

APPENDIX.

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

BOARD OF EXAMINERS.

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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, the Sale of Food and Drugs, &c., led the Council of the Sanitary Institute of Great Britain to establish Voluntary Examinations, to appoint a Board of Examiners, and to grant Certificates of Competency in Sanitary knowledge.

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.

Each Examination occupies a portion of two days. On the first day the Examination of Surveyors occupies four hours—viz., from 11 a.m. till 1 p.m., and from 4 till 6 p.m., and consists of written papers only. Inspectors of Nuisances have two hours' written examination on the first day—viz., from 1.30 till 3.30 p.m. On the second day the Examination, for both classes, commences at 11 a.m.,

and is *virâ voce*, with one or more questions to be answered in writing, if deemed necessary. A Certificate of Competency, signed by the Examiners, is granted to successful Candidates, entitling them to be designated as "Certificated by the Sanitary Institute of Great Britain."

As one person may, under the Public Health Act, 1875, be both Local Surveyor and Inspector of Nuisances, the Examinations are so arranged that Candidates who desire to do so, *can* enter for both Examinations on the same occasion, but they are not advised so to do.

Every Candidate is required to furnish the Board of Examiners with satisfactory testimonials as to personal character, and to give two weeks' notice previous to presenting himself for Examination, stating whether he wishes to be examined as Surveyor, as Inspector of Nuisances, or as both. The fee for Examination must be paid to the Secretary, by Post-Office order or otherwise, at least six days before the day of Examination. On the receipt of the fee, a ticket will be forwarded admitting to the Examination.

The fees payable for the Examinations are as follows:—

As Surveyor	£5 5s.
As Inspector of Nuisances	£2 2s.

Unsuccessful Candidates are allowed to present themselves a second time without additional payment.

Examinations are appointed to be held for the year 1888:—

On Thursday and Friday, June 7th and 8th.
On Thursday and Friday, November 8th and 9th.

The Forms to be filled up by Candidates and their recommenders previous to Examination will be supplied on application to the Secretary, 74A, Margaret Street, W.

SYLLABUS of SUBJECTS for EXAMINATION.

FOR LOCAL SURVEYORS.

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.

SEWERAGE AND DRAINAGE—The Sanitary principles which should be observed in the preparation of schemes for, and the construction of, Sewerage works; the ventilation and flushing of sewers and drains; the internal drainage and other Sanitary arrangements of houses, privies, water-closets, dry-closets, and the removal of refuse; the Sanitary details of Builders' and Plumbers' work.

WATER SUPPLY OF TOWNS AND HOUSES—The Sanitary principles which should be observed in the preparation of schemes for, and the construction of, Water-works; the various ways in which water is likely to become polluted, and the best means of ensuring its purity.

REGULATION OF CELLAR DWELLINGS AND LODGING HOUSES—General principles of Ventilation; the amount of air and space necessary for men and animals; the means of supplying air, and of ensuring its purity.

HIGHWAYS AND STREETS—The Sanitary principles which should be observed in the construction and cleansing of streets and roads.

All persons who have passed the above Examination and received the Certificate for Local Surveyors are, by virtue of having so passed, entitled to become Life Members of the Institute, upon payment of Five Guineas, in addition to the fee paid for the Examination.

FOR INSPECTORS OF NUISANCES.

A thorough knowledge of the Provisions of the Acts and Model Bye-Laws relating to the duties of Inspector of Nuisances—also of the working of the Sale of Food and Drugs Act.

A fair knowledge of the principles of Ventilation, and the simple methods of Ventilating Rooms—Measurement of Cubic Space.

A knowledge of the Physical Characteristics of Good Drinking Water—the various ways in which it may be polluted, and the means of preventing pollution—Methods of Water Supply.

A knowledge of the proper conditions of good drainage.

The advantages and disadvantages of various Sanitary Appliances for Houses—Inspection of Builders' and Plumbers' work.

A knowledge of what constitutes a Nuisance, arising from any Trade, Business, or Manufacture.

A fair knowledge of the characteristics of good and bad Food (such as Meat, Fish, Milk, Vegetables), so as to be able to recognise unsoundness.

Some knowledge of Infectious Diseases, and of the Regulations affecting persons suffering, or recovering, from such diseases.

A knowledge of the best Methods of Disinfection.

Methods of Inspection, not only of Dwellings, Cellar Dwellings, Dairies, and Milk-Shops, but of Markets, Slaughter-Houses, Cow-Sheds, and offensive Trades.

Scavenging and the Disposal of Refuse.

All persons who have passed the above Examination and received the Certificate for Inspectors of Nuisances are, by virtue of having so passed, entitled to become Life Associates of the Institute, upon payment of Three Guineas, in addition to the fee paid for the Examination.

EXAMINATIONS FOR LOCAL SURVEYORS AND INSPECTORS OF NUISANCES.

The following Candidates received Certificates from June, 1887, to June, 1888.

LOCAL SURVEYORS.

1887, Nov. 11,	CAMPBELL, ADAM H., Edinburgh.
1888, June 8,	DARCH, JOHN, Balham.
1887, June 3,	GREEN, HARRY, Okehampton.
1887, Nov. 11,	HUNT, JOHN W., Newport, Mon.
1888, June 8,	LOWTHER, THOMAS, Bristol.
1887, Nov. 11,	MACDONALD, DONALD G., Douglas, Isle of Man.
1887, June 3,	RAILTON, JAMES, Kilmarnock, N.B.
1887, June 3,	SPURRELL, HERBERT, Eastbourne.
1887, June 3,	THOMAS, W. E. CLASON, Neath.

INSPECTORS OF NUISANCES.

1888, June 8,	ADAMS, H. J., Wandsworth.
1887, Nov. 11,	ADDISCOTT, WILLIAM J., Plymouth.
1887, June 3,	ALLEN, WILLIAM H., Cardiff.
1888, June 8,	AMOR, DANIEL CLEMENT, Fremantle, Southampton.
1887, Nov. 11,	ARIS, F. A., Liverpool.
1887, Nov. 11,	BELL, ROBINSON, Carlisle.
1888, June 8,	BISHOP, WILLIAM F., Bristol.
1888, June 8,	BOOTHMAN, HENRY, Whitworth, near Rochdale.
1888, June 8,	BOYCE, WILLIAM, Clapton Park, E.
1887, June 3,	BROADHEAD, SAMUEL, Bootle, near Liverpool.
1887, June 3,	BROWN, R. RAILSTON, Bridlington Quay.
1887, June 3,	BROWN, WILLIAM EDWARD, Hastings.
1888, June 8,	BRYANT, CHARLES A., Huntingdon.
1887, Nov. 11,	BUTLAND, R., Brighton.
1888, June 8,	CATTEN, JOSEPH H., Exeter Street, Sloane St., S.W.
1888, June 8,	CLARKSON, JOSEPH, Southport.
1887, June 3,	COBHAM, CHARLES, Gravesend.
1887, June 3,	COOPER, WILLIAM GEORGE, Brighton.
1888, June 8,	CORDON, ROBERT CURTIS, Newark.
1887, June 3,	COWPEE, JOSEPH, Brixton, S.W.
1888, June 8,	COX, JAMES H., Hailsham.
1887, June 3,	CURTIS, W. E., Ilford, Essex.
1887, Nov. 11,	DEVAY, W. S., Birmingham.

1887, June 3,	DUNBAR, DAVID, Aberdeen.
1888, June 8,	DYSON, JOHN HENRY, Thornhill, near Dewsbury.
1888, June 8,	EDMONDS, WILLIAM H., Camden Town, N.W.
1887, June 3,	EDWARDS, JOHN WHITE, Birkenhead.
1888, June 8,	EVINGTON, C. W., Hull.
1888, June 8,	FINCHER, J. G., Aldershot.
1887, Nov. 11,	FLOWER, T. J. M., Bristol.
1887, Nov. 11,	FORDHAM, W. F., Willesden.
1887, Nov. 11,	GARDNER, C. T., Dock Street, E.
1888, June 8,	GARDNER, JAMES THOMAS, Gravesend.
1888, June 8,	GEARY, REGINALD, Hampstead.
1888, June 8,	GILLESPIE, A., Lees, near Manchester.
1887, Nov. 11,	GOLDS, THOMAS W., Brighton.
1887, Nov. 11,	GRANT, W., Eastbourne.
1888, June 8,	HARRISON, WILLIAM LOWTHER, Hull.
1888, June 8,	HEAD, R. HEATH, Upper Baker Street, W.
1887, June 3,	HIGGINS, JOHN W., New Brighton.
1887, Nov. 11,	HILLIAM, H., Stamford.
1888, June 8,	HILLS, ARTHUR R., Bow, E.
1888, June 8,	HOBBS, W. F., Staleybridge, near Manchester.
1887, Nov. 11,	HOUGHTON, R. A., Birkenhead.
1887, Nov. 11,	HOY, P., Dudley Place, W.
1887, June 3,	HUNT, JOHN W., Newport, Mon.
1887, June 3,	HUNT, WILLIAM E., Bromley, Kent.
1887, June 3,	JACKLING, W., Hull.
1887, Nov. 11,	JASPER, R. W., Woodford Green.
1887, June 3,	JOHNSON, ROBERT, Whitby.
1887, Nov. 11,	JONES, D., Swansea.
1888, June 8,	JONES, JAMES, Cefn Coed, near Merthyr Tydfil.
1888, June 8,	JOURS, WILLIAM, Gateshead.
1888, June 8,	KETT, PHILIP, Lowestoft.
1887, June 3,	KIELL, JOHN, Barnstaple.
1887, June 3,	KING, FREDERIC WILLIAM, Maldon.
1887, Nov. 11,	KITCHEN, TOM A., Leeds.
1888, June 8,	KNIGHT, W. H., Wandsworth, S.W.
1888, June 8,	LANDER, JAMES, Holloway, N.
1888, June 8,	LAWRENCE, FRANK J., Beckenham.
1887, Nov. 11,	LEAR, JAMES W., De Beauvoir Town, N.
1887, Nov. 11,	LEE, W.
1887, June 3,	LEIGHTON, JOSEPH WILLIAM, Birmingham.
1887, June 3,	LEWIS, ARTHUR, Wellingborough.
1888, June 8,	LOCK, G. H., Cardiff.
1888, June 8,	LUND, JEREMIAH, St. James's Vestry, Piccadilly.
1887, Nov. 11,	MACDONALD, DONALD G., Douglas, Isle of Man.
1888, June 8,	MACKENZIE, F. MORELL, Hans Place, S.W.
1888, Nov. 11,	McNAIR, ALEXANDER, Holloway, N.
1887, June 3,	MATHIAS, HENRY D., Liverpool.
1887, June 3,	MAY, W. H., Hampstead, N.W.?
1887, June 3,	MCCULLOCH, ROBERT JAMES, Bootle, near Liverpool.
1888, June 8,	MILNE, EDWARD, Heywood, Lancashire.

- 1887, Nov. 11, MINTY, S., Bournemouth.
 1887, June 3, MUNRO, W., Diss, Norfolk.
 1888, June 8, NESFIELD, WILLIAM, Scarborough.
 1887, June 3, NURCOMBE, BENJAMIN, West Brighton.
 1888, June 8, OLDFIELD, DAVID, Walton, near Ipswich.
 1887, Nov. 11, PATRICK, A. R., Farnham.
 1887, June 3, PATTISON, W. P., Sunderland.
 1887, Nov. 11, PERRY, A., Marylebone.
 1887, Nov. 11, PETTIT, G. M., Anerley.
 1887, June 3, POTTER, E. J., Brighton.
 1888, June 8, POWELL, JOHN, Neath.
 1888, June 8, PRATT, J., Sydenham.
 1887, June 3, PRICE, G., Liverpool.
 1887, June 3, RAMSDALE, W. G., Ruswarp, near Whitby.
 1887, June 3, READMAN, WILLIAM, Whitby.
 1888, June 8, RICHARDSON, W., Fence Houses, Durham.
 1887, June 3, ROBINSON, JAMES, Sunderland.
 1888, June 8, ROGERS, RICHARD, Carnarvon.
 1887, June 3, RUDLAND, THOMAS, Sunderland.
 1888, June 8, RUGG, JOHN EDWARD, Bow.
 1887, June 3, SAMUEL, JAMES, Egremont, Cheshire.
 1888, June 8, SHAWCROSS, JAMES THOMAS, Withington, near Manchester.
 1887, June 3, SHELDON, WILLIAM EDWIN, Wantage.
 1887, Nov. 11, SHELTON, J., Brighton.
 1887, June 3, SIDWELL, HENRY THOMAS, Cholsey, nr. Wallingford.
 1887, June 3, SLEATH, FREDERICK EDWARD, Harlesden, N.W.
 1888, June 8, SMITH, GEORGE ALLEN, Hampstead.
 1887, June 3, STANLEY, A. W., Jun., Hull.
 1887, June 3, STEVENS, GEORGE, Godmanchester.
 1888, June 8, STEVENSON, JOHN, Kingston-on-Thames.
 1887, Nov. 11, STEWART, T. D., Dunoon, N.B.
 1887, June 3, SUMNER, JAMES W., Great Driffield.
 1887, June 3, TATTERSALL, R., Acerington.
 1887, Nov. 11, TAYLOR, JAMES, Hereford.
 1888, June 8, TEMPLE, WILLIAM HERBERT, Scarborough.
 1887, June 3, THOMAS, EVAN CHARLES, Pontycymmer Garw Valley, S. Wales.
 1887, Nov. 11, THOMAS, THOMAS, Bristol.
 1887, June 3, THOMAS, WILLIAM KINGDON, Clifton, Bristol.
 1887, Nov. 11, WHITE, ROBERT, Birmingham.
 1888, June 8, WHITE, THOMAS, Culworth, Banbury.
 1887, June 3, WHITE, WILLIAM OWEN, Banbury.
 1888, June 8, WILD, JOHN, Rochdale.
 1887, June 3, WILKINSON, GEORGE II., Liverpool.
 1888, June 8, WILLEY, ANDREW W., St. George's-in-the-East.
 1887, Nov. 11, WINTER, EDWARD, Brighton.
 1888, June 8, WOONTON, J., St. George's-in-the-East.
 1887, Nov. 11, YEO, W., Brighton.
 1887, June 3, YOUNG, A. F., Monkwearmouth.

