890. May. †DAVIES, T. Lane, 5, *Leopold Street, E.*
 1890. June. †DAWSON, William, 6, *Brooklands Road, Birkenhead.*
 1890. Mar. †DEAN, Samuel Saunders, *Hugglescote, Ashby-de-la-Zouch.*
 1890. June. †DEE, Thomas George, 17, *Grosvenor Road, S.W.*
 1888. Dec. DENSIAM, Charles A., 55, *Cochrane Street, St. John's Wood, N.W.*

1890. May. †DICK, William, *Kirknewton, Midlothian.*
 1889. Apr. DOUGLAS, THE HON. J., *Thursday Island, Torres Strait, Queensland.*
 1890. Jan. DOVER, John Henry, 13, *King Street, Kensington Square, W.*
 1889. Jan. †DRAKE, W. Medley, *Kirkheaton, Huddersfield.*
 1889. June. †DUCK, Albert George, 211, *Tooley Street, Horsleydown, S.E.*
 1890. Feb. †DUNBAR, David, 41, *Summerfield Terrace, Aberdeen.*
 1889. Feb. †DYER, Samuel, 3, *Wellington Road, Bridlington Quay.*
 1889. Jan. †DYSON, John Henry, *Park Terrace, Thornhill, near Dewsbury.*
 1889. June. †EARLSLEY, William Oakley, 3, *Clephane Road, Canonbury, N.*
 1889. Mar. †EASTON, Charles Joseph, *Coombes Croft House, High Street, Tottenham.*
 1890. Mar. †EDMONDS, Henry James, 76, *St. John Street Road, E.C.*
 1889. Jan. †EDMONDS, William H., 105, *Great College Street, N.W.*
 1890. Nov. EDWARDS, John, 16, *Gladstone Street, St. George's Road, S.E.*
 1888. Oct. †EMPTAGE, Daniel, *Dane Hill Sanitary Works, Margate.*
 1888. Oct. †EVANS, John Evan, 137, *Weston Street, Tooley Street, S.E.*
 1890. May. †EVINGTON, Charles William, 12, *Bridlington Street, Hull.*
 1888. Oct. †FAIRCHILD, Samuel C. G., 569, *Wandsworth Road, Clapham, S.W.*
 1890. Mar. FINCH, William, 44, *Mason Street, Kingston-upon-Hull.*
 1889. Jan. †FINCHER, John Gazeley, *Aldershot.*
 1888. Oct. †FLOWER, T. J. Moss, *Liverpool Chambers, Corn Street, Bristol.*
 1890. June. †FOLLAND, John Percy, 22, *Liverpool Street, King's Cross.*
 1888. Oct. †FORDHAM, Wm. Francis, *Hampton House, High Road, Kilburn.*
 1890. May. †FORRESTER, William, *Headcorn, Ashford, Kent.*
 1888. Oct. FRANCE, T. W. Chapman, 36, *Bristol Road, Edgbaston.*
 1890. Jan. †FULCHER, George, *Stony Stratford.*
 1889. May. FULTON, Peter, 72, *High Street, Camden Town, N.W.*
 1888. Oct. GAIRDNER, PROF. W. T., M.D., LL.D., *The University, Glasgow.*
 1888. Nov. †GARDNER, C. T., 32, *Annandale Road, Chiswick.*
 1888. Oct. †GARLAND, Wm., 12, *Higher Maudlin Street, Barnstaple.*
 1888. Oct. GASS, John Bradshaw, A.R.I.B.A., 19, *Silverwell Street, Bolton.*
 1889. June. †GATHERCOLE, William Henry Joseph, *Engineer's Office, Guildhall, E.C.*
 1890. May. †GIBBS, Arthur Gordon, 12, *Western Road, Littlehampton, Sussex.*

1890. Mar. †GIBSON, John, 5, *Stanghow Road, Skelton-in-Cleveland.*
 1889. Mar. †GILBEART, John Joseph, 11 & 12, *Little Chester Street, Belgrave Square, W.*
 1890. Jan. †GILLIES, Neill, *Lochgilphead, Argyllshire, N.B.*
 1889. Apr. †GOLDS, Thomas William, *Vestry Hall, Paddington.*
 1888. Oct. †GOODWYN, Arthur Ayde, 10, *Grosvenor Road, Richmond, Surrey.*
 1889. Jan. †GRANT, Walter, 14, *Hyde Gardens, Eastbourne.*
 1890. Nov. †GRAVES, Matthew Dodgson, 7½, *College Street, York.*
 1889. June. †GREENWELL, Allan, *Surveyor's Office, Frome.*
 1888. Oct. GRIBBLE, Miss Sarah C., 11, *Willswood Park, Torquay.*
 1890. June. GRINHAM, Philip Boys, *Tichborne Down, Alresford.*
 1890. June. †GROOM, William Edwin, 117, *Wells Street, Camberwell.*
 1888. Oct. †GUNN, Alexander, 123, *King Street, Aberdeen.*
 1890. Jan. †HALL, George Berringer, F.G.S., 10, *Waldemar Avenue, Fulham Road.*
 1890. May. †HALSTEAD, Robert, 301, *Queensgate, Burnley.*
 1889. June. †HARRISON, George, *Keyham, Leicester.*
 1890. Feb. †HARRISON, Henry, 5, *Beaconsfield Terrace, West Kensington.*
 1888. Oct. †HARRISON, Wm. L., 7, *Dock Street, Hull.*
 1888. Oct. †HART, W. S., 29, *Coley Hill, Reading.*
 1890. Jan. †HAY, Alexander, *Barony Local Authority, Glasgow.*
 1888. Oct. †HEAD, Robert H., 7, *Upper Baker Street, N.W.*
 1888. Oct. HEARN, Walter, 72, *High Street, Huntingdon, and 27, Mecklenburgh Square, W.C.*
 1888. Oct. †HEARNE, William, *Buenos Ayres.*
 1889. June. †HELSDON, Horace, 14, *St. Edmunds Terrace, Primrose Hill, N.W.*
 1890. Mar. †HILLS, Arthur Reginald, 24, *Harley Street, Bow, E.*
 1888. Dec. †HOBBS, W. F., 36, *Melbourne Street, Stalybridge.*
 1890. Mar. †HODGES, Albert, 57, *Hall Street, Blakenhall, Wolverhampton.*
 1890. May. †HOLLAND, Percy, *Fairstead Cottage, Newmarket.*
 1889. June. †HOLMES, William, 23, *Belgrave Rd., Keighley, Yorkshire.*
 1889. June. †HOOPER, Thomas Rowland, *Redhill, Surrey.*
 1890. Jan. †HOOPER, William, 4, *Lucas Road, St. John's Road, Penze, S.E.*
 1888. Oct. HORNCastle, Henry, *Chobham, Woking Station, Surrey.*
 1888. Oct. †HORROCKS, Joseph, 10, *Union Street, Southport.*
 1889. Jan. †HOUGHTON, Robert Alfred, 5, *Springfield Road, Wimbledon.*
 1890. Nov. †HUGHES, Edward J., 102, *Camden Street, Birkenhead.*
 1890. Jan. †IMRIE, Henry William, 28, *Parry Place, Plumstead.*
 1890. Feb. †INGRAM, William Jones, *Goldsworth Road, Woking.*
 1890. Feb. JACOB, Oswald, *Sanitary Inspector, Feltham, Middlesex.*
 1889. Feb. †JASPER, Robert Wevill, *Withersfield Road, Haverhill, Suffolk.*

1890. Jan. †JELLIS, John, 188, *Uttoxeter Old Road, Derby.*
 1889. July. †JENNER, Richard Messenger, *Parade Road, Sandgate.*
 1890. May. †JOHNSON, John William, 785, *Commercial Road, Limehouse, E.*
 1890. Nov. †JOHNSON, Joseph Edward, *Town Hall, Hull.*
 1890. June. †JONES, John, 40, *Sydney Street, Chelsea.*
 1890. Nov. †JONES, Julius Morris Wilson, 27, *Mornington Road, Bow, E.*
 1889. June. †JONES, William, *Cemlyn, Dolgelly, Merioneth.*
 1890. Mar. †JOURS, William, *Gateshead.*
 1890. Dec. †JURY, H. A., *North-East Lodge, Chelsea Bridge, Grosvenor Road, Pimlico, S.W.*
 1888. Oct. †KEAL, J., *Southview Hill Road, Sutton, Surrey.*
 1888. Oct. †KEMSLEY, Jesso, *Casilla del Correo, Buenos Ayres.*
 1888. Oct. †KIELL, John, 103, *High Street, Barnstaple.*
 1889. Feb. †KING, Frederick William, *Heybridge, Mableton, Essex.*
 1888. Oct. †KITE, Charles, 31, *Barronsmere Road, East Finchley.*
 1890. May. †KNIGHT, Robert, junr., *Dunfermline, Fife.*
 1889. Feb. †KNIGHT, William Henry, 10, *Bury Road, Noel Park, N.*
 1889. June. †LANDER, James, 111, *St. John's Road, Upper Holloway.*
 1888. Oct. †LAPWORTH, J., *Vestry Hall, Bethnal Green, E.*
 1889. Nov. †LAURIE, John, *Albany Villas, Weston Road, Gloucester.*
 1889. July. †LAYLAND, William Thomas, *Grimstone, King's Lynn.*
 1889. Jan. †LEAR, James Walter, 114, *Culford Road, De Beauvoir Town, N.*
 1889. Mar. †LEE, James, 25, *Trafford Street, Rochdale.*
 1888. Oct. †LEGG, S. C., 117, *Powerscroft Road, Lower Clapton, N.E.*
 1888. Dec. †LENNOX-CLARKE, A.
 1889. Jan. †LEWIS, Arthur, *Isham, Wellingborough.*
 1888. Oct. †LIGHTFOOT, Thomas, 3, *Trevor Square, Knightsbridge.*
 1890. May. †LIGHTFOOT, William Charles, 20, *High Road, Knightsbridge.*
 1890. Jan. †LILLY, William Gent, 5, *Whitecomb Street, W.C.*
 1890. Nov. †LITTLE, William, 51, *Trafalgar Street, Carlisle.*
 1890. Feb. †LITTLETON, Louis, 45, *Roundhill Street, Bradford.*
 1890. Mar. †LOCK, G. H., 64, *Richards Terrace, Roath, Cardiff.*
 1889. Jan. †LUKES, Arthur Henry, *Town Hall, Gravesend.*
 1890. Nov. †LUND, Clifton, 2, *Arbour Street, Southport.*
 1888. Oct. †LUND, Jeremiah, *St. James's Vestry, Piccadilly.*
 1888. Oct. †McDONALD, A. L., 37, *George Street, Gipsy Hill, S.E.*
 1888. Oct. †MACINTOSH, James, 38, *Langham Street, W.*
 1889. July. †MACKAY, George Archibald D., *Inspector of Cleansing, Edinburgh.*
 1889. Apr. †MACKAY, James John, 186, *Kensal Road, W.*
 1890. Feb. †MACLENNAN, John, *Carnock House, Carnock, Dunfermline.*
 1890. June. †MAGUIRE, James, *Sanitary Inspector, Huddersfield.*
 1890. May. †MALCOLM, Alfred, *Clayton, near Manchester.*
 1889. July. †MARLAND, George, 88, *Huddersfield Road, Oldham.*