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.

In addition to the Ordinary Medals, a special Medal—the Richardson Medal—is offered by the Institute, for a selected exhibit from the entire exhibition, and will be awarded by the Judges in cases of pre-eminent merit only. 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.
Number of Exhibitors	117	116	189	106	110	126	134	135	130	112
Number of Exhibits	294	319	710	500	600	750	900	1,000	900	800
Space occupied (in square ft.) ... ..	.....	.....	.....	9,725	14,520	20,000	40,000	30,000	30,000	25,000
Number of days Exhibition was open	14	16	17	19	25	25	19	17	26	29
Total number of Visitors ... ..	.....	.....	.....	8,955	8,373	20,000	55,000	37,000	30,000	27,000
Number of Medals awarded	13	13	12	12	15	21	18	34	16	14
Number of Special Certificates	None.	6	9	7	4	13	11	11	12	9
Number of Certificates	None.	22	38	40	72	58	83	79	64	40
Number of Exhibits deferred for further trial ... ..	.....	7	52	30	57	44	39	119	42	46

CLASSIFIED LIST OF THE AWARDS AT THE EXHIBITIONS.

EXPLANATORY NOTE.

The letter **M**, followed by the date in heavy type, signifies a Medal.

The letter **C***, followed by the date in heavy type, signifies a Special Certificate, given for an exhibit to which a Medal has been awarded at a previous Exhibition.

The letter **C**, followed by the date in ordinary type, signifies a Certificate.

In each case the date indicates the year in which the award was made.

The Town in which the Exhibition was held in each year is shown in the following list:—

1877. Leamington.	1883. Glasgow.
1878. Stafford.	1884. Dublin.
1879. Croydon.	1885. Leicester.
1880. Exeter.	1886. York.
1882. Newcastle.	1887. Bolton.

Where the name of the Exhibitor is in *italics* it implies that he is also the Inventor or Manufacturer of the Exhibit.

CLASS I.—BUILDING MATERIALS, CONSTRUCTION AND MACHINERY.

Section 1. Materials and Construction.

1. Aluminium Crown Metal. *Aluminium Crown Metal Co.* **M**, 1883.
2. Delta Metal. Alex. Dick. **M**, 1883.
3. Artistic Domestic Ironwork. *Elyood Bros.* **M**, 1885.
4. Granite Vitrified Bricks and Paving. *Candy & Co.* **C**, 1880.
5. Red Building Bricks. *E. Smith & Co.* **C**, 1885.
6. " " " *Whitwick Colliery Co.* **C**, 1885.
7. Rock Buff Facing Bricks. Broad & Co. **C**, 1885.
8. Salt Glazed Bricks. *Wortley Fire Clay Co.* **C**, 1886.
9. Silica Glazed and Enamelled Fire Clay Bricks and Faience. *Willcock & Co.* **M**, 1879.
10. White Enamelled Bricks. *Bourtreehill Coal Co.* **C**, 1884.
11. " " " *J. & M. Craig.* **C**, 1884.
12. " Glazed Bricks. *Wortley Fire Clay Co.* **C**, 1886.
13. " " Facing Bricks. Broad & Co. **C**, 1885.

M, Medal; **C***, Special Certificate; **C**, Certificate.

CLASS I.—SECTION 1.—*Continued.*

14. Barrow Blue Lias Hydraulic Lime. *J. Ellis & Sons.* M, 1885.
15. Terra Cotta, Exhibit of. *Whitwick Colliery Co.* C, 1885.
16. Hygeian Rock Building Composition. *William White.* C, 1882.
17. Silicate Cotton. *J. A. G. Ross.* M, 1882.
18. Scottish Asbestos. *Scottish Asbestos Co.* M, 1883.
19. Victoria Artificial Stone Paving. *Patent Victoria Stone Company.* M, 1885.
20. The Croft Artificial Stone Paving. *Croft Stone Quarry & Brick Co.* C, 1885.
21. Damp-proof Concrete Pavement. *W. B. Wilkinson & Co.* M, 1882.
22. Granite Concrete Pavement. *T. Cordingley & Sons.* C, 1884.
23. Vitreous Floor Tiles. *E. Smith & Co.* C, 1886.
24. Willesden Paper Roofing. *Waterproof Paper & Canvas Co.* M, 1886.
25. Willesden Waterproof Paper and Canvas. *W. Carson & Sons.* C, 1884.
26. Fire-Proof Fixing Blocks. *Wright & Co.* C, 1886; C, 1887.
27. Silicon Tread for Steps. *Doulton & Co.* C, 1883; C, 1884; C, 1885.
28. Dæker Portable Hospital. *Dæker Hospitals & Huts Factory.* M, 1886.
29. Glazing Without Putty, System of. *Pennycook Patent Glazing & Engineering Co.* C, 1883; C, 1884.
30. Revolving Shutters, with Balance-Weight Motion. *Salmon, Barnes & Co.* C, 1880.
31. Opener for Fanlights and Skylights. *W. & R. Leggott.* C, 1883; C, 1884; M, 1885; C*, 1886.
32. Fanlight Openers and Casement Fasteners. *R. Adams.* C, 1879.
33. Adjustable Pivot for Fanlights. *R. Adams.* C, 1884.
34. Side Gussets for Fanlights. *R. Adams.* C, 1885.
35. Acme Door Check and Spring (double action). *Hindle, Norton & Co.* C, 1886; C, 1887.
36. Adjustable Shoe and Regulating Spring Hinge for Swinging Doors. *R. Adams.* C, 1879.
37. Norton Door Spring. *R. Adams.* C, 1884.
38. Victor Spring Hinge. *R. Adams.* C, 1885.
39. Removable Rain Water Pipe. *J. Gregson.* C, 1887.
40. Sanitary Dry Lime. *Sanitary Dry Lime Co.* C, 1886.

Section 2. Damp-Proof Courses.

No Awards.

Section 3. Paints and other Protectives.

1. Griffith's Patent White. *Silicate Paint Co.* Richardson Medal, 1878.

2. Griffith's Patent White, and for their preparations of Silicate Paint, Enamel Paint and Petrifying Liquid. *Silicate Paint Co.* M, 1878.
3. Leadless "Charlton White" Paint and Dryers. *J. B. Orr & Co.* M, 1883.
4. Arcanum Process of Silver Plating Steel. *Jefferson Road.* M, 1879.
5. Magnetic Oxide Paint. *H. Thompson & Co.* C, 1885.

Section 4. Wall Papers and Coverings.

1. Paper Hangings free from Arsenic. *Woollams & Co.* M, 1879; C*, 1882; C*, 1883.
2. "Linocrusta Walton." *F. Walton & Co.* C, 1883.
3. Cheap Artistic Non-Arsenical Washable Wall Papers. *Thos. Dockrell, Sons & Co.* C, 1884.

Section 5. Flooring.

1. Peto Fireproof Flooring. *Doulton & Co.* M, 1885; C*, 1887.
2. Economic Hollow Flooring. *G. E. Pritchett.* M, 1878; C*, 1879.
3. Hospital Flooring. *T. Jennings.* C, 1885.
4. Method of Wood Block Flooring. *Nightingale & Co.* C, 1885; C, 1886.
5. Parquet Flooring. *A. Gardner & Son.* C, 1883.
6. Solid Oak Parquet Flooring. *F. R. Scott & Co.* C, 1884.
7. Immovable "Acme" System of Solid Wood Block Flooring. *Duffy & Son.* C, 1886.
8. "Through-colour" Linoleum. *Hembry & Co.* C, 1887.

Section 6. Decorative Materials..

1. Repoussé and other Brass Work, Exhibit of. *W. F. Johnson.* C, 1885.
2. Colouring Patterns through the Substance of Wood. *H. Chalk Webb.* M, 1880.
3. Moulded Wood Decoration. *J. F. & G. Harris.* M, 1886.
4. Art Pottery. *Doulton & Co.* M, 1884; C*, 1885.
5. Improved Fibrous Plaster Work. *T. Cordingley & Sons.* C, 1886.
6. Architectural Terra Cotta, Exhibit of. *J. Stiff & Sons.* C, 1885.
7. Decorative Tiles for Covering Walls and Floors. *Doulton & Co.* C, 1879.
8. Embossed Tiles. *E. Smith & Co.* M, 1885.
9. Hall's Hanging Tiles. *J. Cliff & Sons.* C, 1886.

M, Medal; C*, Special Certificate; C, Certificate.

CLASS I.—SECTION 6.—Continued.

10. Marsden Tiling for Wall Decoration. Maguire & Son. C, 1881.
11. Photographic Embossed and Incised Tiles. E. Smith & Co. C, 1885.
12. Wedgewood Ornamental Tiles. W. B. Morrison. M, 1883.

Section 7. Machinery and Mechanical Appliances.

1. Chain Belting for Machinery. W. Wilby. C, 1881.
2. Cotton Machine Belting. Maurice Gandy. C, 1883; M, 1884.
3. Steil's Fastener for Machine Belting. Maurice Gandy. C, 1883.
4. Faija's Cement Testing Machine. Casebourne & Co. M, 1886.
5. Alcazar Vertical Steam Engine. E. S. Hindley. C, 1886.
6. Fryer's Destructor and Carbonizer, and Firman's Desiccating Apparatus. Manlove, Alliott, Fryer & Co. M, 1882.
7. Improved Six-Ton Steam Road Roller. Aveling & Porter. M, 1879.
8. Non-Absorbent Tub or Pail Van. J. B. McCallum. C, 1880.
9. Steel Wheel for Sanitary Carts. H. J. Barrett. C, 1886.
10. Closed Sectional Sanitary Van. J. Smith & Sons. C, 1886.
11. Conical Knitting Machine. T. Coltman. C, 1885.
12. Flat Web Knitting Machine and Rothwell Knitting Machines. W. Rothwell. M, 1884.
13. Friction Driving Attachment for Sewing Machines. Singer Manufacturing Co. M, 1883.
14. Knitting Machines. Harrison Patent Knitting Machine Co. C, 1884.
15. Victoria Knitting Machine. Pim Bros., Limited. C, 1884.
16. Revolving Shuttle for Sewing Machines. Bradbury & Co. C, 1883.
17. Power Knitting Machinery. W. Rothwell. M, 1887.
18. Gun-metal Boiler Fittings. J. Galloway. C, 1887.
19. Sight Feed Lubricator. J. Galloway. C, 1887.
20. Johnston's Dryer. Manlove, Alliott, Fryer & Co. M, 1887.
21. Corrugated Steel Tyre. William Fox. M, 1887.

Section 8. Laundry Appliances.

1. Improved Washer, with table complete. J. Borwell. M, 1877.
2. New "Shuttle" Steam Power Washing Machine. T. Bradford & Co. M, 1877; C*, 1878.
3. Paragon Washing Machine, with Canadian Washer. Kirsop & Co. C, 1882.
4. Paragon Washing Machine, with Canadian Washer. E. N. Kenworthy & Co. C, 1885; C, 1886.
5. Steam Washer. J. Greenall. M, 1885; C*, 1886; C*, 1887.

6. "Vowel E" Bradford's Family Washing Machine. Garton & King. C, 1880.
7. Washing Machines. T. Bradford & Co. M, 1882; C*, 1883; C*, 1884; C*, 1885.
8. Washing Machine, heated by Gas. Thomas Fletcher. C, 1885.
9. Mitchell's Patent Steam Washer. James Mitchell. C, 1882.
10. Eclipse India Rubber Wringer. E. N. Kenworthy & Co. C, 1886.
11. Equipoise Wringing and Mangling Machine. E. N. Kenworthy & Co. M, 1886.
12. White Enamelled Fireclay Laundry Trough. Bourtrechill Coal Co. C, 1884.

CLASS II.—WATER SUPPLY AND SEWERAGE.

Section 1. Apparatus for Water Supply.

1. Hose Reel. Headley & Sons. C, 1879.
2. Hydraulic Ram. W. Baird. C, 1884.
3. Buck's Automatic Rain-Water Separator. C. G. Roberts. M, 1882; C*, 1883.
4. Anti-percussion High-Pressure Valves. Doulton & Co. M, 1879; C*, 1880; C*, 1883; C*, 1884.
5. Anti-percussion High-Pressure Bib Valves. Doulton & Co. C, 1882.
6. Anti-percussion Ball Valve. Doulton & Co. M, 1882.
7. Double Valves for Flow and Return in Hot Water Circulation. Goode & Co. C, 1885.
8. Improved Paragon Valve. W. Ross. C, 1883.
9. Bib Valves for Hot and Cold Water. H. Trott. C, 1885; C, 1886.
10. Full Way Stop Valve. J. Tylor & Sons. C, 1880.
11. Large Way Waste Plug, with Protective Cover. Finch & Co. C, 1879.
12. Water Taps. J. Fell & Co. C, 1882.
13. Lever Nut for Boiler Cock. J. Warner & Sons. C, 1885.
14. Improvements in Well Sinking Apparatus. Le Grand & Sutcliff. M, 1877; C*, 1879.
15. White Enamelled Fire-Clay Cistern. Bourtrechill Coal Co. M, 1885.

Section 2. Filtering and Softening Water.

1. Anti-Calcaire Powders for Softening Water. P. A. Maignen. C, 1883.
2. Porous Carbon for Filtering Water. Patent Porous Carbon Co. C, 1885.

M, Medal; C*, Special Certificate; C, Certificate.

CLASS II.—SECTION 2.—Continued,

3. Material for Filtering Water. *International Water & Sewage Purification Co.* M, 1887.

Section 3. Water Waste Proventors.

1. Bath Locking Valves for Preventing Waste of Water. *Doulton & Co.* C, 1882.
2. Bath Locking Valves for Preventing Waste of Water. *J. Tylor & Sons.* C, 1882.
3. Direct Acting Valveless Waste Preventer. *A. T. Bean.* M, 1880; C*, 1882.
4. Siphon Action Water Waste Preventers. *Shanks & Co.* M, 1884.
5. Siphon Action Water Waste Preventer. *H. Braithwaite & Co.* C, 1886.
6. Siphon for Water Closet Cisterns. *H. Braithwaite & Co.* C, 1879.
7. "Waste Not" Regulator Valve. *J. Tylor & Sons.* C, 1880; C, 1882.
8. Waste-Preventing Flushing Siphon. *Henry Watson & Son.* C, 1882.
9. "Invicta" Flushing Cistern. *Goode & Co.* C, 1885.
10. Siphon Flushing Cistern. *Humpherson & Co.* C, 1885.
11. " " " " Wright & Stevens. C, 1882.
12. Vacuum Flushing Cistern for Water Closets with Seat Action Arrangement. *Doulton & Co.* C, 1884.
13. Shanks's Reliable Water Waste Preventer. *R. Cuerden.* C, 1887.
14. " " " " *J. Vause & Son.* C, 1887.