1889. May. †MARSON, A. J., 390, *San Martin, Buenos Ayres.*
 1890. Apr. †MASON, Jonathan, 1, *Grove Terrace, Grove Road, Leytonstone.*
 1888. Oct. †MATHIAS, H. D., 43, *Weldon Street, Walton, Liverpool.*
 1889. Feb. †MAY, William H., *Vestry Hall, Hampstead.*
 1888. Dec. †MERRILL, John, *Albany Road, Sheffield.*
 1889. Jan. †MILLARD, William David, 1, *Elswick Villas, Ramsgate.*
 1890. Oct. †MILNER, W., 18, *St. Paul's Road, Preston.*
 1888. Oct. †MINTY, Samuel, *The Triangle, Bournemouth.*
 1890. Feb. †MITCHELL, Edward, 25, *St. Saviour's Road, Croydon.*
 1888. Oct. †MOLINEUX, Walter Frank Yate, *Shifnal, Salop.*
 1890. June. †MOODY, Henry Fred, 26, *Cavendish Street, Gt. Grimsby.*
 1889. Jan. †MORGAN, Francis Robert, 43, *Upper Baker Street, N.W.*
 1889. July. †NETTLETON, Charles William, 16, *Winchester Terrace, Westminster, S.W.*
 1888. Dec. †NORRIS, Joseph, *Sunningdale, Surrey.*
 1890. Mar. †NORRISH, John Thomas, 9, *Cuthbert Road, Brighton.*
 1890. May. †NURCOMBE, Benj., 9, *Kingswood Road, Clapham Park.*
 1890. June. †NUTLEY, Charles Vernon, 13, *Dalling Road, Hammer-smith.*
 1889. Feb. †OLDFIELD, David, *Bloemfontein, Orange Free States, South Africa.*
 1890. Oct. †OLIVER, G., 14, *St. John's Road, Waterloo, Liverpool.*
 1889. Jan. †OLIVER, John Penry, 8, *Grove Terrace, Highgate Rd., N.*
 1889. Mar. †OLLETT, John Henry, *Sanitary Inspector, Eastbourne.*
 1889. Nov. †ORD, James, 11, *Portman Street, W., (41, Upper George Street, W.).*
 1888. Oct. †PALLISER, Christopher, *Northallerton.*
 1890. Jan. †PALMER, Henry Arthur, *P. H. Office, N. Church Street, Sheffield.*
 1890. May. †PARHAM, John, junr., 113, *Malham Road, Forest Hill, S.E.*
 1889. Oct. †PARSONS, William, *St. Luke's Vestry Hall, City Road, E.C.*
 1889. Jan. †PATRICK, Alfred Ross, *South View, East St., Farnham.*
 1890. May. †PATTISON, William Phillip, 8, *Addison St., Sunderland.*
 1888. Oct. †PEARCE, George Edward, *Dartford, Kent.*
 1888. Oct. †PEARSON, John, *Sanitary Inspector, Grace Hill, Folkestone.*
 1890. June. †PERMAN, Edward, 3, *Railway St., Newport, Monmouth.*
 1888. Nov. †PERRY, Arthur, 45, *Townshend Road, St. John's Wood.*
 1889. June. †PERRY, Walter Harold, 10, *Berkeley Avenue, Bishopston, Bristol.*
 1889. Feb. †PETTIT, George Mackness, *Frederick Villa, Padua Road, Penge, S.E.*
 1890. May. †PHILLIPS, Henry, 2, *Pickard Street, City Road, E.C.*
 1890. Jan. †POOLE, James, 2, *Trafalgar Place, Kensington.*
 1888. Oct. †POTTER, Ben, *Heathfield House, Broadway, Ealing.*

1889. Jan. †POTTER, Thomas Wickford, *Estate Works, Thoresby Park, Ollerton, Notts.*
 1889. Jan. †POULSON, Frederick Thomas, 11, *Hobury Street, Chelsea.*
 1889. Feb. POWELL, David Henry William, *Surveyor, Pontypool.*
 1889. Jan. †PRATT, Joseph, 12, *Kirkdale, Spynham.*
 1889. Mar. †PRESS, William James, *Rose Villa, Abingdon Street, Burnham, Somerset.*
 1888. Oct. PROGER, John L., 11, *Cwrtiy-vie Road, Penarth, Cardiff.*
 1888. Oct. †RAINS, Joseph, *Kettering.*
 1890. Nov. RANDLE, William Thomas, *Head Inspector, Karachi, India.*
 1888. Oct. †REAVELL, George, Jun., *Alswick, Northumberland.*
 1888. Oct. †RICHARDS, Daniel, 3, *Spencer Street, Park Road, Battersea.*
 1890. Apr. †ROBERTSON, John Shirras, 4, *Belmont Street, Aberdeen.*
 1890. Jan. †ROBINSON, John, 79, *Lavender Road, Clapham Junction.*
 1888. Oct. †ROGERS, Richard, *Maes Helew, Carnarvon.*
 1890. May. †RUSCOE, Ernest Henry, 6, *Great Castle Street, Regent Street, W.*
 1889. July. †RYDER, Albert Thomas, *Dudley Villa, Foster Hill Road, Bedford.*
 1889. Jan. †SADLER, Richard J., 6, *Cornford Grove, Balham.*
 1890. Dec. †SAISE, Alfred John, *Fishponds, Stapleton, Bristol.*
 1888. Oct. †SALTER, Thomas, 2, *King's Road, St. Leonards-on-Sea.*
 1890. May. †SAUNDERS, Percy, 29, *The Drive, Thornton Heath.*
 1890. June. †SAVORY, Charles, 6, *Holford Place, W.C.*
 1888. Oct. SEDGWICK, Sydney, 10, *Mortimer Street, Cavendish Square, W.*
 1888. Oct. SEVENOAKS, William, *Acre House, Windsor.*
 1888. Oct. †SHADRAKE, W. A., 8, *Hind Street, Stainsby Road, Poplar, E.*
 1890. Feb. †SHAW, Peter, *Selham Cottage, Selham, Petworth, Sussex.*
 1889. Jan. †SHELDON, W. E., *The Croft, Wantage, Berks.*
 1888. Oct. †SHORE, Ambrose J., 68, *Adys Road, East Dulwich.*
 1889. Apr. †SHORT, James Allen, 4, *Vronhill Street, Liverpool.*
 1889. Apr. †SIDWELL, Henry Thomas, *Elm Cottage, Herne Bay, Kent.*
 1888. Oct. †SIMMONS, Nimrod, *Glendale, Clifton, Bristol.*
 1890. Jan. †SIMPSON, John Thomas, 28, *King's Road, Peckham.*
 1890. May. †SIMPSON, John, 30, *Belmont Street, Aberdeen.*
 1890. Feb. SLATER, Robert, *Headingley Hill, Leeds.*
 1890. Apr. †SLEATH, Frederick Edward, 60, *Great Prescott Street, Whitechapel.*
 1888. Oct. †SMITH, George Allen, *Vestry Hall, Hampstead.*
 1890. June. †SMITH, Joseph Sidney, 73, *Elm Park, Brixton Hill, S.W.*
 1890. Nov. SMITH, Sydney, *Dorset Cottage, Hastings Road, Bechill.*
 1890. June. †SMITH, W. H., 60, *Alma Vale Road, Clifton, Bristol.*
 1888. Oct. †SOPER, Henry Charles, 108, *Park Street, Camden Town, N.W.*

1888. Oct. †SORTWELL, W., 14, *Retreat Place, Paragon Road, Hackney, E.*
 1888. Oct. SOUTHPORT, The Mayor and Corporation of.
 1888. Oct. †STANLEY, A. W., 12, *Midland Street, Hull.*
 1888. Oct. †STEERS, George, 21, *Brereton Road, Bedford.*
 1888. Oct. †STEVENSON, John, *Surveyor's Office, East Molesey, Surrey.*
 1890. Apr. STRATFORD, George Wilkin, 126, *Vaughall Street, Upper Kennington Lane.*
 1889. Apr. †STRUTT, Thomas Frederick, 5, *Tavistock Street, Covent Garden, W.C.*
 1890. Feb. †SUTHERLAND, Walter, 8, *Voclas Street, Liverpool.*
 1890. Nov. †SUTTLE, Alfred, *Manor Square, Otley.*
 1890. Nov. †SYDENHAM, Sydney, 37, *Broad Street, Bath.*
 1889. Jan. †TAIT, James, *Roslyn Place, Dean Street, Kilmarnock.*
 1889. Jan. †TATE, William, 77, *Glengall Road, Kilburn.*
 1890. Nov. †TAYLOR, Henry Thomas, 10, *Higham Street, Everton, Liverpool.*
 1889. Jan. †TAYLOR, James, 17, *Oxford Street, Hereford.*
 1890. May. †TAYLOR, James, 10, *Mount Pleasant, Waterloo, Liverpool.*
 1889. Jan. †TEMPLE, William Herbert, *Scarborough.*
 1890. May. †THOMAS, George, *Royal Engineers' Office, Preston.*
 1888. Oct. †THOMAS, Thomas, 4, *Chandos Road, Redland, Bristol.*
 1888. Oct. †THOMAS, W. K., 16, *Berkeley Place, Clifton, Bristol.*
 1890. Oct. THOMPSON, Bernard H., *Royal Engineers' Office, Windsor.*
 1890. Nov. †THORNLEY, William Frederick, 5, *Napier Villas, Napier Road, Southsea.*
 1889. Feb. †THORPE, James, *Hobson House, Tytherington, Macclesfield.*
 1890. June. †TOMKINS, Alfred, 62, *Church Street, Camberwell.*
 1890. Nov. †TRIGG, Henry John, *South Hayling, Hants.*
 1888. Oct. TUCKEY, George F., 47, *Milk Street, Bristol.*
 1889. Jan. TUNSTALL-CLARKE, William, 18, *Holly Avenue, Newcastle-on-Tyne.*
 1890. June. †TURNER, Alfred, 33, *Wordsworth Road, Penge, S.E.*
 1890. Dec. VEASEY, Thomas Frederick, ASSOC.M.INST.C.E., 2, *Clarence Terrace, Richmond, Surrey.*
 1890. June. †WALKER, Francis, 18, *Mardall Street, Shepherd's Bush, W.*
 1888. Oct. WALLACE, Miss J., 6, *Hyde Park Gardens.*
 1889. Nov. WALLAS, Irwin Clarke, 37, *Torbay Road, Willesden Lane, N.W.*
 1890. Nov. WALLIS, Thomas Wilkinson, *Surveyor, Louth, Lincoln.*
 1890. May. †WANSHROUGH, Cecil Shartman, *Arlington Villa, Barrow-in-Furness.*
 1888. Nov. WATTS, George Nelson, 147, *High St., Notting Hill, W.*
 1890. Jan. †WATTS, Gerald, 7, *Earl Street, Cambridge.*
 1890. Feb. †WATTS, William Frederick, *Bitterne, Southampton.*

1888. Oct. †WEDD, James A., 1, *Stanley Villas, St. Marks Road, Hanwell.*
 1890. Nov. †WEEKS, Alfred James, 140, *Lavender Hill, Clapham Common.*
 1888. Oct. †WELLS, G. F., 37, *Prospect Street, Hull.*
 1890. Dec. †WHEELER, John, M.D., 35, *Oxford Road, Kilburn, N.W.*
 1888. Oct. †WILKINSON, W., *Ford Street, Derby.*
 1890. Nov. †WILLBOND, George Baines, *Guildhall, Nottingham.*
 1889. Mar. †WILLEY, Andrew William, 14, *Watney Street, Commercial Road, E.*
 1889. Mar. †WILSON, Charles Turle, 37, *Burney Street, Greenwich, S.E.*
 1889. June. †WILSON, John, *Town Hall, Kensington.*
 1889. July. †WILSON, William, 3, *Orsbome Terrace, South Shields.*
 1888. Oct. †WISSER, F. Sawyer, 52, *Buckingham Palace Road, S.W.*
 1889. Apr. †WINTER, Edward, 19, *King's Gardens, W. Brighton.*
 1889. Jan. †WOOD, Peter, 177, *Ashmore Road, Puddington.*
 1889. July. †WOODCOCK, Henry, 16, *Steelhouse Lane, Birmingham.*
 1889. Mar. †WOOSTON, James, 64, *Anthony Street, E.*
 1890. May. †WRACK, Thomas Philip, 15, *Great Alie Street, Whitechapel.*
 1889. Jan. †WRIGHT, John, Junr., 3, *Surbiton Park Terrace, Kingston-on-Thames.*

GENERAL INDEX.

	PAGE		PAGE
ABATTOIR in Brighton, necessity of an	92	BACILLI, causes of multiplication of	39
Adams, A. E., on the Education, Examination, and Legislation of and for Sanitary Inspectors	261	Bacteria in Soil, effect of, on mankind	38
Agriculture and Sanitation	41	Ballard, Dr., on the nuisance arising from gasworks	117
" " Sewage	193	Bank holiday, evils of	233
Air in Bolton, Table showing condition of the	119	Baths in artisans' dwellings	213
" Manchester, Table showing condition of the	119	" in Brighton, necessity of an extension of	93
" Table showing condition of, in and around gas works 114, 115, 116	117	" of Caracalla	127
" Vitiation of, in towns	117	" erected in East London by the Carpenters' Company	139
Aitchison, Prof., on the Roman Thermae	124	" constructed by Messrs. Fraser and C. H. Rosher	133, 134
Allotment Act and sanitation ...	48	" in London, utility of public	137
Ammoniacal water, the utilization of, a nuisance	116	" public, in Brighton 141, 142, 173	173
Analysis of the air of dairy farms	181	" construction of, by the Romans	123, 125
" Chemical, not detecting well-pollution, by A. W. Scatliff	241	" sanitary value of	124
Armstrong, H. E., on Dr. A. Newsholme's paper	109	" swimming, beneficial effect of	130
Army, Decrease in death-rate of.	29	" swimming, cost of the water supply of	134
" Health of, report of, in 1888	23	" swimming, temperature of	133
" Record of illness in the ...	22	" tank, construction of swimming	131
" Recruiting statistics of ...	25	" Turkish, description of ...	128
Artisans' Dwellings, by Francis Hooper	201	" vapour, description of	130
" " Cost of construction of	210	" and Washhouses Act... 130, 137	137
" " disposal of dust and ashes in	205	Bed-rooms in artisans' dwellings	207
" " internal arrangements in	206	Beel, J. Hicks, on the position of Inspectors with regard to the general public	264
" " in relation to rent and wages	202	Berlin, sewage disposal of	42
" " plans of facing ...	208	Billroth, on surgical pathology...	81
Associates of the Sanitary Institute	333	Black ash waste and the treatment of sewage and foul water, by John Hanson	197
Atmosphere, disease caused by impurities of	82	Bolton, table showing condition of the air in	119
Awards of Judges of Exhibition at Brighton, 1890	295	" table showing micro-organisms in	119
		Bread-making, sanitation in, by W. Jago	245

	PAGE		PAGE
Brighton, award of judges at Exhibition at, 1890 ...	295	Brighton, temperature of	282
" cleanliness of the streets of	167	" water supply of	221
" climate of, by F. E. Sawyer	226	" waterworks, the, by Alderman W. H. Halllett,	143
" cost of the drainage of	176	" waterworks committee, foundation of ...	145
" cost of improvement on the sea front of	167	" waterworks at, object of	222
" cost of waterworks at	147	" wind at	230
" death-rate in	78, 89	British Medical and Social Science Associations	111
" drainage of	85, 87, 169	Burroughs, S. M., on the relation between taxation and sanitation	110
" duties of Sanitary Inspectors of	171	Buxton, warm baths at	136
" encroachment of the sea at	165	CANARY Islands, various routes to	250
" expenditure 1859-90 ...	177	Cancer, death-rate from, in Dolgelly	248
" as a health resort, by Francis J. C. May ...	164	" caused by floods	247, 249
" house-drainage in	88	Caracalla, baths of	127
" Improvement Act, 1881 ..	93	Carbonate of soda as a purifier of water	239
" influence of the sea on the heat of summer ...	229	Carbon monoxide, effect of	118
" intercepting sewer ...	170	Carpenter, Dr. A., on Major Conder's paper	183
" lecture to the Congress at, by W. H. Preeco ..	267	" " on R. F. Grantham's paper	196
" mean temperature of the year at	229	Carpenters' Company, baths erected in east London by the	139
" meteorological table	232, 233	Chalk escarpment round the Weald	221
" notification of infectious diseases to schools in	105	" as a storage-reservoir	144
" officers of the congress at, 1890	16	" water, temperature of	149
" public baths in	141, 142, 173	Chalybeate spring at Brighton ...	231
" improvements in	175	Chelsea water works regulations ..	158
" lending library in	174	Chemical analysis not detecting well pollution, case of, by A. W. Sealiff	241
" rainfall at	230	" treatment of sewage ...	190
" recreation grounds and gardens	163	China, agriculture in	49, 50
" Royal Pavillion in	174	Cholera microbe, history of the ...	39
" sanitary advance of, by Alderman J. Ewart ...	85	Cisterns, waste-preventing, construction & dimensions of ..	160, 161
" sanitary measures in ...	169	Classification of waters	238
" sanatorium in	169	Cleanliness, promotion of sanitation, by	141
" school attendance in, in May, 1890	106	Clergy as sanitarians	19
" sea bathing at	230	Climate of Brighton	85, 87
" sea wall at	166	" " by F. E. Sawyer	226
" sewage disposal in	87	Coal consumed by high and low pressure electric systems	274
" J.N. Shoolbred's scheme for erecting an electric lighting installation in	173	Coal and tar distillation works, diseases caused by the effluvia from	118
" site, environs and climate of ...	85, 87, 165		
" table of mists at	256		

	PAGE		PAGE
Collins, H. H., on Major Conder's paper	186	Dairy farms pollution of the water supply of	180
" on Mr. J. Hanson's paper ..	200	" analyses of the air of ..	181
" on Francis Hooper's paper	212	Day, Ernest, on J. Corben's paper	262
" on Dr. Newsholme's paper	109	Death-rate of army, decrease in ..	29
Collins, W. H., on the alleged danger to public health, arising from effluvia nuisances from the gas work	112	" in Brighton	78, 89
Collins, W. Hepworth, on the sanitary arrangements of dairy farms	179	" in Brighton, diminution in the	90
" on A. W. Sealiff's paper ..	243	" in Brighton from infectious and tubercular diseases, decrease in ..	91
Comma bacilli, causes of the multiplication of	39	" from consumption, decrease in	223
Conder, Major, R.E., on the iron process and the disinfection of sewage	182	" mean, from cancer in Dolgelly	248
Conference of Inspectors of Nuisances	258	" from scarlet fever, measles, whooping cough, & diphtheria ..	100, 101, 103, 104
" of Medical Officers of Health at the Brighton Congress	257	Dec, T. G., on the position that Inspectors should take with regard to the general public ...	263
Congress at Brighton, see Brighton.		Diagram showing number of candidates at inspectors' examinations	292
Congresses held by the Institute, officers at	14	Diphtheria and damp soils	224
Consumption, decreasing death-rate from	223	" in Paddington	109
Contagious diseases, precautions necessary against	20	" the spread of	97
Cooper, C. H., on F. J. C. May's paper	177	Diseases, distribution of, in relation to geology ...	223
Corben, J., on the position Inspectors should take with regard to the general public	261	" necessity of the notification of infectious ..	102, 105
Corsfield, Prof. W. H., on House sanitation from the householders' point of view	97	Disinfection of sewage and the iron process, by Major Conder ..	182
Corridors in artisans' dwellings ...	205	Distilled water possessed of lead-dissolving power	238
Crawford, Sir Thomas, on Major Conder's paper	185	Dolgelly, floods in	246
" " Inaugural address at the Brighton Congress	17	Domestic hygiene, ignorance in regard to	22
" " on F. E. Sawyer's paper	234	Drainage in artisans' dwellings ...	209
" " on Prof. Smith's address	141	" of Brighton ...	85, 87, 169
" " on W. Topley's address	225	" " cost of the ..	176
		" of houses	44, 47, 82
		" " in Brighton ...	88
DAIRY farms, the necessity for improvement in the sanitary arrangements of, by W. Hepworth Collins	179	Drain-pipes causing smells	99
		Dust and ashes in artisans' dwellings, disposal of	205
		Dust-bins as a cause of disease ...	98
		Dwellings of artisans, by Francis Hooper	201
		" plans of facing	208
		EARTH, animal and vegetable life in the	35
		Easton, C. J., on chalk as a storage reservoir	144

	PAGE		PAGE
Electrical energy, distribution of	273	Floods on health, ill effects of, by Alfred Haviland	246
" " measurement of	272	Flower, Major Lamarock, on J. Hanson's paper	200
Electricity, danger of, to life	275	Flues, defective, the cause of bad smells	93
" for the execution of criminals	271	Flushing of sewers at Brighton, method of	172
" and gas, respective cost of	272	Frankland, Professor P. F., on lead poisoning by soft water supplies	235
" and sanitation	173	GALTON, Sir Douglas, on Alderman Ewart's paper	91
" light, hygienic advantage of	275	" " on Dr. Poore's address	78
" lighting installation in Brighton. J. N. Shoolbred's proposed scheme for erecting an	173	Gas in bed-rooms the cause of disease	93
" sanitary aspects of, lecture to Congress, by W. H. Precco	267	" and electricity, respective cost of	272
" pressure, differences of	271	" energy expended on the extraction of	269
Energy, source, distribution, and utilization of	269	" as a power in the future	279
Enteric fever caused by drinking polluted water	212	" purification, nuisance arising from	114
Epidemics, causes of the spread of	81	" purification, process of	113
" of typhoid	52	Gas Works, alleged danger to public health, arising from effluvia nuisance from the, by W. H. Collins	112
Ewart, Alderman J., on the sanitary advance of Brighton	85	" " in manufacturing towns	112
" " on F. E. Sawyer's paper	233	" " symptoms of chronic poisoning from	118
" " on Prof. Smith's address	142	" " Table showing condition of the air in and around	114, 115, 116
Examinations for Local Surveyors and Inspectors of Nuisances	292	Gases, generation of sewer	185
" in sanitary science of the Institute	288	Gault, water obtained from the	220
" syllabus of subjects for	289	Geological divisions of Sussex	216
" table and diagram	292	Geology in relation to disease	223
Examiners of the Institute, board of	283	" in relation to Hygiene	215
Exemption from taxation of manufacturing establishments	121	" and water supply	216
Exhibition at Brighton, 1890, awards of judges at	295	Glasgow Corporation water works regulations	155
Exhibitions held in connection with Congresses of the Institute	293, 294	Goitre and ferruginous water	224
FARR, Dr., on the death-rate in England	90	" in relation to Geology	224
Fellows, members and associates, list of	312	Grantham, R. F., on Alderman Hallett's paper	149
Fermentation of the soil	34	" " on the disposal of the sewage of London upon the Maplin Sands	187
Ferruginous springs	219	Groyning, benefits resulting from, at Brighton	166
Fever in Malta, by Dr. Marston	80	Gymnastics, ancient and modern	128
Field, Rogers, on R. E. Middleton's paper	162	HALLETT, Alderman W. H., on the Brighton waterworks	143
Filtration of sewage, methods of the	193		
Fire-hydrants in artisans' dwellings	210		
Floods causing the increase of cancer among females	247, 249		