Section 4. Flushing and Watering.

1. Combined Flush Tank and Grease Interceptor. *Adams & Co.* C, 1886.
2. Improved Siphon Flush Tank. *Doulton & Co.* C, 1887.

Section 5. Sinks.

1. "Artisans' Dwelling Sink." *G. Jennings.* C, 1879.
2. Butler's Sink, lined with Block Tin. *W. Baird.* C, 1884.
3. Cheap Glazed Stoneware Sinks. *Doulton & Co.* C, 1884.
4. Cup Grating for Sinks. *Thomasson & Key.* C, 1882.
5. Enamelled Fireclay Sinks. *J. & M. Craig.* M, 1884.
6. Fireclay Sanitary Sinks and Water Troughs. *Willcock & Co.* C, 1879.
7. Hospital Slop Sink with Waste-not Regulator Valve. *J. Tylor & Sons.* C, 1882.
8. "Imperial" Slop Sink. *J. Cliff & Sons.* C, 1886.
9. Swivel, Lock Plug, and Overflow for Sinks. *Stidder & Co.* C, 1879.

10. White Enamelled Sinks. *J. Cliff & Sons.* C, 1886.
11. " " *Wortley Fireclay Co.* C, 1886.
12. " " Fireclay Sinks. *W. Baird.* C, 1884.
13. " " *Bowtrechill Coal Co.* C, 1884; C, 1885.
14. White Enamelled Fireclay Sinks. *J. & M. Craig.* C, 1882; C, 1883.
15. White Enamelled Fireclay Sinks. *Maguire & Son.* C, 1884.
16. Enamelled Iron Slop Sink, with Regulator Supply Valve. *J. Tylor & Sons.* C, 1880.
17. Slop Sinks. *T. Twyford.* C, 1884.
18. Craig's White Enamelled Sinks. *J. Vause & Son.* C, 1887.

Section 6. Baths and Lavatories.

1. Bath, with Shower Douche and Spray Fittings Combined. *W. Baird.* C, 1884.
2. Cast-Iron Bath. *Shanks & Co.* C, 1883; C, 1884.
3. Concrete Bath in one piece. *W. H. Lascelles.* M, 1879; C*, 1880.
4. Enamelled Fireclay Bath. *Rimington Bros. & Co.* C, 1882.
5. "Eureka" Spray and Plunge Bath. *Shanks & Co.* C, 1883.
6. Shanks's "Eureka" Spray and Plunge Bath. *Fergusson & Starkey.* C, 1885.
7. Fireclay Enamelled Bath. *John Hall & Co.* M, 1883.
8. Hot-air Bath. *T. Galbraith.* M, 1877.
9. Porcelain Bath. *Joseph Cliff & Sons.* M, 1883; C*, 1886.
10. " Baths, moulded and glazed in one piece. *Ruffard & Co.* C, 1878.
11. Well and Dry-Platform Sponge Bath. *Groom & Co.* C, 1885.
12. Combination Bath Fittings. *Burn & Baillie.* C, 1886.
13. Horizontal Pull Fittings for Baths and Lavatories. *W. Baird.* C, 1884.
14. Locking Apparatus for Bath Fittings. *Doulton & Co.* C, 1884.
15. Lavatory. *Gillow & Co.* C, 1878.
16. " Basin with Flushing Rim. *C. T. Maling.* C, 1882.
17. " Basins. *T. Twyford.* C, 1884.
18. Tip-up Lavatory Basin. *Doulton & Co.* C, 1882.
19. Clark's Anti-splash Tip-up Lavatory Basin. *J. Fell & Co.* C, 1882.
20. Flushing Rim Lavatory Basin. *J. Tylor & Sons.* M, 1880.
21. " " " with Quick Waste. *J. Tylor & Sons.* C, 1882.
22. "Unbreakable" Fireclay Lavatory Basins for Schools, &c. *Fergusson & Starkey.* C, 1885.
23. Porcelain Lavatories, with movable caps for access to fittings. *Shanks & Co.* C, 1883; C, 1884.
24. "Shanks's" Porcelain Lavatory Fittings. *Fergusson & Starkey.* C, 1885.

M, Medal; C*, Special Certificate; C, Certificate.

CLASS II.—SECTION 6.—*Continued.*

25. Lavatory, with Shampooing Apparatus. W. Baird. C, 1884.
26. Jennings's Universal Shampooing Apparatus. Dinning & Cooke, C, 1882.
27. "Universal" Shampooing Apparatus. G. Jennings. C, 1879.
28. Shower and Doucho Bracket. Hayward, Tyler & Co. C, 1882.
29. Morrison's Spray Lavatory. R. Cuerden. C, 1887.
30. Shanks's Imperial Lavatory. R. Cuerden. C, 1887.
31. " " " " J. Vause & Son. C, 1887.
32. Ruffard's Enamelled Fireclay Bath. J. Vause & Son. C, 1887.

Section 7. Water Closets.

1. Artisan Closet. Beard, Dent & Hellyer C, 1879.
2. "Beaufort" Flush-down Closet. Humpherson & Co. C, 1885.
3. "Clear Way" Regulator Valve Water Closet, with overflow communicating with Valve Box. J. Tylor & Sons. C, 1880.
4. "Crown" Cottage Water Closet. Henry Watson & Son. C, 1882.
5. Economical Combination Closet, in two pieces. Doulton & Co. C, 1885.
6. Economical Flush-out Closet. Doulton & Co. C, 1880; C, 1882.
7. "Excelsior" Water Closet. D. T. Bostel. M, 1877; C*, 1878.
8. Fowler's Water Closet. W. Harriman & Co. C, 1882.
9. Full-flush Valveless Closet. Hayward, Tyler & Co. M, 1882.
10. "Household" Water Closet. O. D. Ward. M, 1882.
11. " " " " H. Trott. C*, 1885.
12. "Lambeth" "Combination" Water Closet. Doulton & Co. C, 1884.
13. " " Flush-out Closet. Doulton & Co. C, 1883.
14. " " Trough Closet, with Automatic Flush Tank. Doulton & Co. C, 1883.
15. "National" Water Closet. Henry Watson & Son. C, 1882.
16. " " " " W. B. Morrison. C, 1883.
17. Wilcock's Automatic Flushing Closet. Maguire & Son. C, 1884.
18. Improved Seat for Water Closets. E. & A. E. Gilbert. C, 1883.
19. Terry's Pedal Action for Water Closets. J. Tylor & Sons. C, 1882.
20. Improved Shape of Trough for Water Closets. Adams & Co. C, 1885.
21. Shanks's Tubal Wash-out Closet. R. Cuerden. C, 1887.
22. " " " " J. Vause & Son. C, 1887.
23. " " Wash-out Closet and Cistern combined, for Country use. J. Vause & Son. C, 1887.

Section 8. Urinals.

1. Flush-out Urinal Basin. J. Tylor & Sons. C, 1882.
2. White Enamelled Urinal Floor Channel. J. Cliff & Sons. C, 1886.

3. Shanks's Urinal with Tilting Flusher. J. Vause & Son. C, 1887.
4. Nicholls's Soot and Salt Urinal. W. P. White & Co. C, 1887.

Section 9. Sowers, Drain Pipes, and Accessories.

1. Artificial Stone Tubes. Patent Victoria Stone Co. C, 1879.
2. Rock Concrete Tubes. Sharp, Jones & Co. C, 1879.
3. Acme Sewer Pipes. H. Percy Boulnois. M, 1883.
4. Cast-iron Drain Pipes, coated with Angus Smith's Preparation. Maguire & Son. C, 1884.
5. Improved Drain Pipe, with Access Cover. W. P. Buchan. C, 1882.
6. Large Fireclay Drain Pipes. Straker & Love. C, 1882.
7. London-made Stoneware Pipes. Doulton & Co. C, 1884.
8. Salt-glazed Fireclay Sewer Pipes, Exhibit of. J. Binnie. C, 1883.
9. Stoneware Pipes. Branksca Island Pottery Co. (Limited). C, 1880.
10. Stoneware Drain Pipes. Bourtrechill Coal Co. C, 1884.
11. Hassall's Joints for Stoneware Pipes. T. Wragg & Sons. M, 1886.
12. Joint for Drain Pipes. Doulton & Co. C, 1882.
13. Maguire's Cradle Joint for Drain Pipes. J. & M. Craig. C, 1882.
14. Mawbey's Joint for Stoneware Pipes. T. Wragg & Sons. C, 1885; C, 1886.
15. Self-Adjusting Joint for Stoneware Pipes. Doulton & Co. M, 1886; C*, 1887.
16. Stanford's Joints for Stoneware Pipes. Doulton & Co. M, 1878; C*, 1880.
17. Stoneware Pipes for Stanford's Joint. J. Stewart, Sen. C*, 1883.
18. Galvanized Cast-iron Air-tight Inspection Chamber and Drain Pipes. Burn & Baillie. C, 1886.
19. Woodman's Stoneware Screw Plug and Collar, for access to drains. Bailey & Co. C, 1886.
20. Latham's Flap Valve. Doulton & Co. C, 1882.
21. Gordon's Junction Blocks, for Lampholes and Inlets to Sewers. T. Wragg & Sons. C, 1885.
22. Enamelled-Ware Open Channels for Manholes. Doulton & Co. C, 1884.
23. White Enamelled Straight and Curved Channels for Inspection Chambers to Drains. Broad & Co. C, 1885.
24. White Enamelled Straight and Curved Channels, and Channel Junctions for Inspection Chambers to Drains. Wortley Fireclay Co. C, 1885.

M, Medal; C*, Special Certificate; C. Certificate.

CLASS II.—SECTION 9.—Continued.

25. Cast-iron Channels for Stable Drainage. *Dinning & Cooke.* C, 1882.
26. Manhole for Drains, with connections complete. *Doulton & Co.* C, 1884.
27. Bronte's Air-tight Cast-iron Manhole Cover. *W. Phillips & Son.* C, 1886.
28. Gordon's Ventilating Manhole Covers for Sewers with Annular Dirt Box. *Wright Bros.* C, 1885.
29. Air-tight Manhole Cover. *A. T. Angell.* C, 1882; C, 1883.
30. Stoneware Safety Pipes, in long lengths. *Doulton & Co.* C, 1887.
31. Cast-iron Smooth Bore Drain Pipes and Fittings. *J. Vause & Son.* C, 1887.

Section 10. Traps and Gullies.

1. Disconnecting Drain Trap. *W. P. Buchan.* C, 1882; C, 1883.
2. Buchan's Disconnecting Trap. *J. & M. Craig.* C, 1880; C, 1884.
3. Buchan's Drain Traps and Drain Pipes, with Access Cover. *J. & M. Craig.* C, 1882.
4. Dean's External Drain Traps, with moveable receptacle. *J. C. Edwards.* C, 1879.
5. Dean's Gully Trap. *Rimington Bros. & Co.* C, 1882.
6. "Eagle" Sanitary Trap, for superseding Bell Traps. *Hygienic Stove & Grate Co.* C, 1879.
7. Edinburgh Air-Chambered Sewer Trap. *Potts & Co.* C, 1878.
8. Exhibit of Stoneware Disconnecting Traps. *J. Stewart, Sen.* M, 1883.
9. Exhibit of Stoneware Disconnecting Traps. *J. & M. Craig.* C, 1883.
10. Gordon's Disconnecting Trap. *J. J. Ellis.* C, 1885.
11. " " " " *T. Wragg & Sons.* C, 1885.
12. Pott's Edinburgh Sewer Trap. *Adams & Co.* C, 1885.
13. Smith's Cast Lead Siphon Traps. *J. Fell & Co.* C, 1882.
14. Weaver's Ventilating Sewer Air Trap. *James Stiff & Sons.* C, 1878; C, 1885.
15. Grease Trap for Kitchen Sinks. *W. P. Buchan.* C, 1883.
16. Gordon's Iron Ventilating Cover for Disconnecting Trap. *Wright Bros.* C, 1885.
17. Disconnecting Gully, with back and side Entrances, and iron grating. *Doulton & Co.* C, 1879.
18. Morris's Cast-Iron Gully, with moveable Dip Pipe. *Foster & Pearson.* C, 1885.

19. Reversible Inlet Gully, with Dished Stoneware Cover and iron grating. *Doulton & Co.* C, 1882.
20. Simplex Reversible Gully. *J. Cliff & Sons.* C, 1886.
21. Simpson's Street Gully. *Wortley Fireclay Co.* C, 1886.
22. White Enamelled Fireclay Gullies. *Broad & Co.* C, 1885.
23. Ventilating Drain Siphon. *Bard, Dent & Hellyer.* C, 1879.
24. Disconnecting Chamber for House Drains, with open Stoneware Channels. *J. Stewart, Sen.* C, 1883.
25. Hornibrook's Catchment Grating for Steep Gradients. *Hammond & Hussey.* C, 1879.

Section 11. Dry Closets.

1. Dry Earth Closet. *J. Parker.* M, 1877.
2. " " Closets. *British Sanitary Co.* M, 1882; C*, 1883; C*, 1884.
3. Dry Earth Closet, without Separator. *R. R. Heap.* M, 1883; C*, 1884; C*, 1887.
4. Dry Earth Commode, without Separator. *J. Parker.* C, 1880.
5. Dry Closet, suitable for Ashes or Disinfecting Powder. *Lewis Moser.* M, 1880.
6. Moser's Self-Acting Dry Closet. *J. C. Onions (Limited.)* C, 1879.
7. Moule's Earth Closets. *Moule's Patent Earth Closet Co.* M, 1878; C*, 1879; C*, 1885; C*, 1886.
8. Moule's Earth Closets. *Wippell Bros. & Row.* C*, 1880.
9. Nicholl's Soot and Salt Closet. *W. P. White & Co.* M, 1886; C*, 1887.
10. Self-Acting Earth Closet. *British Sanitary Co.* C, 1880.
11. Excreta Pail (oak), with Spring Lid. *B. B. Harescough & Co.* M, 1877; C*, 1878.
12. Portable Cinder Sifting Ash Closet, with Soil Pail. *Morrell's Sanitary Co.* M, 1878; C*, 1879; C*, 1885; C*, 1886; C*, 1887.
13. Air-tight Soil Pail, with Slide Catch. *Parkinson, Sweaney & Co.* C, 1887.