	PAGE		PAGE
Hanson, John, on black ash waste and its application to the treatment of sewage and foul water	197	Infectious diseases, means to prevent the spread of, in connection with school life	107
Hanson's sulphurous powder as a disinfectant of sewage	198	" " necessity of the notification of	102, 105
Hastings, Sanitary Aid Association of	111	Infectious and septic diseases, some points in relation to, by James Turton	79
" water supply at	218	Inspectors, the education, examination, and legislation of and for sanitary, by A. E. Adams	261
" wet and dry soils in	217	Inspectors of Nuisances Conference	258
Haviland, Alfred, on the ill effects of floods on health	246	" " see Sanitary Inspector.	
Health, Conference of Medical Officers of, at the Brighton Congress	257	Iron process as applied to the disinfection of sewage, by Major Conder, R.E.	182
" ill effects of floods on, by Alfred Haviland	246	" " of disinfecting sewage, cost of	183
" public, and legislation	21	JAGO, W., on sanitation in bread-making	245
Health resort, Brighton as a, by Francis J. C. May	161	" on A. W. Scatliff's paper	243
" " Teneriffe as a, by G. W. Strettell	250	Jones, Lieut.-Col., on Major Conder's paper	186
" resorts, architecture and engineering of our	123	" " on R. F. Grantham's paper	196
" service, a national, by the Hon. F. A. R. Russell	110	Judges awards at Exhibition at Brighton, 1890	295
Henriques, on Alderman Ewart's paper	95	KEMPSTER, Dr., on Dr. News-holme's paper	109
" " Dr. Poore's address	78	Kent Waterworks Company's method of softening water	234
Holidays for working classes	282	Koch on the cholera microbe	39
Hon. Fellows, Fellows, Members, and Associates of Sanitary Institute	312	LYON, Washington, on J. Hicks-Beel's paper	266
Hooper, Francis, on artisan's dwellings	201	" " on J. Corben's paper	263
House drainage	44, 47, 82	Lake District, local climate of, and death-rate in the	247
" in Brighton	88	Land, taxation of	122
" sanitation from the householder's point of view, by Professor W. H. Corfield	97	Latham, Baldwin, on Alderman Hallett's paper	148
" taxation a hindrance to the erection of good houses	120	" on F. J. C. May's paper	178
Hygiene, domestic, ignorance in regard to	22	" on R. E. Middleton's paper	163
Hygienic advantage of electric light	275	" on F. E. Sawyer's paper	233
" knowledge to women, value of, by Dr. A. T. Schofield	96	" on A. W. Scatliff's paper	243
Hythe beds, water from the	219	" on G. W. Strettell's paper	255
INFECTIOUS diseases, the bearing of school attendance upon the spread of, by Dr. A. News-holme	100	Laundries in artisans' dwellings	206
		Laundry system, evils of, in England	27
		Lead, affected by water	162
		" poisoning, analysis of water causing	236
		" " causes of	236

	PAGE		PAGE
Lead poisoning, dangers of	163	May, Francis J. C., on Brighton as a health resort	164
" " public and private protective measures against	239, 240	Measles, necessity of the notification of	108
" " by soft water supplies, by Professor Percy F. Frankland	235	Medical and Social Science Associations, British	111
Lecture to the Congress at Brighton, by W. H. Preece	267	Members of Sanitary Institute, list of	312
" " to working classes, by B. W. Richardson	281	Metropolitan sewage discharge, report of	187
Lea, pollution of the	199	Micro-organisms as agents of disease	26
Legislation and electrical energy	278	" " in Bolton and Manchester, Table showing	119
" " and the public health	21	Middleton, Reginald E., on water-works regulations	150
Lemon, J., on R. F. Grantham's paper	195	Milk as an element of disease	180
Leyton sewage works	199	Mists at Brighton, Table of	256
Library, contributions to, during 1890	302	Mortality from whooping cough at school ages	104
Library, public lending, in Brighton	174	NATIONAL health service, a, by the Hon. F. A. R. Russell	110
Life, prolongation of by sanitary measures	30	Newhaven waterworks	222
Light, influence of, on the eyes	276	Newsholme, Dr. A., upon the bearing of school attendance upon the spread of infectious diseases	100
" " standard of	268	Notification of infectious diseases, the necessity of the	102, 105
Lime as a nuisance when employed in the purification house of Gas Works	115	Nuisances, Conference of Inspectors of	258
Lincolnshire marshes, arterial drainage in the	191	" " Inspectors of — see Sanitary Inspectors.	
Liverpool Corporation Water Works regulations	150	OBJECTS of the Sanitary Institute	281
Local authorities and infectious diseases	112	Officers of Congress held at Brighton, 1890	16
London County Council, and sewage disposal of London	188	" " at Congresses held by the Institute	14
" " electrical systems used in	274	" " of Sanitary Institute for 1889-90	9
" " school board and absentees	107	Osborne, J., on J. Hicks-Beel's paper	265
" " utility of public baths in	137	Overcrowding an element of disease	28
" " water supply	40	Oyster fisheries and the disposal of sewage	195
London sewage, cost of the treatment of	190	PHYSICAL geography of Brighton	227
" " sewage, disposal of	42, 78	Poore, Dr. George Vivian, address to Section I	33
London sewage, disposal of upon the Maplin Sands, by R. F. Grantham	187	" " on Alderman Ewart's paper	91
" " diagram	192	Population of Brighton	176
MALTA, Fever in, by Dr. Marston	80	Preece, W. H., lecture to the Congress at Brighton	267
Manchester Corporation works, regulations of	159		
" " Table showing condition of the air in	119		
" " Table showing micro-organisms in	119		
Maplin Sands, advantages of, for filtration of sewage	191		
" " diagram of	192		

	PAGE		PAGE
Public health, alleged danger to, arising from elluvium nuisance from gasworks, by W. H. Collins	112	Sanitary Inspectors, union of, proposed	265
" " improvements in Brighton	175	Sanitary Institute, arrangements of, for the session 1891	287
RAINFALL at Brighton	230	" " board of examiners of the	288
Recreation grounds and gardens in Brighton	168	" " Congresses held by the	14
Recruiting statistics of the army for 1888	25	" " object of the formation of	17
Rent and wages in relation to artisans' dwellings	202	" " objects of	281
Report on Metropolitan sewage discharge	187	" " rules of	281
Richardson, B. W., lecture to the working classes	281	" " list of members	312
Rivers' pollution Act	198	Sanitary legislation, improvements in	267
Robins, E. C., on Francis Hooper's paper	212	" " measures in Brighton	169
Romans, the construction of baths by the	123	Sanitation as an agricultural question	41
Roman Therma (public baths), description of	125	" " in bread-making, by W. Jago	245
Rosher, Charles, on Professor Smith's address	142	" " in Brighton	92
Rules of the Sanitary Institute	284	" " and electricity	173
Russell, The Honble. F. A. R., on a national health service	110	" " of houses from a householder's point of view, by Professor W. H. Corfield	97
SANITARY advance of Brighton, by Alderman J. Ewart	85	" " and taxation, the relations between, by S. M. Burroughs	119
" " apparatus and appliances, exhibitions of	293	Sanatorium in Brighton	169
" " arrangements of dairy farms, by W. Hepworth Collins	179	Sawyer, F. E., on the climate of Brighton	226
" " aspects of electric lighting	267	Scarlet fever, infectious nature of	84
Sanitary Inspectors of Brighton, duties of	171	Scatliff, A. W., on a case of well-pollution undetected by chemical analysis	241
" " the education, examination, and legislation of and for, by A. E. Adams	261	Schofield, Dr. A. T., on the value of hygienic knowledge to women	99
" " general duties and status of, by G. Steers	264	School attendance, the bearing of, upon the spread of infectious diseases, by Dr. A. Newsholme	100
" " their position with regard to the general public, by J. Hicks Beel	264	" " in Brighton, in May, 1890	106
" " their position with regard to the general public, by J. Corben	261	" " Officers in Brighton	106
" " their position with regard to the general public, by T. G. Dee	263	" " Registers, ages per cent. of the total number of children on the	103
		Sea bathing at Brighton	230
		" " at Brighton, influence of, on heat of summer	229
		" " wall at Brighton, cost of construction of	166
		Septic and infectious diseases, some points in relation to, by James Turton	79
		" " poisoning, causes of	80, 81
		" " poisons	82

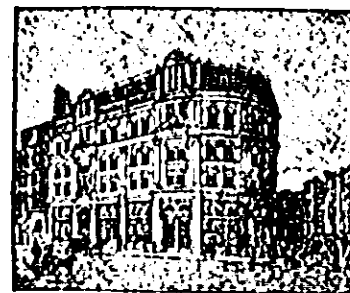
	PAGE		PAGE
Sessional meetings of the Institute	13	State authorities and infectious diseases	110
Session, 1891, arrangements of the Sanitary Institute	287	Steam as a source of power	270
Sewage, as applied to agricultural land	193	Steers, G., on general duties, status, etc., of Sanitary Inspectors	264
" as applied to land	189	Storage cisterns, dimension of ...	156
" composition of	46	Strong, Dr., on Dr. Newsholme's paper	108
" disinfection, and the iron process, by Major Conder, R.E.	182	Strettell, G. W., on Teneriffe as a health resort	250
" filtration of, methods for the	193	Surgical pathology, Billroth on ...	81
" foul water and black ash waste, by John Hanson	197	Sussex, geological divisions of ...	210
" of London, cost of the treatment of	190	" geology and scenery of	215
" as a manure	45	Swimming baths, beneficial effect of	130
Sewage Disposal of	47	Swimming bath tank, construction of	131
" of Berlin	42	Sykes, Dr. J. F. J., on Francis Hooper's paper	213
" of Brighton	87	" on Dr. Newsholme's paper	109
" of London	42, 78	Syllabus of subjects for examination	289
" of London, area of land required for the	192	Symons, G. J., on A. W. Sealiff's paper	244
" of London upon the Maplin Sands, by R. F. Grantham	187	" on G. W. Strettell's paper	255
" of London on the Maplin Sands, diagram	192	TABLE, showing air temperature in the shade at Brighton from 1868 to 1888	232
" and the oyster fisheries	195	" barometrical pressure for 1872-1885 at Brighton	232
Sewage works at Leyton	199	" Berlin central stations for the production of electricity ...	277
Sewer gases, generation of	185	" Brighton expenditure 1859-90	177
" flushing of, at Brighton ...	172	" the condition of the air in Bolton	119
" ventilators	181	" the condition of the air in and around gasworks ... 114, 115, 116	116
Shingle, water supply from	222	" condition of the air in Manchester	119
Sickness of working classes, loss to wealth of England through	24	" the death-rate from measles, whooping-cough, scarlet fever, and diphtheria, during 1885	103
Site for building artisans' dwellings	202	" death-rate per million from whooping-cough, scarlet fever, measles, and diphtheria, from 1848-1887	104
Slop water, disposal of	47		
Sludge, disposal of	188		
Smith, Prof. T. Roger, address to section II.	123		
" on Major Conder's paper	186		
" on F. J. C. May's paper	177		
Smoke abatement, action of the Sanitary Institute with regard to	117		
Soil, absorbing power of the	37		
" disintegration of the	35		
" fermentation of the	34, 36		
" in Hastings	217		
Staircases in artisans' dwellings	204		

	PAGE		PAGE
Table, showing decrease in deaths from infectious and tubercular diseases in Brighton	91	Tenant proprietorship	210
" efficiencies of high and low electric pressure system ...	273	Teneriffe as a health resort, by G. W. Strettell	250
" exhibitions held in connection with Congresses of the Institute	291	" variation of temperature between night and morning	253
" fires in London caused by different methods of lighting	276	" water supply in	254
" mean monthly temperature of Brighton and Greenwich	229	Topley, W., address to Section III.	215
" micro-organisms in Bolton and Manchester	119	Trees, absence of, at Brighton ...	228
" number of candidates at examinations held by the Sanitary Institute	292	Tubercular diseases, table showing decrease in deaths from, in Brighton	91
" of mists at Brighton	256	Turkish bath, description of an English	128
" particulars of six cases of enteric fever from polluted water	241	Turton, James, on septic and infectious diseases	79
" the population, length of highways and sewers, &c., of Brighton	176	Tweed, pollution of the	199
" practical application of sewage	180	Typhoid, epidemics of	52
" products of combustion in developing light	268	" table of cases and causes of	52
" rainfall in Brighton from 1869-1888	233	" fever, causes of	43
Tabulated reports of epidemics of typhoid	52	Typhus fever, causes of	97
Tatham, Dr., on W. Topley's address	225	VAPOUR bath, description of ...	130
Taxation, exemption from, of manufacturing establishments	121	Ventilating soil pipes, necessity of	99
" of houses a hindrance to the erection of good houses	120	Ventilation of swimming baths ...	135
" from industry, good effect of the removal of	121	" want of, the cause of disease	97
" of land	122	Ventilators to sewers	184
" and sanitation, the relations between, by S. M. Burroughs	119	WAGES and rent, in relation to artisans' dwellings	202
Temperature of Brighton	228	Walker, C. C., construction of cheap public baths by	137
" swimming baths	133	Water affected by lead	162
		" necessity of the purity of	51
		" classification of	238
		" as a source of power	269
		" tanks in artisans' dwellings	208
		Water supplies, Professor P. F. Frankland, on lead-poisoning by soft	235
		" as affecting the public health	148
		" of Brighton 143, 146, 147, 172, 221	148
		" of dairy farms, pollution of the	180
		" and geology	216
		" at Hastings	218
		" of London	40
		" of swimming baths, cost of the	134
		" in Teneriffe	254
		Waterworks at Brighton, cost of	147
		" the Brighton, by Alderman W. H. Hallett ...	143