Section 12. Sewage Treatment.

1. Iron Basket Sewage Strainer. *T. Harnett Harrison.* C, 1883.
2. Pneumatic Liquid Ejector. *Isaac Shone.* C, 1878.

Section 13. Miscellaneous Sanitary Goods.

1. "Eclipse" Apparatus for Testing Drain and other Pipes. *Burn & Baillie.* C, 1886.
2. India Rubber Expanding Plug for Drain Testing. *Burn & Baillie.* C, 1886.

M, Medal; C*, Special Certificate; C, Certificate.

CLASS II.—SECTION 13.—Continued.

3. Watt's Asphyxiator for Testing Drains with Smoke. Baird, Thompson & Co. C, 1884.
4. Drain-cleaning Rods, and Stoneware Horse Manger. Oates & Green. C, 1878.
5. Brian Jones's Joint for connecting Water Closet with Soil-pipe. Capper, Son & Co. C, 1882.
6. Improved method of connecting Lead Pipes with Stoneware Pipes. T. Harnett Harrison. C, 1883.
7. India Rubber Connection for joining Flushing Pipe to Water Closet Basin. T. Twyford. C, 1884.
8. Joint for Lead Pipes. J. Tylor & Sons. C, 1882.
9. Clip Pipe Joint. Humpherson & Co. C, 1885.
10. Cold Metal Double Cone Mechanical Lead Pipe Joints. Elliott, Edminson & Olney. C, 1885.
11. "Siphozella" Pipe Fastening. G. W. Potter. C, 1886.
12. Roberts's Sand Distributor for 2-horse Tram-track. Sanitary & Highway Appliance Co. M, 1885.
13. Sand Distributor for Roads. R. Willacy. M, 1885.
14. Sanitary Appliances, Exhibit of. W. P. Buchan. M, 1883.
15. "Earthenware." C. T. Maling. C, 1882.
16. Roberts's Street Orderly Bin. Sanitary & Highway Appliance Co. M, 1885.
17. Galvanized Iron Dust-Bin. W. F. Johnson. C, 1885.
18. Night Soil Receptacle, with Spring Lid. E. G. Kirk. C, 1885.
19. Nicholls's Hospital Pail. W. P. White & Co. C, 1886.
20. Roberts's Asphalt Cauldron. Sanitary and Highway Appliance Co. C, 1885.
21. Working Model of Cattle Drinking Trough. R. Pringle, M.D. C, 1885.
22. Laws' Pathway Rubbish Receiver. Parkinson, Sweaney & Co. C, 1887.

CLASS III.—HEATING, LIGHTING AND VENTILATING.

Section 1. Heating Apparatus.

1. Fibre Asbestos Open Gas Fire. H. & C. Davis & Co. Medal offered by the Exeter Gas Co., 1885; C*, 1886.
2. Fibre Asbestos Open Gas Fire. The General Gas Heating & Lighting Co. Medal offered by the Gas Department of the Corporation of Leicester, 1885; M, 1885.
3. Lump Asbestos Open Gas Fire. J. Wright & Co. M, 1885.
4. " " " Arden, Hill & Co. C, 1885.

5. Dr. Bond's Euthermic Ventilating Gas Stove. Sanitary & Economic Supply Association. Medal offered by the Exeter Gas Co., 1880; M, 1880.
6. Ventilating Open Gas Fire. J. Wright & Co. C, 1884.
7. Radiating Gas Fire. Chas. Wilson & Sons. C, 1886.
8. Marsh Greenall's Regenerating Gas Heating Stove. J. Greenall. C, 1886.
9. "Cosey" Portable Open Gas Fire, with Platinum Wire and Asbestos Packing. John Wright & Co. C, 1882.
10. Laundry Stove and Copper Boiler. Maguire & Son. C, 1884.
11. Slow Combustion Stoves. Musgrave & Co. M, 1884.
12. Tortoise Laundry Stove. Hydes & Wigfull. C, 1883.
13. " Slow Combustion Stoves. Hydes & Wigfull. C, 1883.
14. " " " W. Carson & Sons. C, 1884.
15. Ventilating "Tile Stove." Doulton & Co. M, 1880; C*, 1882; C*, 1883; C*, 1884; C*, 1885.
16. Glazed Ware Mantelpiece, with Slow Combustion Grate. Doulton & Co. C, 1884.
17. Grates, Mantelpieces, and Over-mantels. Dinning & Cooke. C, 1882.
18. Thermhydic Ventilating Hot-water Open Fire Grate. H. Saxon Snell. C, 1878.
19. George's Calorigen. Dinning & Cooke. C, 1882.
20. Horizontal Spiral Lavatory Heater. Thomas Fletcher. M, 1885.
21. Challenge Hot Water Boiler. J. Keith. M, 1883.
22. Steam Heating Apparatus, combining heating and ventilating. Mather & Armstrong. C, 1882.
23. Warming and Ventilating Appliances. G. E. Pritchett. C, 1878.
24. Corrugated Iron Hot Water Warming Appliances. G. E. Pritchett. C, 1880.
25. Heating Apparatus for Small Greenhouses. T. Sharman. C, 1885.
26. Tubular Calorifer for Greenhouses. Will. Thornburn. C, 1882.
27. Conservatory Boiler, with Hot Water Pipe. Wippell Bros. & Row. C, 1880.
28. Steam Kettle, with specially arranged Tap for drawing Boiling Water. Frank Ashwell. C, 1885.
29. Silicate Cotton Composition for Covering Steam Pipes. C. Cadle. C, 1884.
30. Open Gas Fire. Chas. Wilson & Sons. C, 1887.
31. Gas Kettle. Chas. Wilson & Sons. C, 1887.

Section 2. Cooking Apparatus.

1. Large Gas Cooking Stove with Boiler. Thos. Fletcher. Medal offered by the Gas Department of the Corporation of Leicester, 1885; M, 1885.

M, Medal; C*, Special Certificate; C, Certificate.

CLASS III.—SECTION 2.—Continued.

2. Large Gas Cooking Stove with Boiler. *General Gas Heating & Lighting Co.* Medal offered by the Exeter Gas Co., 1885; M, 1885.
3. Large Gas Cooking Stove with Boiler. *J. Wright & Co.* C, 1885.
4. Large Gas Cooking Stove. *Wright & Co.* C, 1886.
5. "Eureka" Gas Cooking Stove. *J. Wright & Co.* Medal offered by the Exeter Gas Co., 1884; M, 1884.
6. "Eureka" Artisan Gas Cooking Stove. *J. Wright & Co.* Medal offered by the Gas Department of the Corporation of Leicester, 1885; M, 1885.
7. Artisan Gas Cooking Stove. *H. & C. Davis & Co.* M, 1885.
8. " " " " *General Gas Heating & Lighting Co.* C, 1885.
9. Enamelled "Metropolitan" Gas Cooker. *H. & C. Davis & Co.* M, 1886.
10. Apparatus for Cooking by Gas. *Billing & Co.* M, 1878; C*, 1879.
11. Apparatus for Cooking by Gas. *S. Leoni & Co.* M, 1878.
12. Combined Close Fire and Gas Cooking Range. *Carron Co.* C, 1883.
13. Gas Cooking Stove, lined with White Tiles. *Arden, Hill & Co.* C, 1884.
14. Solid Flame Boiling Stove. *Arden, Hill & Co.* C, 1882.
15. "Sunlight Stove." *Chorlton & Dugdale.* C, 1880.
16. Cooking Stove, with Warm Air Chamber. *Thomas Waller.* C, 1879.
17. Artisan Cooking Range. *Walker, Turnbull & Co.* M, 1883.
18. Cooking Range, with Revolving Fire for the Prevention of Smoke. *Whyte & Bradford.* M, 1883.
19. Cottage Range. *Wippell Bros. & Row.* C, 1880.
20. Crabtree's Kitchen Range. *E. & J. M. Verity.* M, 1885.
21. " " " " *E. Foulds.* C*, 1886.
22. Devonshire Cooking Range. *T. J. Constantine.* C, 1880.
23. Dow's Close and Open Fire Cooking Range. *W. McGeoch & Co.* C, 1883.
24. Economical Cooking Range. *G. H. Harris.* M, 1877; C*, 1878.
25. Improved Open or Close Range Kitchener. *W. P. Wenham.* M, 1879.
26. Improved Wilson Cooking Range. *Wilson Engineering Co.* M, 1882; C*, 1883; C*, 1884.
27. Phoenix Portable Range, and the Birmingham Range with Reducible Fire without Gas. *Hassall & Singleton.* M, 1878.
28. Simplex Cooking Range. *Walker, Turnbull & Co.* C, 1883.
29. "Sine qua non" Open and Close Fire Range. *A. Shaw & Son.* M, 1883.

30. Wilson Portable Close Cooking Range. *Wilson Engineering Co.* M, 1880.
31. New Cooker and Steamer. *F. & C. Hancock.* C, 1886; C, 1887.
32. Tin Cooking Utensils. *Mrs. A. Lewis.* C, 1879.
33. National Kitchen Range. *Elliott, Edminson, & Onley.* C, 1887.

Section 3. Smoke Preventing Appliances.

1. Mechanical Stoker. *G. Sinclair.* M, 1883.
2. Open Grate for Consuming Smoke. *James Smith.* C, 1882.
3. Smoke Preventing Mechanical Stoker and Camel Furnace. *E. Bennis.* M, 1887.
4. Mechanical Smoke Preventing Stoker and Furnace. *T. & T. Vicars.* M, 1887.

Section 4. Lighting, including Electric Lighting.

1. Portable Gas Apparatus for Manufacturing Gas from Gasoline. *F. W. Clarke's Portable Gas Apparatus Co. (Limited).* C, 1879.
2. Albo-Carbon Light. *Will. Forrest.* C, 1882.
3. " " " " *Osbert Henderson.* C, 1883.
4. Duplex Burner. *T. Heron.* C, 1882.
5. Improved Gas Burners. *Bray & Co.* C, 1879.
6. Siemens' Regenerative Gas Burner. *Mather & Armstrong.* Richardson Medal, 1882; M, 1882.
7. "Rheo-meter" Street Lamp Regulator. *S. Leoni & Co.* C, 1878.
8. Mercury Gas Governor. *James Stott & Co.* M, 1882; C*, 1885.
9. "Stott" Gas Governor. *A. Brown & Co.* C*, 1883.
10. Stott's Mercury Gas Governor. *John L. Smallman.* C*, 1884.
11. Gaseliers and Gas Brackets. *Willey & Co.* C, 1880.
12. "Milwaukee" Glass Lantern or Hurricane Lantern. *S. E. Ransome & Co.* C, 1879.
13. Miner's Safety Lamp. *W. Purdy.* M, 1885.
14. Hinks's Duplex Lamp with Extinguisher. *Mather & Armstrong.* C, 1882.
15. Incandescent Electric Lamp. *Woodhouse & Rawson.* M, 1885; C*, 1886.
16. Swan's Incandescent Electric Lamps. *J. Edmundson & Co.* Richardson Medal, 1884; M, 1884.
17. Cunningham Woodhouse & Rawson Magnetic Cut-Out for Electric Lighting. *Woodhouse & Rawson.* C, 1885; M, 1886.
18. Combination Plug and Meter Bridge (Davis & Moynhan's Patent) *Woodhouse & Rawson Electric Supply Co. of Great Britain.* C, 1886.

M, Medal; C*, Special Certificate; C, Certificate.

CLASS III.—SECTION 4.—Continued.

19. Chappuis's Daylight Reflector. Wippell Bros. & Row. C, 1880
20. Prismoidal Pavement and Floor Lights. Hamilton & Co. M, 1879.
21. Portable Electric Glow Lamp. Maritime and General Improvement Co. C, 1887.
22. Welsbach's Incandescence Gas Burner. Elliott, Edminson & Olney. M, 1887.
23. "Eclipse" Gas Governor. Hargreaves & Bardsley. C, 1887.
24. Combined Gas Governor and Cut-off Valve. James Stott & Co. C, 1887.

Section 5. Ventilating Gas Burners.

1. Wenham's Ventilating Gas Lamp. Wenham's Patent Gas Lamp Co. M, 1884.

Section 6. Ventilators.

1. Blackman Air Propeller. F. Ashwell. M, 1885.
2. Air Inlet Head for Drain Ventilation. H. S. Cregeen. C, 1882.
3. Auto-Pneumatic Ventilation. Nathan Hunt. M, 1880.
4. Boyle's Mica-Valved Outlet Ventilator. W. P. Wenham. C, 1879.
5. Conical Ventilators. J. E. Ellison. M, 1878; C*, 1879; C*, 1883; C*, 1884; C*, 1885.
6. Double Current Ventilators. Hill & Hey. C, 1883.
7. Glass Louvre Ventilators. J. Moore. M, 1880.
8. Glass Revolving and Sliding Ventilators. H. W. Cooper & Co. C, 1883.
9. "Imperial" Ventilating Window. U. Knell. C, 1879.
10. Method of Costless Ventilation. Peter Hinckes Bird. C, 1879.
11. Chimney Breast Outlet Ventilator. C. Kite & Co. C, 1883; C, 1884.
12. Ornamental Inlet Ventilators. C. H. Sharp & Co. C, 1880.
13. Outlet Ventilator. C. Kite & Co. C, 1882.
14. "Radiator" Ventilator, with Screw Action. J. E. Ellison. C, 1883; C, 1884.
15. Telescoped Wall Inlet Ventilator. C. Kite & Co. C, 1885.
16. Wall Inlet Ventilator. C. Kite & Co. C, 1883; C, 1884.
17. Ventilating and Warming Appliances. G. E. Pritchett. C, 1878.
18. Ransome's Artificial Stone Air Brick. Wippell Bros. & Row. C, 1880.
19. Morgan's Stench Trap. Nailsworth Foundry Co. C, 1882.
20. Humidifier and Air Inlet. Control Air Propeller Co. C, 1887.
21. Blackman Air Propeller. J. & W. Kirkham. C*, 1887.