	PAGE		PAGE
Waterworks at Brighton, object of regulations, by Reginald E. Middleton ...	150	White, W., on F. E. Sawyer's paper	233
Wealden strata, character of water from the.....	218	" on A. W. Scatliff's paper	244
Wealth of England, loss to through sickness of working classes.....	24	" on G. W. Stottell's paper	255
Well-pollution undetected by Chemical analysis, case of, by A. W. Scatliff.....	241	Whooping cough, the mortality from at school ages	101
Westminster Sanitary Aid Association of	111	" necessity of isolation in	102
White, W., on Major Conder's paper	185	Wilkinson, W., on J. Corben's paper	262
" on Alderman Ewart's paper	95	Wind at Brighton.....	230
" on J. Hanson's paper.....	200	Women, value of hygienic knowledge to, by Dr. A. T. Schofield	96
" on Francis Hooper's paper	214	Woodruff, Mr., on Major Conder's paper	181
" on R. E. Middleton's paper	162	" on W. Topley's address	225
		Working classes, lectures to, by B. W. Richardson.....	281
		" hours for working men	281
		Wray, Mr., on R. E. Middleton's paper	163

Medal, Sanitary Institute, 1890.

BURROUGHS, WELLCOME & CO., Manufacturing Chemists, SNOW HILL BUILDINGS, LONDON, E.C.



Laboratories: Dartford, Kent, England.

B. W. & Co. manufacture only NEW and IMPROVED forms of Chemical, Pharmaceutical and Sanitary Products, and are the sole makers of the Original and Genuine "TABLOIDS" of Compressed Drugs, as prescribed by the Medical Profession throughout the world, and as supplied to H. M. STANLEY and other great Explorers and Travellers (*vide* "The Congo," vol. ii., pages 225 and 327; "In Darkest Africa," vol. i., chap. i., etc.) The Editor of the *British Medical Journal* writes (July 12th, 1890), *re* Stanley's Medicine Chest, as follows: "Surgeon Parke has personally informed us that the concentrated preparations and 'TABLOIDS' retained their efficiency throughout the whole journey, and were of the utmost value by reason of their efficiency and portability."

B. W. & Co. make a speciality of PURE, PORTABLE, and PALATABLE Drugs and Outfits for Ships, Exploring Expeditions, Missionaries, Planters, Mining Companies, Caravans, etc.

Certificate of Merit Sanitary Institute, 1889.

THE SOAP OF TO-DAY.

It should be borne in mind that VINOLIA SOAP is the product of *to-day*, that it embodies all the more recent scientific advances in the manufacture of Soaps, and further that it has received the unqualified approval of medical and other scientific men, as well as of the lay and scientific press. The favourable reports upon it are not of yesterday, and do not apply to a leading product of years ago, but are alive with the scientific spirit of *to-day*, and represents the highest opinion on recent achievements in Soaps. What more could be asked?

The *British Medical Journal*: "'Vinolia' Soap is of unquestionable excellence, and is much in favour with the profession."

The *Lancet*: "No free Alkali, a distinct excess of free fat, odour delicate, an article of excellent quality."

The *Chemist and Druggist*: "An ideal Soap, delightfully perfumed, and the skin has a velvety feeling after washing with it."

The *Hospital Gazette*: "We have tried 'Vinolia' Soap, and can certify that it is bland and unobnoxious, even to the most delicate skin."

The *Medical Press and Circular*: "Deliciously scented, and gives a good smooth lather. Bland and unobnoxious."

The *Queen*: "Excellent from its purity, lathers freely, and is very lasting."

VINOLIA SOAP.

PRICES:—*Vinolia Soap, Floral, 6d., Balsamic, 8d., and Otto of Roses, 10d.; Shaving Sticks, 1s., 1s. 6d., and 2s. 6d.; Flat Cakes, 2s.; Vinolia and Vinolia Powder, 1s. 9d., 3s. 6d., and 6s. each per box.*

BLONDEAU ET CIE, Ryland Road, London, N.W.

Medal, Sanitary Institute, 1879.

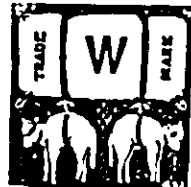
GOLD MEDAL, PARIS EXHIBITION, 1890.
AND SEVENTEEN OTHER GOLD, SILVER, & BRONZE MEDALS.

WM. WOOLLAMS & CO.,
ORIGINAL MAKERS OF
WALL PAPERS

Guaranteed Free from Arsenic,
TO BE OBTAINED OF ALL DECORATORS AND CONTRACTORS.
SPECIAL FACILITIES for PRINTING ARCHITECTS' PRIVATE PATTERNS.
Non-Arsenical Colors for Decorative Distemper Work.

Agents for and Printers of
MR. J. ALDAM HEATON'S
PRIVATE DESIGNS IN WALL AND CEILING PAPERS.

SOLE ADDRESS:
110, HIGH STREET (Near Manchester Square), LONDON, W.



Messrs. W. WOOLLAMS & CO. specially desire to caution Architects, Sanitary Inspectors, and the Trade against Pattern Books closely resembling their own in general appearance, and invite attention to their Sole Address, and "Trade Mark," a bale of "Wool" and two "lum(b)s" suspended, which affords a certain means of identifying their patterns.

PATENT VICTORIA STONE,

Established 1868. Registered Trade Mark, "VICTORIA STONE."

BRONZE MEDAL: Sanitary Exhibition, 1893.
The only Medal at the International Health Exhibition for Artificial Flag Stone, 1894.
The only Medal for Artificial Stone Paving at the Leicester Exhibition, 1895.
GOLD MEDAL: International Exhibition, Crystal Palace, 1894.
GOLD MEDAL: Building Trades Exhibition, 1886. By Appointment to the Health Exhibition, 1884.
GOLD MEDAL: International Exhibition, Alexandra Palace, 1895.
Diploma of Honour International Fisheries Exhibition, 1893.
By Appointment to the Royal Agricultural Society.

IT HAS BEEN USED IN THE LARGEST

ASYLUMS, SCHOOLS AND BARRACKS

In England for Landings, Steps, Sills, and Heads.
AS PAVING it has stood the test of 21 years' traffic in London.

INDURATED CONCRETE SLABS & IN-SITU PAVING.

In view of the extension of powers under the Local Government Acts to comparatively rural districts, the Company manufacture, on a large scale, cheap and useful first-class Concrete Paving, and laying Paving *in situ*, in order to meet the requirements of places where traffic is less severe, and where the first cost is of importance.

PAVING ON DEFERRED PAYMENTS EXTENDING OVER TWENTY YEARS.

Laid on London Bridge, where the foot traffic exceeds 80,000 Passengers per day—the heaviest traffic in the world. This Pavement will last a Century in ordinary Suburban Roads.

THE PATENT VICTORIA STONE Co., Limited.

SECRETARY AND MANAGER—MR. HARRY ROGERS.

OFFICES: 283a, KINGSLAND ROAD;
Works, Stratford Bridge, Essex: and at Groby Quarries, near Leicester.

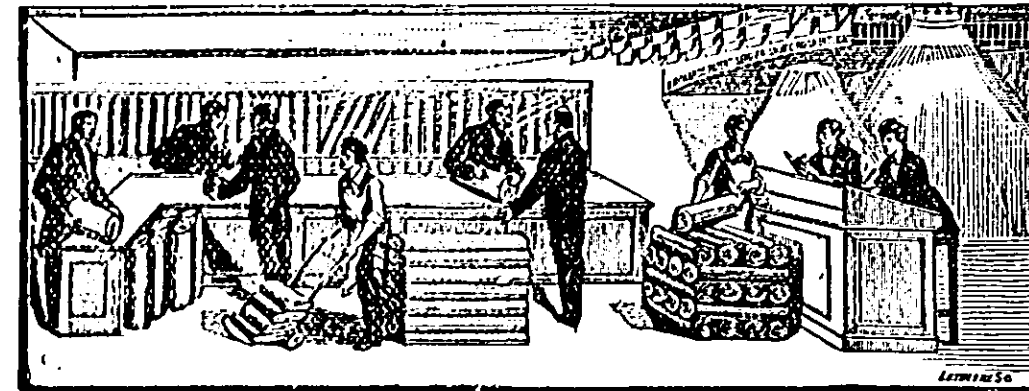
Medal, Sanitary Institute, 1890.

To Owners of Property, Architects, &c.

In order to ensure the BEST RESULT and INCREASE IN LETTING VALUE OF BUSINESS PROPERTY, it is of the utmost importance that

HAYWARD'S
Patent SEMI-PRISM LIGHTS

should be clearly and distinctly specified, otherwise inferior imitations might be employed, which will cause disappointment



The Illustration shows how Basements and Cellars can be converted into valuable Business Premises by using

HAYWARD'S PATENT PAVEMENT LIGHTS.

THIRTEEN MEDALS
AWARDED.



H. B. & E. will always give advice for Improving Basement or other Property, without charge.

By their assistance first cost is often reduced and a practical result obtained.

Extract from the "WAREHOUSEMEN and DRAPERS' TRADE JOURNAL."
"We have been asked to give an opinion respecting Hayward's Patent Pavement Lights, for illuminating basements, &c. Having them fitted to the basement of our own offices, we are enabled to say they are really what they profess to be. But surely evidence of their value and popular appreciation is not seriously questioned, seeing that nearly one-fifth of the basements in our principal business thoroughfares are now lighted with them. In addition to comfort afforded within, we look with special favour upon their external appearance,—as also must the tradesmen,—for, however tempting the array of goods, one could not, in the reign of the old area grating, get sufficiently near to admire them."

ESTIMATES ON RECEIPT OF PARTICULARS.

HAYWARD BROTHERS & ECKSTEIN,
ENGINEERS AND IRONFOUNDERS,
187, 189, 191, 193, UNION STREET, BOROUGH, London, S.E.

W. CLEMENS ABELL & CO.,
WORCESTER WAGON WORKS, WORCESTER.
 (ESTABLISHED 1867.)

Builders and Repairers of Railway Wagons.
IRON & BRASS FOUNDERS,
SANITARY & GENERAL ENGINEERS & CONTRACTORS.

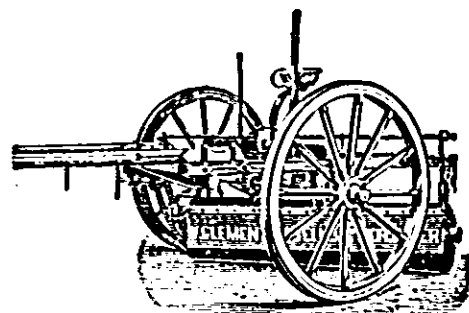
MAKERS OF
Carts, Trolleys, Vans, Spring Carts and Vans, Dog Carts,
Pony Carts, Milk Carts, &c.

BRASS AND IRON FOUNDERS.

SEND FOR PRICE LIST.

SANITARY AND GENERAL ENGINEERS.

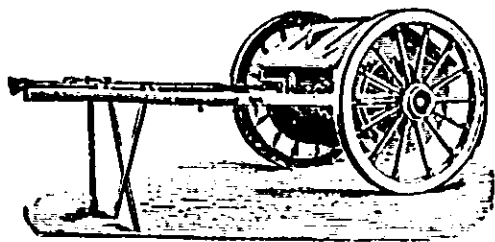
**THE WORCESTER IMPROVED
 STREET WEEPING MACHINE.**



Silver Medal, Walsall, 1889.
 The Medal of the Sanitary Institute, 1889,
 and Prize Medal, 1890.

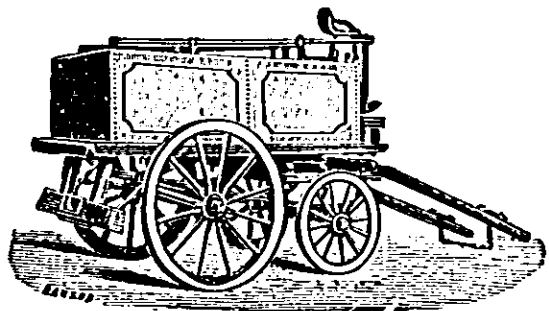
IMPROVED TUMBLER CART.

For Sanitary and other purposes.



The Certificate of Merit of the Sanitary
 Institute, 1889 and 1890.

THE WORCESTER PATENT HYDROSTATIC VAN.



The Certificate of Merit, Sanitary Institute, 1890.
 Can be had either on 2 or 4 wheels in various sizes, and also with flushing valves.
 Can be fitted with Abell's New Patent Triple Distributor, and Enoch Patent Air Pipe.
 Will maintain a spread of 22 ft. till the water is exhausted.

Tip Wagons and Carts for collecting Refuse, &c.

JEWSBURY & BROWN'S

(MANCHESTER)

SPARKLING TABLE WATERS

Unrivalled for Purity and Quality.



CERTIFICATE OF MERIT AWARDED BY THE SANITARY INSTITUTE FOR SELTZER WATER.

Extract from Analytical Report.

"THE OWENS COLLEGE, MANCHESTER, August 30th, 1889.

"The examination of all these Waters and Beverages has completely satisfied me that they are of the highest attainable standard, and it may be safely asserted that Messrs. JEWSBURY & BROWN still continue, as they have so long done, to excel as regards purity, flavour, and careful preparations."

(Signed) **WATSON SMITH, F.C.S., F.I.C.,**

Vice-Chairman of the Chemical Section, Member of the Executive Committee and Council of the late Royal Jubilee Exhibition, Manchester, 1887; Lecturer in Chemical Technology in the Owens College, Manchester, and the Victoria University; now Lecturer in Applied Chemistry in University College, London; Editor of Journal of the Society of Chemical Industry, &c.

The above Waters are supplied in Syphons, ordinary Bottles, and Half-Bottles. J. & B.'s Syphons are mounted with *Pure Block Tin*, thus ensuring absolute immunity from dangerous metallic contamination.

NOTE.—All corks are branded with name, each Bottle and Syphon bears Jewsbury and Brown's Trade Mark in the glass, also their Label, without which none is genuine.

Price Lists and Analytical Reports sent free to any address, or may be had from their numerous Agents.

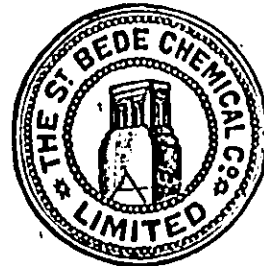
FOR HOME AND EXPORT.

Certificate of Merit Sanitary Institute, 1889.

THE "St. Bede Disinfectant."

(PATENTED. REGISTERED.)

A REAL
DISINFECTANT!



Used by Medical Officers
of Health.

TESTIMONIALS.

REPORT BY DR. EDWARD SEATON ON THE "St. BEDE DISINFECTANT."
31st July, 1889.

Since it became established that the Per-Chloride of Mercury in the presence of a free acid, or its equivalent, was by far the most efficacious disinfectant, medical practitioners generally, and especially those who have to do with the prevention of fevers, have felt the great want of a convenient preparation which would contain the Per-Chloride of Mercury in the necessary strength together with a free acid, or its equivalent; and which would at the same time be in such a form as could be safely entrusted to Fever Nurses, Sanitary Inspectors and others by whom the processes of disinfection are usually carried out.

Such an article has now been prepared by the St. Bede Chemical Company. It is in the form of blocks, each weighing an ounce, and each containing 17.5 grains, or 4 per cent. of Per-Chloride of Mercury. The block is composed mainly of anhydrous sodium sulphate (392.4 grains), with which is combined 21.5 grains of sulphuric acid; the acid sulphate thus formed appearing to act like a free acid, and to give to the Per-Chloride of Mercury its full disinfecting or germ-destroying power. The block contains also 2.2 grains of eucalyptus and thymol and 9 grains of indigo, so that when dissolved it has a strong, but pleasant, smell and a bright blue colour. I have had several of these blocks submitted to me for analysis, experiment, and report. I find the proportion of the Per-Chloride of Mercury in each to be as stated, viz., 4 per cent., or 17 grains in the ounce block. The block is rather slowly soluble in a quart of water. The resulting blue solution is described as a very strong disinfectant. In order to test this I have made experiments in conjunction with Dr. Klein, to ascertain the effect of the solution on certain well known organisms which have been proved to be pathogenic or constantly present in zymotic diseases. The tests were made with the bacilli and spores of anthrax, also with the organisms present in cases of cholera and enteric fever. On adding three drops of the culture fluids of these organisms to three cubic centimetres of the blue solution, consisting of one block dissolved in a quart of water, the organisms were destroyed after only five minutes' exposure. This is a very severe test and shows that the blue solution is a very strong disinfectant for infected linen, blankets, &c. We further tested its power of disinfecting the evacuations of enteric fever and cholera. Sterilised faecal matter in a fluid condition was inoculated with as much as one-seventh part of the culture fluid of the organisms present in enteric fever. To this mixture was added an equal quantity of the blue solution, and five minutes was found to be sufficient to destroy the organisms. I have also tested its antiseptic powers by dissolving blocks in putrescible fluids, and I found that one block dissolved in twenty-five quarts of a putrescible fluid, retarded decomposition five days; and that when dissolved in twelve and a half quarts, there was no sign of decomposition in the putrescible fluid after eight days. I further tested its power as a deodorant by noticing its effect upon heaps of fish refuse mixed with other decomposing animal and vegetable matters, and I found the solution was an excellent deodorant.

The preparation called the "St. Bede Disinfectant" has most powerful disinfecting and antiseptic properties, and is also a valuable deodorant. At the same time its colour and smell are quite sufficient safeguards against the possibility of its mistaken use. I have therefore no hesitation in strongly recommending it on public grounds.

(Signed) EDWARD SEATON, M.D., F.R.C.P.,
Fellow of the Institute of Chemistry,
Medical Officer of Health for Chelsea,
Lecturer on Sanitary Science and Public Health, St. Thomas' Hospital, London.

THE DETAILS OF THE EXPERIMENTS REFERRED TO IN DR. SEATON'S REPORT ARE AS FOLLOWS:—

The "St. Bede Disinfectant" was now in solution, one block being dissolved in one quart of water.

1.—The "killing power," i.e., the power to kill microbes, was tested on the following microbes: (a) bacillus anthracis without spores, (n) spores of bacillus anthracis, (c) the comma-bacillus found in Asiatic cholera, (p) the bacillus found in human typhoid fever.

Of normal cultivations in broth of these several microbes, about three drops were added to about three cubic centimetres of the disinfectant solution, well mixed, and after the lapse of five minutes, one to two drops of the mixture were added to tubes containing about 10 c.c. normal sterile beef broth; for control similar normal sterile beef broth was inoculated with a mere trace of the same culture fluids used for the above experiments. All broth tubes were placed in the incubator at 37° C., while all the control tubes showed already after twenty-four hours' copious typical growth of the several microbes, the others were perfectly clear and remained so afterwards. It follows from these experiments that five minutes' exposure of bacillus anthracis, of spores of bacillus anthracis, of the choleraic bacilli, and of the typhoid fever bacilli to the "St. Bede Disinfectant" solution is sufficient to kill these microbes.

2.—An important and extremely severe test of the killing power of the "St. Bede Disinfectant" solution was made in the following experiments:—

To normal human faecal matter in thick solution, previously sterilised and contained in test tubes, was added a certain quantity of normal culture fluid of the choleraic bacilli and of the typhoid fever bacilli respectively, about one-seventh of the culture fluid being added to six-sevenths of the faecal solution. After mixing well the disinfectant was added to each of the faecal mixtures in equal proportions, so that each of the test tubes contained 1/2 of the faecal matter plus culture fluid, and 1/2 of the disinfectant. After five minutes a number of test tubes containing sterile beef broth, as in the former series, were inoculated with a drop or two from these faecal mixture tubes, then placed in the incubator and kept at 37° C., but no growth appeared in them and the fluids remained sterile. At the same time that the above experiments were made, control broth tubes were inoculated with a trace of the faecal solution after the addition to them of the culture fluids, but before the addition of the disinfectant, these control tubes were also placed in the incubator and kept at 37° C., they all showed abundant normal growth after twenty-four hours of the choleraic bacilli and of the typhoid bacilli respectively.

(Signed) E. KLEIN, M.D., F.R.S.,
Professor of Bacteriology at the College of State Medicine, London.

LABORATORY AND ASSAY OFFICE,
75, THE SIDE, NEWCASTLE-UPON-TYNE,
July 6th, 1889.

I hereby certify that I have analysed a sample of the "St. Bede Disinfectant," manufactured by Messrs. The St. Bede Chemical Company (Limited), Newcastle-upon-Tyne, and that I find it contains as follows:—

Per-Chloride of Mercury	4.01 per cent.
Free Sulphuric Acid	4.10 "
Sulphate of Soda	87.25 "
Sulphate of Lime	1.30 "
Oxide of Iron, &c.	0.27 "
Chloride of Sodium	0.21 "
Insoluble Siliceous Matter	0.21 "
Thymol, Eucalyptus, Indigo, and Water	2.62 "
	<hr/>
	100.00

The principal active ingredient of this disinfectant is Per-Chloride of Mercury (corrosive sublimate) which is known to be the most certain and powerful destroyer of disease germs. When the "St. Bede Disinfectant" is dissolved according to the instructions given it forms a solution of the strength and character recommended by Dr. Buchanan, the Medical Officer of the Local Government Board, as being effective as a disinfectant. It is prepared and packed in a form which makes it convenient and easy to be used.

(Signed) JOHN PATTINSON, F.I.C., F.C.S.,
Public Analyst for Newcastle-upon-Tyne.

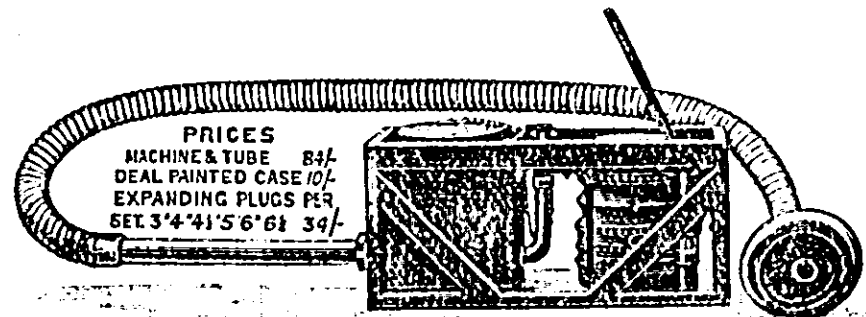
SPECIAL TERMS FOR LARGE QUANTITIES.

MANUFACTURED ONLY BY
The St. Bede Chemical Company, Limited,
NEWCASTLE-UPON-TYNE.

Certificates of Merit Sanitary Institute, 1890.

BURN & BAILLIE'S Patent "ECLIPSE" DRAIN-TESTING APPARATUS.

We guarantee this to be the only Smoke Generator, of any description whatsoever, which applies a positive test to Drains.



BURN & BAILLIE'S PATENT LAVATORY BASINS.