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

Section 1. Clothing.

1. "Arachne" Flannel. E. Ward & Co. C, 1886.
2. Crocodile Hide Leather. Borough Leather Warehouse Co. C, 1883.
3. Furs, Exhibit of. Brooke Tyrrell. C, 1884.
4. Camels' Hair Clothing & Bedding. Dr. Jaeger's Sanitary Woollen System Co. C, 1886.
5. Exhibit of Sanitary Clothing. E. Ward & Co. M, 1886.
6. Innocuously-dyed Woollen Goods. Donegal Industrial Fund. M, 1884.
7. Sanitary Clothing. Dr. Jaeger's Sanitary Woollen System Co. M, 1886.
8. Ventilatorium Waterproof Garments. Bartrum, Harvey & Co. C, 1878.
9. Hygeia Corset. E. Ward & Co. C, 1886.
10. Ventilating Corsets. E. & C. Dillon. C, 1886.
11. Pith Helmet. J. Morgan. C, 1884.
12. Ventilated Hats. W. Graham. C, 1884.
13. Boot and Shoe Uppers. Staynes & Sons. C, 1885.
14. Improved shape of Boot. J. Hotblack & Son. C, 1884.
15. "Natural" Boot for Ladies. A. Webb. C, 1884.
16. Rhinoceros Hide "S" Boot. Patrick Short. C, 1884.
17. Dr. Jaeger's Sanitary Clothing. Constantine Bros. C*, 1887.
18. "Souple" Boots. W. Barlow. C, 1887.
19. Kershaw's Cellular Cotton Fabric. Lewis Haslam. M, 1887.
20. All-Wool Flannels (undyed). Humphreys & Thomas. C, 1887.
21. Woollen Fabrics. W. Rothwell. C, 1887.

Section 2. Beds and other Furniture.

1. Central Tube Water Mattress. Brady & Martin. C, 1882.
2. Institution Bed, with Woven-Wire Mattress. Pearson & Co. C, 1884.
3. Pitch Pine Lath Mattress. Chorlton & Dugdale. C, 1884.
4. Portable Bed, with Liverpool Spring Mattress. Billington Bros. C, 1884.

M, Medal; C*, Special Certificate; C, Certificate.

CLASS IV.—SECTION 2.—Continued.

5. Spring Mattress. Bussey & Co. C, 1879.
6. " " " A. Gardner & Son. C, 1883.
7. " Mattresses. Billington Bros. C, 1883.
8. "Swing" Woven Wire Mattress. Chorlton & Dugdale. M, 1884.
9. Excelsior Spring Mattress. Chorlton & Dugdale. M, 1877; C*, 1878; C*, 1879; C*, 1880; C*, 1882; C*, 1883; C*, 1884.
10. Wood's Double Woven Galvanized Steel Wire Spring Mattress. Longford Wire, Iron and Steel Co. C, 1886.
11. "Universal" Invalid Tubular Water and Air Bed. Pocock Bros. M, 1878; C*, 1879.
12. Combination Bedstead. W. Fleming. C, 1884.
13. "Excelsior" Ships' Berth. Chorlton & Dugdale. C, 1883.
14. Hinged Cot. Pim Bros., Limited. C, 1884.
15. Bed Rest, with movable Arms. William Brock & Co. C, 1880.
16. "Grasshopper" Couch for Invalids. William Hamilton. C, 1878; C, 1882.
17. Automaton Seat for Drapers. Colman & Glendenning. C, 1880.
18. "Nonsuch" Adjustable Chair. William Brock & Co. C, 1880.
19. Furniture, Exhibit of. Pim Bros., Limited, M, 1884.
20. " " " F. R. Scott & Co. C, 1884.
21. Fernby's "Paragon" Camp Furniture. Wippell Bros. & Row. C, 1880.
22. Chorlton's Invalid Iron Bedstead, with Wire Mattress. Taylor's Cabinet Making and Upholstery Warehouse. M, 1887.

Section 3. Hospital and Sick-room Appliances.

1. Hospital and Sick-room Appliances, Exhibit of. W. B. Hilliard & Sons. M, 1883.
2. Invalid Furniture. J. Carter. M, 1880.
3. Folding Invalid Bed. Ansell Ball. C, 1879.
4. Hospital Bed, fitted with Raising Appliances. Chorlton & Dugdale. C, 1884.
5. Hospital Bed, with new Spring Mattress. Chorlton & Dugdale. C, 1884.
6. "Invalid's" Adjustable Bed. Chorlton & Dugdale. C, 1880.
7. Metallic Tubular Bedsteads and Invalid Bed Rests. Thomas Allen. C, 1878.
8. Self-acting Sick Bed. E. K. Groves. C, 1883.
9. Ambulance Wheeled Litter. Major F. Duncan. M, 1878.
10. Burn and Wound Boxes. W. B. Hilliard & Sons. C, 1883.
11. India Rubber Vessels for Hospital use. H. A. Murton. C, 1882.
12. Isolating Curtain. W. B. Hilliard & Sons. C, 1883.

13. China Cups and other Vessels for Invalid use. Townsend & Co. C, 1882.
14. Absorbent Cotton and Antiseptic Sponges. Burroughs, Wellcome & Co. C, 1884.
15. Stypium Absorbent Antiseptic Surgical Dressings. Stephenson & Travis. C, 1884.

Section 4. Domestic Appliances.

1. Exhibit of Machines for Domestic use. F. & C. Hancock. M, 1883; C*, 1885; C*, 1886.
2. Ornamental Domestic Appliances. W. F. Johnson. M, 1885.
3. Various Inventions for Promoting Domestic Economy. W. H. Hilton. C, 1878.
4. Black Diamond Boot and Shoe Cleaning Machine. T. Bradford & Co. C, 1885.
5. Bower's Potato Steamer. Groom & Co. C, 1884.
6. Fishburn's Scarborough Freezer. King & Co. C, 1886.
7. " Tubular Refrigerators. King & Co. C, 1886.
8. Housemaid's Box, with Sifter. Wippell Bros. & Row. C, 1880.
9. Dough Kneading Machine. F. & C. Hancock. C, 1880.
10. Machine for Washing and Peeling Potatoes. F. & C. Hancock. C, 1882.
11. Self-indicating Tea or Coffee Infuser. Groom & Co. C, 1884.
12. Automatic Chariot for Children. Will. Bowden. C, 1882.
13. Compostella Fire Lights for Lighting Fires. Compostella Fire Light Co. C, 1878.
14. India Rubber Gas Tubing. A. Hutchinson & Co. C, 1880.
15. "Noiseless Ware." Vernon's Patent China & Glass Co. C, 1883.
16. Pendulous Food Warmers. Osbert Henderson. C, 1883.
17. Porpoise Oil Dubbin. J. T. Dales. C, 1885.
18. "Unique" Folding Box. T. P. Bethell. C, 1885.
19. Wicker-work and Brushes. Wilberforce School for the Blind. M, 1886.
20. Electric Bells, Exhibit of. J. T. Gent & Co. C, 1885.
21. Electro-Magnetic Telephones. The Stanhope Co. Limited. C, 1886.
22. Butter Squeezing Machine. Aylesbury Dairy Co. C, 1886.
23. Dairy Appliances, Exhibit of. Vipian & Headly. M, 1885.
24. " " " Aylesbury Dairy Co. M, 1886.
25. Danish Cream Separator. Vipian & Headly. C, 1885.
26. Heavy Steel Railway Churn, with Malleable Top and Dust-proof Lid. Vipian & Headly. C, 1885.
27. Machine for Washing and Cooling Butter. F. & C. Hancock. M, 1877; C*, 1878.
28. New Propeller Churn. F. & C. Hancock. C, 1880.
29. Stoneware Churns. F. Grosvenor. C, 1883.
30. Cinder Sifting Dust Bin. Morrell's Sanitary Company. C, 1887.

M, Medal; C*, Special Certificate; C, Certificate.

CLASS IV.—*Continued.*

Section 5. School Fittings.

1. Dual Desk, with separate Gangway Seat. *Thos. Larmouth & Co. C, 1878.*
2. "Reliance" Lift-up Desk. *Midland Educational Co. C, 1885.*
3. School Desks with Shifting Seats. *Colman & Glendenning. C, 1878.*
4. School Furniture. *Colman & Glendenning. M, 1880.*
5. "Simplex" Desk, with Adjustable Foot Board. *Taylor & Co. C, 1885.*
6. Westminster Single Desk, with Sliding Top and Convex Support to the Seat. *North of England School Furnishing Co. C, 1886.*

Section 6. Gymnastic Apparatus.

1. Bicycles and Tricycles, Exhibit of. *Humber & Co. M, 1885.*
2. " " " " " " *J. Parr & Co. C, 1885.*
3. Tricycles, Exhibit of. *W. Carson & Sons. C, 1884.*
4. " " " " " " *Fletcher Bros. C, 1884.*
5. Cruising Canoe. *R. J. Turk. M, 1885.*

Section 7. Foods.

1. Chutneys. *J. Edmunds. C, 1886.*
2. Empress Currie Powders. *J. Edmunds. C, 1882.*
3. Improved Oat Cakes. *A. & R. Scott. C, 1886.*
4. Infant Rusks and Nursery Biscuits. *J. Montgomery. C, 1886.*
5. Midlothian Oat Flour. *A. & R. Scott. C, 1883.*
6. Miller's Pride Oatmeal. *Binns & Armitage. C, 1885.*
7. Rusks, Shortbread, and Oatcakes. *W. H. Torrance. C, 1885; C, 1886.*
8. Preserved Fruits. *C. H. Senn. C, 1886.*
9. Coloured Confectionery. *M. A. Craven & Son. M, 1886.*
10. Genuine Mustard. *Irvine & Co. C, 1882; C, 1883.*
11. Pickles and Sauces. *Beveridge & Co. C, 1883.*
12. Chocolate Paste. *A. J. M. Bolonachi. C, 1886.*
13. Cocoa Extract and Preparations of Chocolate. *J. S. Fry & Sons. C, 1880.*
14. Indian Tea. *Indian Tea Co. C, 1883.*
15. Optimus Coffee Extract. *E. Clarke & Co. C, 1884; C, 1885; C, 1886.*
16. Soluble Dutch Cocoa. *Bensdorp & Co. C, 1884.*
17. Preparations of Digestive Ferments. *Burroughs, Wellcome & Co. C, 1886.*

18. Malt Extract. *Burroughs, Wellcome & Co. C, 1886.*
19. Kepler's Extract of Malt, and Combinations of it with Pepsine, Chocolate, and Cod Liver Oil. *Burroughs, Wellcome & Co. C, 1884.*
20. Powders for Peptonising Milk. *Burroughs, Wellcome & Co. M, 1884.*
21. Digestive Ferments and Invalid Food Preparations. *Burroughs, Wellcome & Co. M, 1887.*
22. Confectionery, with Harmless Colouring Matter. *W. R. Lythgoe. C, 1887.*
23. Cadbury's Chocolate and Cocoa Essence. *Isaac Cleworth. C, 1887.*

Section 8. Domestic Filters.

1. Artificial Stone Filters, for Cleansing Rain Water for Domestic Use. *Thorn & Co. C, 1878.*
2. "Bijou" Filtre Rapide. *P. A. Maignen. C, 1880.*
3. Bischof's Spongy Iron Filter. *Spongy Iron Water Purifying Co. M, 1877.*
4. Carbonised Iron Stone Mound Filter for Water. *J. A. Stephan. C, 1880.*
5. Field Hospital Filter. *P. A. Maignen. C, 1885.*
6. Filtre Rapide. *P. A. Maignen. M, 1879; C*, 1880; C*, 1883; C*, 1884; C*, 1885.*
7. Improved Filtre Rapide. *P. A. Maignen. C, 1882.*
8. Silicated Carbon Double Chambered Table Filters. *Silicated Carbon Filter Co. C, 1880.*
9. Silicated Carbon Filtering Material. *Silicated Carbon Filter Co. C, 1882.*
10. Soldier's Filter. *P. A. Maignen. C, 1885.*
11. Spencer's Magnetic Filters. *The Magnetic Filter Co. M, 1886.*

Section 9. Mineral Waters.

1. Ginger Ale and Lemonade. *Newry Mineral Water Co. (Limited). C, 1879.*
2. Lemonade, Lime Juice, and Ginger Ale. *Gulliver & Co. C, 1879.*
3. Potash, Soda and Seltzer Waters, and Lemonade. *British & Foreign Mineral Water Co. C, 1882.*
4. Preparations of Lime Juice, Aromatic Ginger Ale, and Quinine Tonic. *Carter & Co. C, 1880.*
5. Seltzer, Soda and Potash Waters, and Orange Quinine Tonic. *G. H. Skinner. C, 1880.*
6. Seltzer Water. *Jewsbury & Brown. C, 1878.*
7. Zoedone. *Evans & Co. C, 1879.*
8. Plant for Aerating Mineral Waters. *J. Galloway. M, 1887.*

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CLASS IV.—Continued.

Section 10. Soap and other Detergents.

1. Carbolic Soaps. *F. C. Calvert & Co.* C, 1884; C, 1885; C, 1886.
2. Hydroleino Soap Powder. *F. J. Harrison & Co.* C, 1885.
3. Jeyes's Household Disinfecting Soaps. *Jeyes's Sanitary Compounds Co.* C, 1885.
4. "Lanoline" Soap. *Burroughs, Wellcome & Co.* C, 1886.
5. Olive Oil Soap. *W. Bowden.* C, 1885.
6. Soaps. *S. Boyd.* C, 1884.
7. Tooth Soap. *F. C. Calvert & Co.* C, 1885.
8. Sanitary Rose Powder. *Jas. Woolley & Co.* C, 1886.
9. Sunlight Soap. *Lever Bros.* C, 1886.

Section 11. Antiseptics and Disinfectants.

1. Alum Cake. *Dublin & Wicklow Manure Co.* C, 1884.
2. Antiseptic Preparations, Exhibit of. *J. Richardson & Co.* M, 1885.
3. Boro-Phenol. *F. C. Calvert & Co.* C, 1886.
4. Calvert's Carbolic Acid for Disinfecting purposes. *Calvert & Co.* M, 1877; C*, 1879; C*, 1880; C*, 1883; C*, 1884; C*, 1885; C*, 1886.
5. Chemical Preparations and Apparatus. *Société Française d'Hygiène.* M, 1877.
6. Chemical Substances used for Disinfection. *Mackey, Mackey & Co.* M, 1884.
7. Chemical Substances used for Disinfection. *S. Boyd.* C, 1884.
8. Jeyes's Perfect Purifier. *Jeyes's Sanitary Compounds Co.* C, 1879; C, 1882; C, 1883; C, 1884; M, 1885; C*, 1886.
9. Little's Soluble Phenyle. *Morris, Little & Co.* M, 1878.
10. Pixene. *J. Wheeler.* C, 1883; C, 1884.
11. Preparations from Carbolic Acid. *F. C. Calvert & Co.* C, 1886.
12. 50% Carbolic Disinfecting Powder. *F. C. Calvert & Co.* C, 1883.
13. Red Cross Yellow Fluid. *Antiseptic Apparatus Manufacturing Co. (Limited).* C, 1882.
14. Sanitas Oil. *Sanitas Co. Limited.* M, 1882.
15. Sanitary Night Lights. *A. Wright.* C, 1885.
16. Soluble Cresol. *F. C. Calvert & Co.* C, 1884.
17. Strype's Process for Drying Blood. *Dublin & Wicklow Manure Co.* M, 1884.
18. Soluble 70% Carbolic Acid. *F. C. Calvert & Co.* C, 1887.

Section 12. Disinfecting Apparatus.

1. Acid Pump and Syphon. *Chas. W. Walker.* M, 1879.
2. Washington Lyon's Steam Disinfector. *Manlove, Alliott, Fryer & Co.* C, 1882; C*, 1887.
3. Dr. Scott's Disinfecting Apparatus. *Maguire & Son.* C, 1882; C, 1884.
4. Portable Disinfecting Apparatus. *Fraser Bros.* M, 1879.
5. Steam Disinfector. *J. W. Lyon.* M, 1885; C*, 1886.
6. Vaporiser for Disinfecting. *F. C. Calvert & Co.* C, 1880.

CLASS V.—MISCELLANEOUS.

Section 1. Scientific Instruments.

1. Barometrical and Thermometrical Instruments. *G. E. Pritchett.* C, 1879.
2. Improvements in Thermometrical and Barometrical Instruments. *G. E. Pritchett.* C, 1880.
3. Large Legible Spirit Thermometer. *P. Hinckes Bird.* C, 1880.
4. New Oven Pyrometer. *Joseph Davis & Co.* C, 1882.
5. Thermometrical Instruments. *G. E. Pritchett.* C, 1878.
6. Instruments used by Medical Officers of Health. *Brady & Martin.* C, 1882.
7. Schaible's Apparatus for the Estimation of Carbonate of Lime in Cement. *Casebourne & Co.* C, 1886.
8. Webster's Photometer. *Webster & Co.* C, 1879.
9. Tintometer. *J. W. Lovibond.* M, 1887.

Section 2. Books and Periodicals.

1. Books on Hygiène. *Société Française D'Hygiène.* M, 1882.
2. Exhibit of Drawings and Books Relating to Disposal of Sewage in Paris. *A. Durand-Claye.* C, 1883.
3. Publications. *Ladies' Sanitary Association.* C, 1878.
4. "Sanitary Engineer" of New York, Newspapers. *H. C. Meyer.* M, 1883.
5. Sanitary Publications. *Smith, Elder & Co.* C, 1882; C, 1883; C, 1884.

Section 3. Prevention of Accidents.

1. Hand Ambulance. *Leicester Ambulance Corps.* C, 1885.
2. "Kredemnon" Life-saving Garments. *F. Wentworth & Co.* M, 1883,

M, Medal; C*, Special Certificate; C, Certificate.

CLASS V.—SECTION 3.—*Continued.*

3. Leander Life Belt. J. W. Elvery & Co. C, 1884.
4. Method of rendering Timber Non-inflammable. A. Gardner & Son. C, 1883.
5. Safety Belt Shippers. Seliy, Sonmenthal & Co. Limited. C, 1879.
6. Ambulance Stretcher for Use in Mines. J. H. Peck & Co. C, 1887.

Section 4. Respirators and Face Guards for Unhealthy Occupations.

1. Tyndall's Smoke Respirator. J. Sinclair. M, 1879.
2. Loeb's Respirators. Maritimo and General Improvement Co. C, 1887.

Section 5. Fire Preventing Appliances.

1. Chemical Fire Exterminator. J. Sinclair. C, 1870.
2. Dick's L'Extincteur. J. Hildesheim. C, 1883.
3. "Lightning" Fire Extinguisher. J. Galloway. M, 1887.
4. "Reality" Hand Fire Extinguisher. J. Haslam. M, 1887.

Section 6. Methods for the Disposal of the Dead.

1. "Earth to Earth" Coffins. London Necropolis Co. C, 1878.
2. Folding Bier and Car for Simplifying Funerals. S. Stretton. C, 1879.

Section 7. Sundries.

No Awards.

ALPHABETICAL LIST OF EXHIBITORS WHO HAVE RECEIVED AWARDS AT THE EXHIBITIONS.

EXPLANATORY NOTE.—The Roman figures refer to the Class; the ordinary figures to the Section; and the figures in old type to the consecutive number in that Section, *e.g.* :—

Cl. IV., Sec. 3, no. 7.—Indicates Class IV., Section 3, no. 7.

- Adams & Co., York. Cl. II., Sec. 4, no. 1; Sec. 7, no. 20; Sec. 10, no. 12.
- Adams, R., 7, Great Dover Street, London. Cl. I., Sec. 1, nos. 32, 33, 34, 36, 37, 38.
- Allen, Thomas, St. Augustine's Parade, Bristol. Cl. IV., Sec. 3, no. 7.
- Aluminium Crown Metal Co., Glasgow. Cl. I., Sec. 1, no. 1.
- Angell, A. T., London. Cl. II., Sec. 9, no. 29.
- Antiseptic Apparatus Manufacturing Co., Limited, London. Cl. IV., Sec. 11, no. 13.
- Arden, Hill & Co., Birmingham. Cl. III., Sec. 1, no. 4; Sec. 2, nos. 13, 14.
- Ashwell, F., Leicester. Cl. III., Sec. 1, no. 28; Sec. 6, no. 1.
- Aveling & Porter, Rochester. Cl. I., Sec. 7, no. 7.
- Aylesbury Dairy Co., London. Cl. IV., Sec. 4, nos. 22, 24.
- Bailey & Co., London. Cl. II., Sec. 9, no. 19.
- Baird, Thompson & Co., Glasgow. Cl. II., Sec. 13, no. 3.
- Baird, W., Dublin. Cl. II., Sec. 1, no. 2; Sec. 5, nos. 2, 12; Sec. 6, nos. 1, 13, 25.
- Ball, Ancell, Spalding. Cl. IV., Sec. 3, no. 3.
- Barlow, W., Bolton. Cl. IV., Sec. 1, no. 18.
- Barrett, H. J., Hull. Cl. I., Sec. 7, no. 9.
- Bartrum, Harvey & Co., London. Cl. IV., Sec. 1, no. 8.
- Bean, A. T., 5, Cannon Row, London. Cl. II., Sec. 3, no. 3.
- Beard, Dent & Hellyer, 21, Newcastle Street, London. Cl. II., Sec. 7, no. 1; Sec. 10, no. 23.
- Bennis, E., Bolton. Cl. III., Sec. 3, no. 3.
- Bensdorp & Co., London. Cl. IV., Sec. 7, no. 16.
- Bethell, T. P., Liverpool. Cl. IV., Sec. 4, no. 18.

- Beveridge & Co., *Glasgow*. Cl. IV., Sec. 7, no. 11.
 Billing & Co., *Hatton Garden, London*. Cl. III., Sec. 2, no. 10.
 Billington Bros., *Liverpool*. Cl. IV., Sec. 2, nos. 4, 7.
 Binnie, J., *Gartcosh, Glasgow*. Cl. II., Sec. 9, no. 8.
 Binns & Armitage, *Derby*. Cl. IV., Sec. 7, no. 6.
 Bird, Peter Hinckes, 1, *Norfolk Square, London*. Cl. III., Sec. 6, no. 10. Cl. V., Sec. 1, no. 3.
 Bolonachi, A. J. M., *London*. Cl. IV., Sec. 7, no. 12.
 Borough Leather Warehouse Co., *London*. Cl. IV., Sec. 1, no. 2.
 Borwell, J., *Britannia Foundry, Burton-on-Trent*. Cl. I., Sec. 8, no. 1.
 Bostel, D. T., *Duke Street, Brighton*. Cl. II., Sec. 7, no. 7.
 Boulnois, H. Percy, *Portsmouth*. Cl. II., Sec. 9, no. 3.
 Bourtreehill Coal Co., *Dreghorn, Ayrshire*. Cl. I., Sec. 1, no. 10; Sec. 8, no. 12. Cl. II., Sec. 1, no. 15; Sec. 5, no. 13; Sec. 9, no. 10.
 Bowden, William, *London*. Cl. IV., Sec. 4, no. 12; Sec. 10, no. 5.
 Boyd, S., *Dublin*. Cl. IV., Sec. 10, no. 6; Sec. 11, no. 7.
 Bradbury & Co., *Oldham*. Cl. I., Sec. 7, no. 16.
 Bradford, T., & Co., *High Holborn, London*. Cl. I., Sec. 8, nos. 2, 7. Cl. IV., Sec. 4, no. 4.
 Brady & Martin, *Newcastle-upon-Tyne*. Cl. IV., Sec. 2, no. 1. Cl. V., Sec. 1, no. 6.
 Braithwaite, H. & Co., *Leeds*. Cl. II., Sec. 3, nos. 5, 6.
 Branksea Island Pottery Company, Limited, *Poole, Dorset*. Cl. II., Sec. 9, no. 9.
 Bray & Co., *Blackman Lane, Leeds*. Cl. III., Sec. 4, no. 5.
 British and Foreign Mineral Water Company, *Glasgow*. Cl. IV., Sec. 9, no. 3.
 British Sanitary Company, *Glasgow*. Cl. II., Sec. 11., nos. 2, 10.
 Broad & Co., *Paddington, London*. Cl. I., Sec. 1, nos. 7, 13. Cl. II., Sec. 9, no. 23; Sec. 10, no. 22.
 Brock, W., & Co., 177, *Fore Street, Exeter*. Cl. IV., Sec. 2, nos. 15, 18.
 Brown, A., & Co., *Glasgow*. Cl. III., Sec. 4, no. 9.
 Buchan, W. P., *Glasgow*. Cl. II., Sec. 9, no. 5; Sec. 10, nos. 1, 15; Sec. 13, no. 14.
 Burn & Baillie, *London*. Cl. II., Sec. 6, no. 12; Sec. 9, no. 18; Sec. 13, nos. 1, 2.
 Burroughs, Wellcome & Co., *London*. Cl. IV., Sec. 3, no. 14; Sec. 7, nos. 17, 18, 19, 20, 21; Sec. 10, no. 4.
 Bussey & Co., *Museum Works, Peckham, London*. Cl. IV., Sec. 2, no. 5.
 Cadle, C., *Dublin*. Cl. III., Sec. 1, no. 29.
 Calvert, F. C., & Co., *Bradford*. Cl. IV., Sec. 10, nos. 1, 7; Sec. 11, nos. 3, 4, 11, 12, 16, 18; Sec. 12, no. 6.
 Candy & Co., *Newton Abbot*. Cl. I., Sec. 1, no. 4.
 Capper, Son & Co., *London*. Cl. II., Sec. 13, no. 5.

- Carron Company, *Falkirk, N.B.* Cl. III., Sec. 2, no. 12.
 Carson, W., & Sons, *Dublin*. Cl. I., Sec. 1, no. 25. Cl. III., Sec. 1, no. 14. Cl. IV., Sec. 6, no. 3.
 Carter & Co., *Old Refinery, Bristol*. Cl. IV., Sec. 9, no. 4.
 Carter, J., 6A, *Cavendish Street, London*. Cl. IV., Sec. 3, no. 2.
 Casebourne & Co., *West Hartlepool*. Cl. I., Sec. 7, no. 4. Cl. V., Sec. 1, no. 7.
 Chorlton & Dugdale, *Manchester*. Cl. III., Sec. 2, no. 15. Cl. IV., Sec. 2, nos. 3, 8, 9, 13; Sec. 3, nos. 4, 5, 6.
 Clarke, E., & Co., *Battersea, London*. Cl. IV., Sec. 7, no. 15.
 Clarke's, F. W., Portable Gas Apparatus Company (Limited), *Great Queen Street, London*. Cl. III., Sec. 4, no. 1.
 Cleworth, Isaac, *Bolton*. Cl. IV., Sec. 7, no. 23.
 Cliff, Joseph, & Sons, *Leeds*. Cl. I., Sec. 6, no. 9. Cl. II., Sec. 5, nos. 8, 10; Sec. 6, no. 9; Sec. 8, no. 2; Sec. 10, no. 20.
 Colman & Glendenning, *Norwich*. Cl. IV., Sec. 2, no. 17; Sec. 5, nos. 3, 4.
 Coltman, T., *Leicester*. Cl. I., Sec. 7, no. 11.
 Compostella Fire Light Co., *Fenchurch Street, London*. Cl. IV., Sec. 4, no. 13.
 Constantine Bros., *Bolton*. Cl. IV., Sec. 1, no. 17.
 Constantine, T. J., *Fleet Street, London*. Cl. III., Sec. 2, no. 22.
 Control Air Propeller Co., *Bolton*. Cl. III., Sec. 6, no. 20.
 Cooper, H. W., & Co., *London*. Cl. III., Sec. 6, no. 8.
 Cordingley, T., & Sons, *Bradford*. Cl. I., Sec. 1, no. 22; Sec. 6, no. 5.
 Craig, J. & M., *Kilmarnock, N.B.* Cl. I., Sec. 1, no. 11. Cl. II., Sec. 5, nos. 5, 14; Sec. 9, no. 13; Sec. 10, nos. 2, 3, 9.
 Craven, M. A., & Son, *York*. Cl. IV., Sec. 7, no. 9.
 Cregeen, H. S., *Bromley*. Cl. III., Sec. 6, no. 2.
 Croft Stone Quarry & Brick Co., *Croft, Leicestershire*. Cl. I., Sec. 1, no. 20.
 Cuerden, R., *Bolton*, Cl. II., Sec. 3, no. 13; Sec. 6, nos. 29, 30; Sec. 7, no. 21.
 Dales, J. T., *London*. Cl. IV., Sec. 4, no. 17.
 Davis, H. & C., & Co., 200, *Camberwell Road, London*. Cl. III., Sec. 1, no. 1; Sec. 2, nos. 7, 9.
 Davis, Joseph, & Co., *London*. Cl. V., Sec. 1, no. 4.
 Dick, Alex., *London*. Cl. I., Sec. 1, no. 2.
 Dillon, E. & C., *York*. Cl. IV., Sec. 1, no. 10.
 Dinning & Cooke, *Newcastle-upon-Tyne*. Cl. II., Sec. 6, no. 26; Sec. 9, no. 25. Cl. III., Sec. 1, nos. 17, 19.
 Dæker Hospitals and Huts Factory, *London*. Cl. I., Sec. 1, no. 28.
 Dockrell, Thomas, Sons & Co., *Dublin*. Cl. I., Sec. 4, no. 3.
 Donegal Industrial Fund, 43, *Wigmore Street, London*. Cl. IV., Sec. 1, no. 6.
 Doulton & Co., *Lambeth, London*. Cl. I., Sec. 1, no. 27; Sec. 5, no. 1; Sec. 6, nos. 4, 7. Cl. II., Sec. 1, nos. 4, 5, 6; Sec. 3, nos.