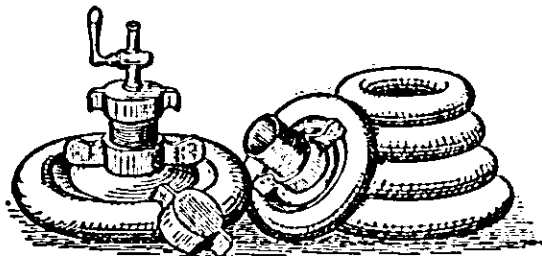
Overflow grating made to lift out, overflow pipe may thus be cleansed with facility, and the generation of bad smells be prevented.

Price, in Slate, as shown, exclusive of
woodwork, £3 7s. 6d. each.

LONDON:—

Newcastle Street, Farringdon Street;
and EDINBURGH.

BURN & BAILLIE'S IMPROVED EXPANDING PLUGS FOR DRAIN-TESTING, &c.



THESE are very convenient for plugging up drains and for testing either with water, smoke or other tests. Instead of having a bolt and nut by which to draw up the flanges a brass tube and nut are used, to which an india-rubber tube can be very readily connected.

Supplied in sets comprising two sizes of brass flanges and six moulded india-rubber rings (with which any sized pipe, from 3 in. to 6 1/2 in. diameter may be plugged) and one test cock.

PRICE, per set, 34s. 9 in. expanding plug with test cock, 20s.

LYON'S PATENT STEAM DISINFECTOR.

For purifying clothes, bedding, mattresses, bales of rags, furniture, documents, &c. Disinfects any articles placed within it by subjecting them to dry superheated steam under regulated pressure. It is made in two forms—one for fixing in a building, and the other portable. It has been subjected to the most severe practical tests and has been found to insure absolute disinfection. It saves time, does not affect the colors of the goods, makes no offensive smell, and avoids all risk of burning.

The exhaustive series of trials conducted by Dr. Parsons, of the Local Government Board, show clearly that of the various classes of Disinfectors used, Steam Disinfectors are the best, and Lyon's is the best Steam Disinfector.

This Apparatus is now adopted by H. M. Government and the leading Medical Institutions, and its use is rapidly extending everywhere.

(Medals, Sanitary Institute, 1885, 1889, 1890.)

"THE DESTRUCTOR."

(FRYER'S PATENT)

For the reduction and purification of the waste products of towns by fire. Involves no expense for fuel, yet the heat of the furnaces is utilizable for raising steam for manufacturing purposes, and the ashes (hard clinker) are saleable. This is the most satisfactory, and, in many cases, the only method of safely disposing of towns' refuse. It is now adopted with uniform success in the principal cities and towns in the country.

THE "FUME CREMATOR."

(JONES' PATENT)

For burning the gases from "The Destructor" and other furnaces, and rendering them inoffensive as well as innocuous.

(Medal, Sanitary Institute, 1889.)

IMPROVED FILTER PRESSES.

For separating the solid portion of sewage sludge and pressing it into cakes.

(Medal, Sanitary Institute, 1889.)

FIRMAN'S DRYING AND RENDERING APPARATUS

AND

JOHNSTONE'S DRYER.

For drying fish, offal, blood, waste animal matters, excreta, &c., and reducing them into saleable products.

(Medals, Sanitary Institute, 1882 and 1887.)

For full information, apply to the Sole Makers,

MANLOVE, ALLIOTT & Co., Ltd.,

ENGINEERS,

NOTTINGHAM.

LONDON, GLASGOW, MANCHESTER.

Medal of the Sanitary Institute, 1885.

JEYES' FLUID. NON-POISONOUS.

In use in the majority of Institutions and by Sanitary Inspectors, &c.

44 Prize Medals
AND
other Awards.



Certificates Awarded
AT
Sanitary Exhibition
(Worcester).

SANITARY POWDER. DISINFECTANT SAWDUST.
HOUSEHOLD SOAPS. DISINFECTANT SOAPS.
(White.) (Brown.)

JEYES' AUTOMATIC DISINFECTANT DISTRIBUTOR.

(Flanders' Patent.)
A most ingenious Machine for use in Water-waste Preventers and Public Urinals.

Samples, and all particulars to Surveyors and Sanitary Inspectors, on application.

JEYES' SANITARY COMPOUNDS COMPANY, LIMITED,
Head Office—43, CANNON STREET, LONDON, E.C.

GAINED THE AWARD OF MERIT
SANITARY INSTITUTE, 1890.

MOSS FLOWER'S PATENT APPLIED FOR Adjustable Gradient Indicator,

For laying down Gradients, & ascertaining the rate of Inclination of existing Gradients.
For Architects, Surveyors, Civil, Sanitary and Mining Engineers, Builders, Sanitary Inspectors, Clerks of Works, and others.

Indispensable in the Construction of Sewerage, Drainage, Water Works, Railways, and in Mining Operations.
Supplied to Board of Works, Ireland, Boroughs of Bradford, Blackburn, West Bromwich, Rochester, Vestry of Chelsea, Sandgate Park Colliery Co., etc., etc.

Testimonials and recommendations as to the utility of the instrument are continually arriving.



FOR PRICE LIST, APPLY TO
T. J. MOSS FLOWER,
Consulting Sanitary Engineer and Surveyor to the Bristol, Clifton, and Western Counties Sanitary Survey Association, LIVERPOOL CHAMBERS, BRISTOL.

NOTICE TO STEAM USERS.

WE GUARANTEE—

1st.—To increase the production of steam from 20 to 50 per cent. per boiler, according to circumstances.

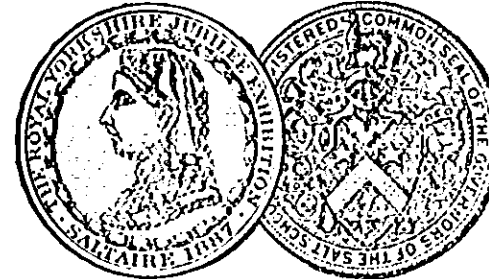
2nd.—To prevent all black smoke.

3rd.—To effect such economy in the cost of fuel as will pay 20 to 50 per cent. on the outlay, according to circumstances, in all cases where our Gold Medal Stoker and Camel Furnace is adopted.



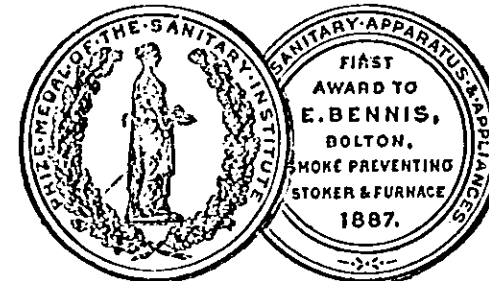
HIGHEST AWARD,
MANCHESTER, 1882.

ONLY GOLD MEDAL.



YORKSHIRE, 1887.

HIGHEST AWARD,



BOLTON, 1887.

No other Stoker or Furnace combines these three points.

This is the first successful Shovel Stoker in the market; the distribution of the fuel cannot be equalled by any other system, as evidenced by our having

**WON EVERY
COMPETITIVE TEST**
at which both makers were represented.

E. B. BENNIS & Co., Ltd.,
LANCASHIRE STOKER WORKS, BOLTON.

ESTABLISHED 1795.

London, 1862.] Gold Medal, Liverpool Exhibition, 1886. [Paris, 1867.
Paris, 1878—Three Medals and Honourable Mention.

International Health Exhibition, London, 1884—1 Gold,
3 Silver, and 2 Bronze Medals.

Medals Awarded at Sanitary Institute Exhibition, Brighton,
Worcester, York, and Glasgow.

JOSEPH CLIFF & SONS,

(Incorporated with the LEEDS FIRE CLAY CO., LIMITED)

WORTLEY, LEEDS.

IMPERIAL PORCELAIN WARE.—BATHS, SINKS, &c.

Glazed Bricks, White and all Colours.

Wortley Faience, for Panels, Dados, Hearths, &c.

Hall's Patent Hanging Tiles, Glazed, in all Colours.

FIRE CLAY, BRICKS, AND FAIENCE.

White Enamelled Fire Clay Sinks.

Beancliffe Disconnecting Traps.

„ Urinal Base, White Enamelled Urinal Channels.

Stokes' Gully. Simplex Reversible Gullies.

Yorkshire Salt Glazed Sinks. Imperial Slop Sinks.

Nursery Baths. Roman Baths. Porcelain Baths.

&c., &c.

Telegraphic Address— London Offices and Depots: Telephone
"Cliffs, London." (Mr. PHILLIP CHEEK, Manager), 4,631.

BALTIC WHARF, WATERLOO BRIDGE, S.E.,
AND

2 and 4, WHARFS, G. N. GOODS STATION, KING'S CROSS, N.

Liverpool:
LIGHTBODY STREET.

Leeds:
QUEEN STREET.

SOLE MANUFACTURERS OF

POTTS' PATENT EDINBURGH TRAPS & ELLISON'S PATENT AIR BRICKS.

Cecil Porcelain Slop Sink and Gully Traps.

WINNER'S CHANNEL BENDS AND TRAPS FOR MAN-HOLES.

BUCHAN'S PATENT Sanitary Appliances.

(The Best in the Market. In use all over the World.)

DISCONNECTING DRAIN TRAPS, GREASE TRAPS, ACCESS PIPES,
ANTI-BELL TRAPS, VENTILATORS, &c.

In the articles on "Sewerage" and "Ventilation" in the new edition of the ENCYCLO-
PEDIA BRITANNICA, Buchan's appliances are illustrated and recommended.

Illustrated Price Lists Free from

W. P. BUCHAN, R.P., M.S.A., Assoc. San. Inst.,

President of the Sanitary and Social Economy Section of the
Philosophical Society of Glasgow.
Author of the Text Books on "Plumbing" and "Ventilation,"
Nos. 191 and 271 of Weale's Series.



Sanitary & Ventilating Engineer,

21, RENFREW STREET,
GLASGOW.



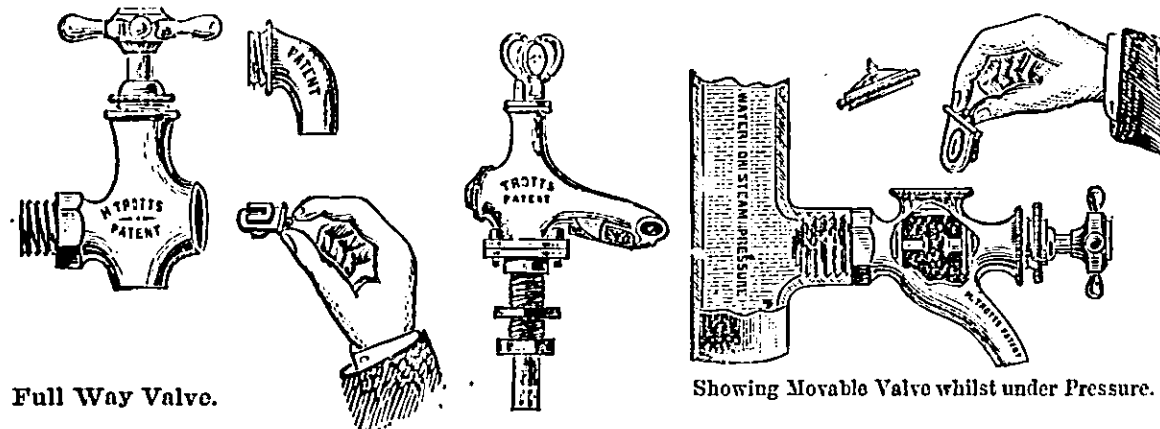
H. TROTT'S PATENT QUICK FILLING BIB & OTHER VALVES

FOR HIGH AND LOW PRESSURE WATER.

Approved by the New River and other Water Companies. 17,000 sold.

PATENTED IN ALL THE PRINCIPAL FOREIGN COUNTRIES.

Awarded Certificates of Merit for Bib Valves for Hot or Cold Water, by The Sanitary Institute.