Cl. IV., Sec. 3, no. 7—Indicates Class IV., Section 3, no. 7.

- 1, 12; Sec. 4, no. 2; Sec. 5, no. 3; Sec. 6, nos. 14, 18; Sec. 7, nos. 5, 6, 12, 13, 14; Sec. 9, nos. 7, 12, 15, 16, 20, 22, 26, 30; Sec. 10, nos. 17, 19. Cl. III., Sec. 1, nos. 15, 16.
 Dublin & Wicklow Manuro Co., *Dublin*. Cl. IV., Sec. 11, nos. 1, 17.
 Duffy & Son, *London*. Cl. I., Sec. 5, no. 7.
 Duncan, Major F., *The Common, Woolwich*. Cl. IV., Sec. 3, no. 9.
 Durand-Claye, A., *Paris*. Cl. V., Sec. 2, no. 2.
 Edmunds, J., *London*. Cl. IV., Sec. 7, nos. 1, 2.
 Edmundson, J., & Co., *Dublin*. Cl. III., Sec. 4, no. 16.
 Edwards, J. C., *Trefynant, Ruabon*. Cl. II., Sec. 10, no. 4.
 Elgood, Bros., *Leicester*. Cl. I., Sec. 1, no. 3.
 Elliott, Edminson & Olney, *Manchester*. Cl. II., Sec. 13, no. 10. Cl. III., Sec. 2, no. 33; Sec. 4, no. 22.
 Ellis, J., & Sons, *Barrow-on-Soar*. Cl. I., Sec. 1, no. 14.
 Ellis, J. J., *Ellistown Collieries*. Cl. II., Sec. 10, no. 10.
 Ellison, J. E., *Leeds*. Cl. III., Sec. 6, nos. 5, 14.
 Elvery, J. W., & Co., *Dublin*. Cl. V., Sec. 3, no. 3.
 Evans & Co., *Wrexham*. Cl. IV., Sec. 9, no. 7.
 Fell, J., & Co., *Wolverhampton*. Cl. II., Sec. 1, no. 12; Sec. 6, no. 19; Sec. 10, no. 13.
 Fergusson & Starkey, *Leicester*. Cl. II., Sec. 6, nos. 6, 22, 24.
 Finch & Co., 181, *High Holborn, London*. Cl. II., Sec. 1, no. 11.
 Fleming, W., *Dublin*. Cl. IV., Sec. 2, no. 12.
 Fletcher Bros., *Dublin*. Cl. IV., Sec. 6, no. 4.
 Fletcher, T., *Warrington*. Cl. I., Sec. 8, no. 8. Cl. III., Sec. 1, no. 20; Sec. 2, no. 1.
 Forrest, W., *Newcastle-upon-Tyne*. Cl. III., Sec. 4, no. 2.
 Foster & Pearson, *Nottingham*. Cl. II., Sec. 10, no. 18.
 Foulds, E., *Leeds*. Cl. III., Sec. 2, no. 21.
 Fox, William, *Leeds*. Cl. I., Sec. 7, no. 21.
 Fraser Bros., *Commercial Road, London*. Cl. IV., Sec. 12, no. 4.
 Fry, J. S., & Sons, *Union Street, Bristol*. Cl. IV., Sec. 7, no. 13.
 Galbraith, T., *Crawford Square, Londonderry*. Cl. II., Sec. 6, no. 8.
 Galloway, J., *Bolton*. Cl. I., Sec. 7, nos. 18, 19. Cl. IV., Sec. 9, no. 8. Cl. V., Sec. 5, no. 3.
 Gandy, M., *Liverpool*. Cl. I., Sec. 7, nos. 2, 3.
 Gardner, A., & Son, *Glasgow*. Cl. I., Sec. 5, no. 5. Cl. IV., Sec. 2, no. 6. Cl. V., Sec. 3, no. 4.
 Garton & King, *Exeter*. Cl. I., Sec. 8, no. 6.
 General Gas Heating and Lighting Co., 66, *St. Paul Street, London*, Cl. III., Sec. 1, no. 2; Sec. 2, nos. 2, 8.
 Gent, J. T., & Co., *Leicester*. Cl. IV., Sec. 4, no. 20.
 Gilbert, E. & A. E., *Broughty Ferry, Forfarshire*. Cl. II., Sec. 7, no. 18.
 Gillow & Co., *Oxford Street, London*. Cl. II., Sec. 6, no. 15.
 Goode & Co., *Loughborough*. Cl. II., Sec. 1, no. 7; Sec. 3, no. 9.
 Graham, W., *Dublin*. Cl. IV., Sec. 1, no. 12.

- Greenall, J., *Manchester*. Cl. I., Sec. 8, no. 5. Cl. III., Sec. 1, no. 8.
 Gregson, J., *Bolton*. Cl. I., Sec. 1, no. 39.
 Groom & Co., *London*. Cl. II., Sec. 6, no. 11. Cl. IV., Sec. 4, nos. 5, 11.
 Grosvenor, F., *Glasgow*. Cl. IV., Sec. 4, no. 29.
 Groves, E. K., *Bristol*. Cl. IV., Sec. 3, no. 8.
 Gulliver & Co., *Aylesbury*. Cl. IV., Sec. 9, no. 2.
 Hall, John, & Co., *Stourbridge*. Cl. II., Sec. 6, no. 7.
 Hamilton & Co., *Leadenhall Street, London*. Cl. III., Sec. 4, no. 20.
 Hamilton, W., *Brighton*. Cl. IV., Sec. 2, no. 16.
 Hammond & Hussey, *High Street, Croydon*. Cl. II., Sec. 10, no. 25.
 Hancock, F. & C., *Dudley, Worcester*. Cl. III., Sec. 2, no. 31. Cl. IV., Sec. 4, nos. 1, 9, 10, 27, 28.
 Haresceugh, B. B., & Co., *Bentley Street, Leeds*. Cl. II., Sec. 11, no. 11.
 Hargreaves & Bardsley, *Oldham*. Cl. III., Sec. 4, no. 23.
 Harriman, W., & Co., *Blaydon-upon-Tyne*. Cl. II., Sec. 7, no. 8.
 Harris, G. H., *Bristol Street, Birmingham*. Cl. III., Sec. 2, no. 24.
 Harris, J. F. & G., *London*. Cl. I., Sec. 6, no. 3.
 Harrison, F. J., & Co., *Leicester*. Cl. IV., Sec. 10, no. 2.
 Harrison Patent Knitting Machine Co., *Manchester*. Cl. I., Sec. 7, no. 14.
 Harisson, T. Harnett, *Liverpool*. Cl. II., Sec. 12, no. 1; Sec. 13, no. 6.
 Haslam, J., *Bolton*. Cl. V., Sec. 5, no. 4.
 Haslam, Lewis, *Bolton*. Cl. IV., Sec. 1, no. 19.
 Hassall & Singleton, *Birmingham*. Cl. III., Sec. 2, no. 27.
 Hayward, Tyler & Co., *London*. Cl. II., Sec. 6, no. 28; Sec. 7, no. 9.
 Headley & Sons, *Cambridge*. Cl. II., Sec. 1, no. 1.
 Heap, R. R., *Manchester*. Cl. II., Sec. 11, no. 3.
 Hembry & Co., *Manchester*. Cl. I., Sec. 5, no. 8.
 Henderson, Osbert, *Glasgow*. Cl. III., Sec. 4, no. 3. Cl. IV., Sec. 4, no. 16.
 Heron, T., *Manchester*. Cl. III., Sec. 4, no. 4.
 Hildesheim, J., *Glasgow*. Cl. V., Sec. 5, no. 2.
 Hill & Hey, *Halifax*. Cl. III., Sec. 6, no. 6.
 Hilliard, W. B., & Sons, *Glasgow*. Cl. IV., Sec. 3, nos. 1, 10, 12.
 Hilton, W. H., *Leamington*. Cl. IV., Sec. 4, no. 3.
 Hindle, Norton & Co., *Oldham*. Cl. I., Sec. 1, no. 35.
 Hindley, E. S., *Bornton, Dorset*. Cl. I., Sec. 7, no. 5.
 Hotblack, J., & Son, *Norwich*. Cl. IV., Sec. 1, no. 14.
 Humber & Co., *Nottingham*. Cl. IV., Sec. 6, no. 1.
 Humpherson & Co., *Chelsea, London*. Cl. II., Sec. 3, no. 10; Sec. 7, no. 2; Sec. 13, no. 9.
 Humphreys & Thomas, *Narberth*. Cl. IV., Sec. 1, no. 20.
 Hunt, Nathan, *Bristol*. Cl. III., Sec. 6, no. 3.

Cl. IV., Sec. 3, no. 7—Indicates Class IV., Section 3, no. 7.

- Hutchinson, A., & Co., *Great Winchester Street, London.* Cl. IV., Sec. 4, no. 14.
 Hydes & Wigfull, *Sheffield.* Cl. III., Sec. 1, nos. 12, 13.
 Hygienic Stove and Grate Company, 15, *Peel Buildings, Birmingham.* Cl. II., Sec. 10, no. 6.
 Indian Tea Company, *Glasgow.* Cl. IV., Sec. 7, no. 14.
 International Water & Sewage Purification Co., *London.* Cl. II., Sec. 2, no. 3.
 Irvine & Co., *Gateshead.* Cl. IV., Sec. 7, no. 10.
 Jaeger's Sanitary Woollen System Company, *London.* Cl. IV., Sec. 1, nos. 4, 7.
 Jennings, G., *Stangate, London.* Cl. II., Sec. 5, no. 1; Sec. 6, no. 27.
 Jennings, T., *Lambeth, London.* Cl. I., Sec. 5, no. 3.
 Jewsbury & Brown, *Manchester.* Cl. IV., Sec. 9, no. 6.
 Jeyes' Sanitary Compounds Company, *Cannon Street, London.* Cl. IV., Sec. 10, no. 3; Sec. 11, no. 8.
 Johnson, W. F., *Leicester.* Cl. I., Sec. 6, no. 1. Cl. II., Sec. 13, no. 18. Cl. IV., Sec. 4, no. 2.
 Keith, J., *London and Edinburgh.* Cl. III., Sec. 1, no. 21.
 Kenworthy, E. N., & Co., *Oldham.* Cl. I., Sec. 8, nos. 4, 10, 11.
 King & Co., *Hull.* Cl. IV., Sec. 4, nos. 6, 7.
 Kirk, E. G., *Huddersfield.* Cl. II., Sec. 13, no. 19.
 Kirkham, J. & W., *Bolton.* Cl. III., Sec. 6, no. 21.
 Kirsop & Co., *Newcastle-upon-Tyne.* Cl. I., Sec. 8, no. 3.
 Kite, C., & Co., *London.* Cl. III., Sec. 6, nos. 11, 13, 15, 16.
 Knell, U., 77, *Fore Street, London.* Cl. III., Sec. 6, no. 9.
 Ladies' Sanitary Association, *Berners Street, London.* Cl. V., Sec. 2, no. 3.
 Larmouth, Thos., & Co., *Salford.* Cl. IV., Sec. 5, no. 1.
 Lascelles, W. H., *Bunhill Row, London.* Cl. II., Sec. 6, no. 3.
 Leggott, W. & R., *Bradford.* Cl. I., Sec. 1, no. 31.
 Le Grand & Sutcliffe, *Bunhill Row, London.* Cl. II., Sec. 1, no. 14.
 Leicester Ambulance Corps. Cl. V., Sec. 3, no. 1.
 Leoni, S., & Co., *Strand, London.* Cl. III., Sec. 2, no. 11; Sec. 4, no. 7.
 Lever Bros., *Warrington.* Cl. IV., Sec. 10, no. 9.
 Lewis, Mrs. A., *Manchester.* Cl. III., Sec. 2, no. 32.
 London Necropolis Co., *Strand, London.* Cl. V., Sec. 6, no. 1.
 Longford Wire, Iron & Steel Co., *Warrington.* Cl. IV., Sec. 2, no. 10.
 Lovibond, J. W., *Salisbury.* Cl. V., Sec. 1, no. 9.
 Lyon, J. W., *London.* Cl. IV., Sec. 12, no. 5.
 Lythgoe, W. R., *Bolton.* Cl. IV., Sec. 7, no. 22.
 McCallum, J. B., *Stafford.* Cl. I., Sec. 7, no. 8.
 McGeoch, W., & Co., *Glasgow.* Cl. III., Sec. 2, no. 23.
 Mackey, Mackey & Co., *London.* Cl. IV., Sec. 11, no. 6.
 Magnetic Filter Co., *London.* Cl. IV., Sec. 8, no. 11.