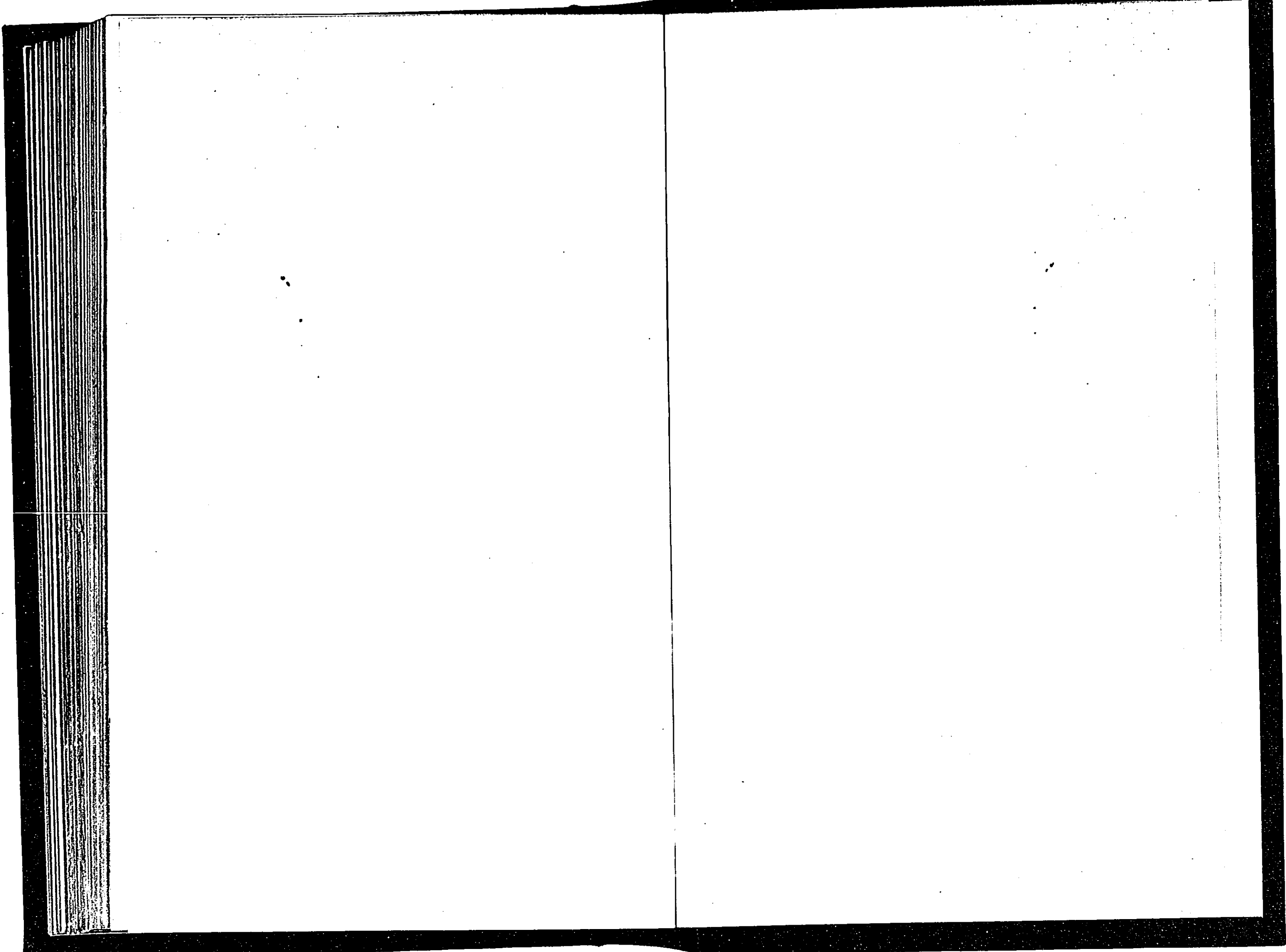
Full Way Valve.

Showing Movable Valve whilst under Pressure.

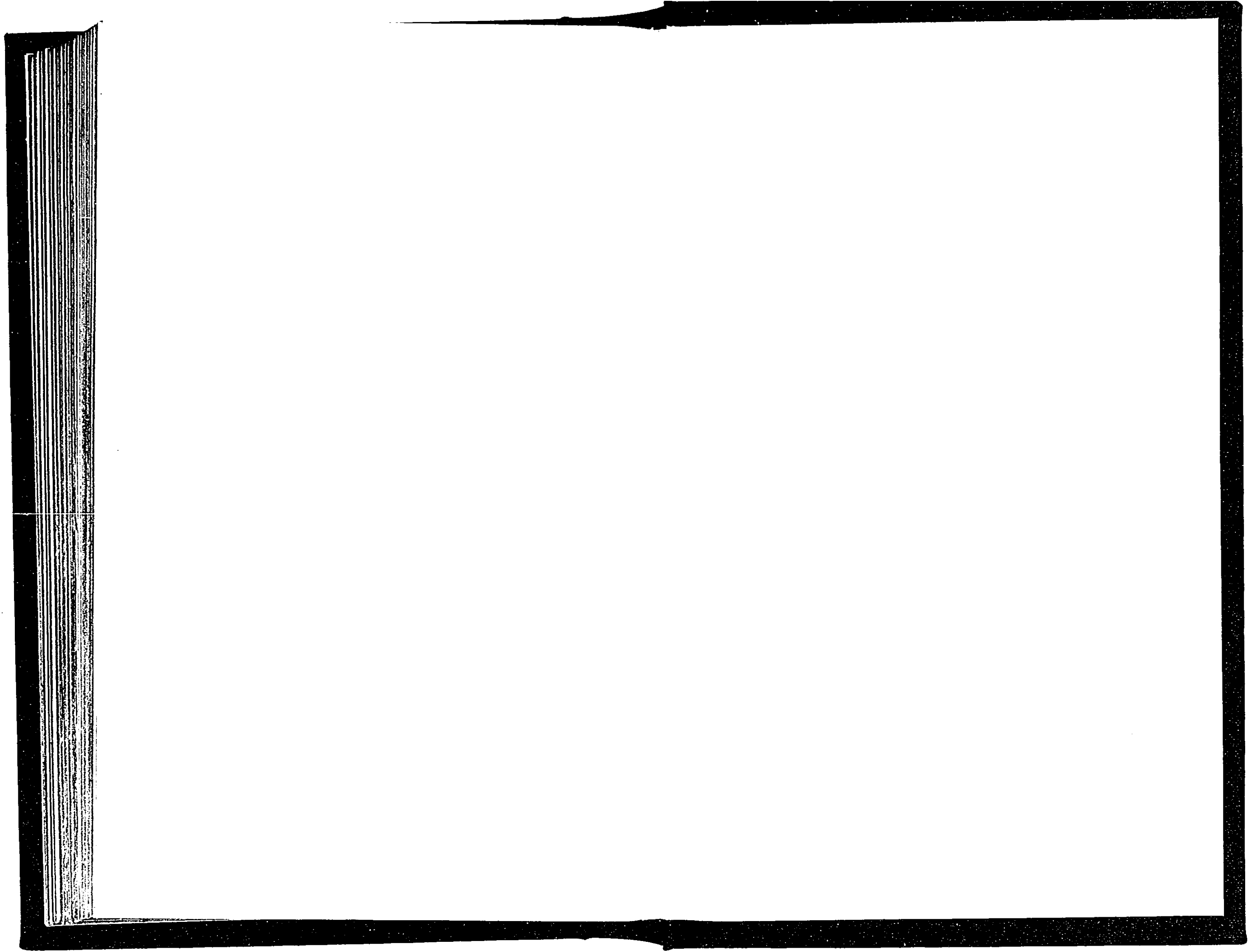
DESCRIPTION.

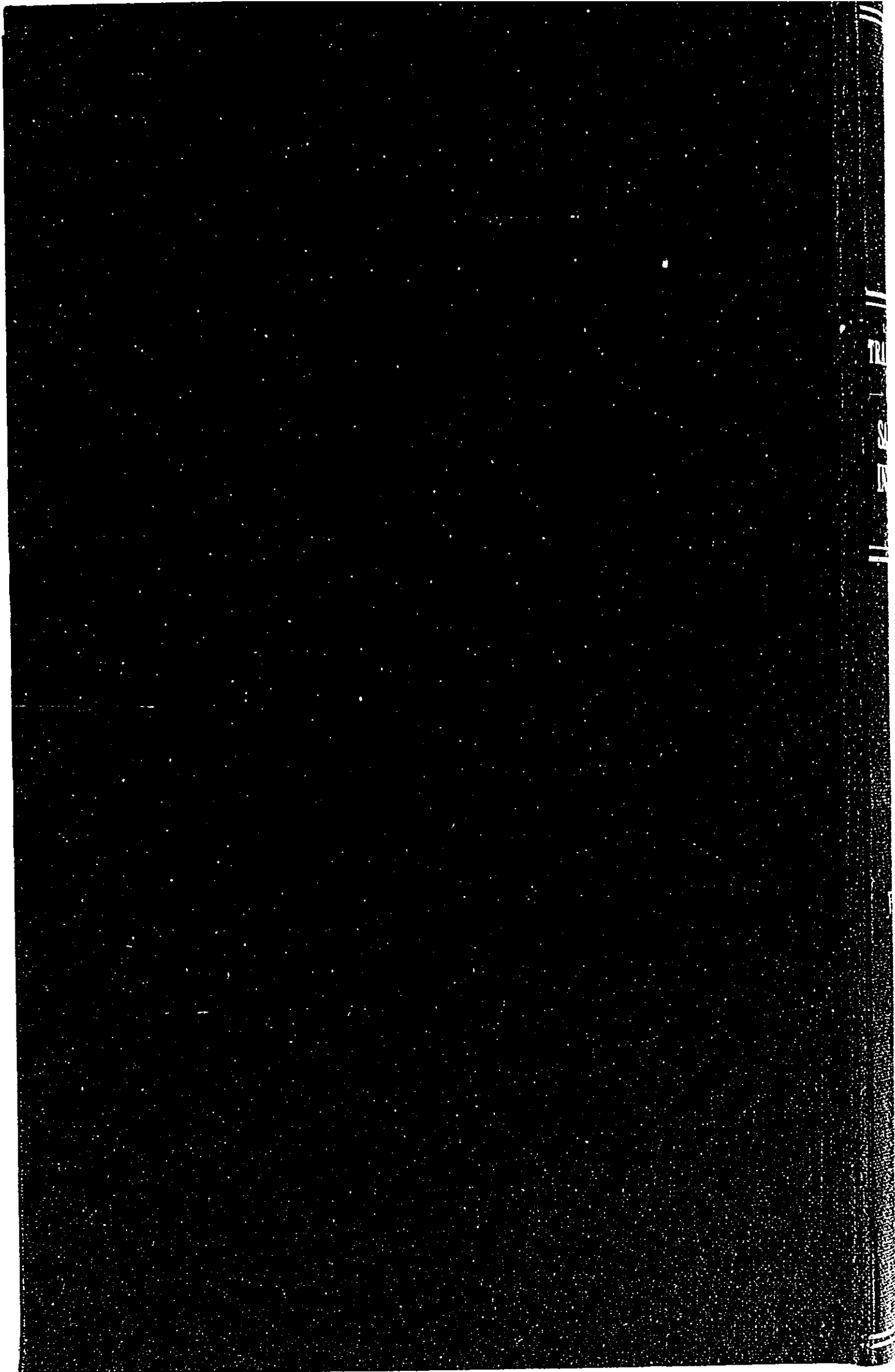
These Patent Valves are strongly made, and consist of a sliding or swinging valve in a chamber covered with a screwed cap or nozzle, the unscrewing of which facilitates the removal of the inner valve, and the insertion of new Asbestos or Metal Discs, when necessary, a work of the greatest simplicity and ease.

H. TROTT, Engineer, &c.,
75, 77, & 79, High Street, Battersea, LONDON, S.W.



15





|| E S I E ||