- Maguire & Son, *Dublin.* Cl. I., Sec. 6, no. 10. Cl. II., Sec. 5, no. 15; Sec. 7, no. 17; Sec. 9, no. 4; Sec. 13, no. 15. Cl. III., Sec. 1, no. 10. Cl. IV., Sec. 12, no. 3.
 Maignen, P. A., 20 & 23, *Great Tower Street, London.* Cl. II., Sec. 2, no. 1. Cl. IV., Sec. 8, nos. 2, 5, 6, 7, 10.
 Maling, C. T., *Newcastle-upon-Tyne.* Cl. II., Sec. 6, no. 16; Sec. 13, no. 16.
 Manlove, Elliott, Fryer & Co., *Nottingham.* Cl. I., Sec. 7, nos. 6, 20. Cl. IV., Sec. 12, no. 2.
 Maritime & General Improvement Co., *London.* Cl. III., Sec. 4, no. 21. Cl. V., Sec. 4, no. 2.
 Mather & Armstrong, *Newcastle-upon-Tyne.* Cl. III., Sec. 1, no. 22; Sec. 4, nos. 6, 14.
 Meyer, H. C., *New York.* Cl. V., Sec. 2, no. 4.
 Midland Educational Co., *Leicester.* Cl. IV., Sec. 5, no. 2.
 Mitchell, Jas., *Newcastle-upon-Tyne.* Cl. I., Sec. 8, no. 9.
 Montgomerie, J., *Virginia Place, Partick, Glasgow.* Cl. IV., Sec. 7, no. 4.
 Moore, J., *St. James' Walk, Clerkenwell, London.* Cl. III., Sec. 6, no. 7.
 Morgan, J., *Dublin.* Cl. IV., Sec. 1, no. 11.
 Morrell's Sanitary Co., *Manchester.* Cl. II., Sec. 11, no. 12. Cl. IV., Sec. 4, no. 30.
 Morris, Little & Co., *Doncaster.* Cl. IV., Sec. 11, no. 9.
 Morrison, W. B., *Glasgow.* Cl. I., Sec. 6, no. 12. Cl. II., Sec. 7, no. 16.
 Moser, L., *Southampton.* Cl. II., Sec. 11, no. 5.
 Moule's Patent Earth Closet Company, 5A, *Garrick Street, London.* Cl. II., Sec. 11, no. 7.
 Murton, H. A., *Newcastle-upon-Tyne.* Cl. IV., Sec. 3, no. 11.
 Musgrave & Co., *Belfast.* Cl. III., Sec. 1, no. 11.
 Nailsworth Foundry Co., *Bristol.* Cl. III., Sec. 6, no. 19.
 Newry Mineral Water Co., Limited, *Liverpool.* Cl. IV., Sec. 9, no. 1.
 Nightingale & Co., *Great Grimsby.* Cl. I., Sec. 5, no. 4.
 North of England School Furnishing Co., *Darlington.* Cl. IV. Sec. 5, no. 6.
 Oates & Green, *Horley Green Fire Clay Works, Halifax.* Cl. II., Sec. 13, no. 4.
 Onions, J. C., Limited, *Birmingham.* Cl. II., Sec. 11, no. 6.
 Orr, J. B., & Co., *Charlton, London.* Cl. I., Sec. 3, no. 3.
 Parker, J., *Woodstock, Oxford.* Cl. II., Sec. 11, nos. 1, 4.
 Parkinson, Sweaney & Co., *Manchester.* Cl. II., Sec. 11, no. 13; Sec. 13, no. 23.
 Parr, J., & Co., *Leicester.* Cl. IV., Sec. 6, no. 2.
 Patent Porous Carbon Co., *London.* Cl. II., Sec. 2, no. 2.
 Patent Victoria Stone Co., *Kingsland Road, London.* Cl. I., Sec. 1, no. 19. Cl. II., Sec. 9, no. 1.
 Pearson & Co., *Dublin.* Cl. IV., Sec. 2, no. 2.

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- Peck, J. H., & Co., *Wigan*. Cl. V., Sec. 3, no. 6.
 Pennycook Patent Glazing & Engineering Co., *Glasgow*. Cl. I., Sec. 1, no. 29.
 Phillips, W., & Son, *London*. Cl. II., Sec. 9, no. 27.
 Pim Bros., Limited, *Dublin*. Cl. I., Sec. 7, no. 15. Cl. IV., Sec. 2, nos. 14, 19.
 Pocock, Bros., *Southwark Bridge Road, London*. Cl. IV., Sec. 2, no. 11.
 Potter, G. W., *London*. Cl. II., Sec. 13, no. 11.
 Potts & Co., *Handsworth, Birmingham*. Cl. II., Sec. 10, no. 7.
 Pringle, R., M.D., *Blackheath, London*. Cl. II., Sec. 13, no. 22.
 Pritchett, G. E., 20, *Spring Gardens, London*. Cl. I., Sec. 5, no. 2. Cl. III., Sec. 1, nos. 23, 24; Sec. 6, no. 17. Cl. V., Sec. 1, nos. 1, 2, 5.
 Purdy, W., *Nottingham*. Cl. III., Sec. 4, no. 13.
 Ransome, S. E., & Co., 10, *Essex Street, London*. Cl. III., Sec. 4, no. 12.
 Read, Jefferson, *Birmingham*. Cl. I., Sec. 3, no. 4.
 Richardson, J., & Co., *Leicester*. Cl. IV., Sec. 11, no. 2.
 Rimington Bros. & Co., *Newcastle-upon-Tyne*. Cl. II., Sec. 6, no. 4. Sec. 10, no. 5.
 Roberts, C. G., *Haslemere, Surrey*. Cl. II., Sec. 1, no. 3.
 Ross, J. A. G., *Newcastle-upon-Tyne*. Cl. I., Sec. 1, no. 17.
 Ross, W., *Glasgow*. Cl. II., Sec. 1, no. 8.
 Rothwell, W., *Bolton*. Cl. I., Sec. 7, nos. 12, 17. Cl. IV., Sec. 1, no. 21.
 Ruffard & Co., Fire-Clay Works, *Stourbridge*. Cl. II., Sec. 6, no. 10.
 Salmon, Barnes & Co., *Ulverston*. Cl. I., Sec. 1, no. 30.
 Sanitary & Economic Supply Association, *Gloucester*. Cl. III., Sec. 1, no. 5.
 Sanitary Dry Lime Co., *Bootle*. Cl. I., Sec. 1, no. 40.
 Sanitary & Highway Appliance Co., *Sheffield*. Cl. II., Sec. 13, nos. 12, 17, 21.
 Sanitas Company, Limited, *London*. Cl. IV., Sec. 11, no. 14.
 Scott, A. & R., *Glasgow*. Cl. IV., Sec. 7, nos. 3, 5.
 Scott, F. R., & Co., *Dublin*. Cl. I., Sec. 5, no. 6. Cl. IV., Sec. 2, no. 20.
 Scottish Asbestos Co., *Glasgow*. Cl. I., Sec. 1, no. 18.
 Selig, Sonnenthal & Co., Limited, *Lambeth Hill, Queen Victoria Street, London*. Cl. V., Sec. 3, no. 5.
 Senn, C. H., *London*. Cl. IV., Sec. 7, no. 8.
 Shanks & Co., *Barrhead, Glasgow*. Cl. II., Sec. 3, no. 4; Sec. 6, nos. 2, 5, 23.
 Sharman, T., *Leicester*. Cl. III., Sec. 1, no. 25.
 Sharp, C. H., & Co., *High Holborn, London*. Cl. III., Sec. 6, no. 12.
 Sharp, Jones & Co., *Bourne Valley Pottery, Poole, Dorset*. Cl. II., Sec. 9, no. 2.
 Shaw, A., & Son, *Glasgow*. Cl. III., Sec. 2, no. 29.

- Shone, Isaac, *Wrexham*. Cl. II., Sec. 12, no. 2.
 Short, Patrick, *Dublin*. Cl. IV., Sec. 1, no. 16.
 Silicated Carbon Filter Co., *Battersea, London*. Cl. IV., Sec. 8, nos. 8, 9.
 Silicato Paint Co., *Cannon Street, London*. Cl. I., Sec. 3, nos. 1, 2.
 Sinclair, G., *Leith*. Cl. III., Sec. 3, no. 1.
 Sinclair, J., *Leadenhall Street, London*. Cl. V., Sec. 4, no. 1; Sec. 5, no. 1.
 Singer Manufacturing Company, *London*. Cl. I., Sec. 7, no. 13.
 Skinner, G. H., 13, *North Street, Exeter*. Cl. IV., Sec. 9, no. 5.
 Smallman, John L., *Dublin*. Cl. III., Sec. 4, no. 10.
 Smith, E., & Co., *Coalville, Leicester*. Cl. I., Sec. 1, nos. 5, 23; Sec. 6, nos. 8, 11.
 Smith, Elder & Co., *London*. Cl. V., Sec. 2, no. 5.
 Smith, James, *Liverpool*. Cl. III., Sec. 3, no. 2.
 Smith, J., & Sons, *Wolverhampton*. Cl. I., Sec. 7, no. 10.
 Snell, H. Saxon, *Southampton Buildings, London*. Cl. III., Sec. 1, no. 18.
 Société Française D'Hygiène, *Paris*. Cl. IV., Sec. 11, no. 5. Cl. V., Sec. 2, no. 1.
 Spongy Iron Water Purifying Co., *Oxford Street, London*. Cl. IV., Sec. 8, no. 3.
 Stanhope Co., Limited, *London*. Cl. IV., Sec. 4, no. 21.
 Staynes & Sons, *Leicester*. Cl. IV., Sec. 1, no. 13.
 Stephan, J. A., *Worcester*. Cl. IV., Sec. 8, no. 4.
 Stephenson & Travis, *Liverpool*. Cl. IV., Sec. 3, no. 15.
 Stewart, J., Sen., *Glasgow*. Cl. II., Sec. 9, no. 17; Sec. 10, nos. 8, 24.
 Stidder & Co., 50, *Southwark Bridge Road, London*. Cl. II., Sec. 5, no. 9.
 Stiff, James, & Sons, *Lambeth, London*. Cl. I., Sec. 6, no. 6. Cl. II., Sec. 10, no. 14.
 Stott, James, & Co., *Oldham*. Cl. III., Sec. 4, nos. 8, 24.
 Straker & Love, *Newcastle-upon-Tyne*. Cl. II., Sec. 9, no. 6.
 Stretton, S., *Kidderminster*. Cl. V., Sec. 6, no. 2.
 Taylor & Co., *Driffield and London*. Cl. IV., Sec. 5, no. 5.
 Taylor's Cabinet Making & Upholstery Warehouse, *Bolton*. Cl. IV., Sec. 2, no. 22.
 Thomasson & Key, *Worcester*. Cl. II., Sec. 5, no. 4.
 Thompson, H. & Co., *London*. Cl. I., Sec. 3, no. 5.
 Thorn & Co., *Stafford*. Cl. IV., Sec. 8, no. 1.
 Thornburn, Will., *Borough Bridge*. Cl. III., Sec. 1, no. 26.
 Torrance, W. H., *Edinburgh*. Cl. IV., Sec. 7, no. 7.
 Townsend & Co., *Newcastle-upon-Tyne*. Cl. IV., Sec. 3, no. 13.
 Trott, H., *Battersea, London*. Cl. II., Sec. 1, no. 9; Sec. 7, no. 11.
 Turk, R. J., *Kingston-on-Thames*. Cl. IV., Sec. 6, no. 5.
 Twyford, T., *Hanley*. Cl. II., Sec. 5, no. 17; Sec. 6, no. 17; Sec. 13, no. 7.

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- Tylor, J., & Sons, 2, *Newgate Street, London*. Cl. II., Sec. 1, no. 10; Sec. 3, nos. 2, 7; Sec. 5, nos. 7, 16; Sec. 6, nos. 20, 21; Sec. 7, nos. 3, 19; Sec. 8, no. 1; Sec. 13, no. 8.
- Tyrrell, Brooke, *Dublin*. Cl. IV., Sec. 1, no. 3.
- Vause, J., & Son., *Bolton*. Cl. II., Sec. 3, no. 14; Sec. 5, no. 18; Sec. 6, nos. 31, 32; Sec. 7, nos. 22, 23; Sec. 8, no. 3; Sec. 9, no. 31.
- Verity, E. & J. M., *Leeds*. Cl. III., Sec. 2, no. 20.
- Vernon's Patent China & Glass Co., *London*. Cl. IV., Sec. 4, no. 15.
- Vicars, T. & T., *Liverpool and London*. Cl. III., Sec. 3, no. 4.
- Vipan & Headly, *London*. Cl. IV., Sec. 4, nos. 23, 25, 26.
- Walker, Chas. W., *Wandsworth Common, London*. Cl. IV., Sec. 12, no. 1.
- Walker, Turnbull & Co., *Falkirk*. Cl. III., Sec. 2, nos. 17, 28.
- Waller, Thos., 47, *Fish Street Hill, London*. Cl. III., Sec. 2, no. 16.
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- Wenham, W. P., *Church Street, Croydon*. Cl. III., Sec. 2, no. 25; Sec. 6, no. 4.
- Wentworth, F. & Co., *London*. Cl. V., Sec. 3, no. 2.
- Wheeler, J., *Ilfracombe*. Cl. IV., Sec. 11, no. 10.
- White, Will., *Abergavenny*. Cl. I., Sec. 1, no. 16.
- White, W. P., & Co., *London*. Cl. II., Sec. 8, no. 4; Sec. 11, no. 9; Sec. 13, no. 20.
- Whitwick Colliery Co., *Leicester*. Cl. I., Sec. 1, nos. 6, 15.
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- Wright Bros., *Leicester*. Cl. II., Sec. 9, no. 28; Sec. 10, no. 16.
- Wright, John, & Co., *Birmingham*. Cl. III., Sec. 1, nos. 3, 6, 9; Sec. 2, nos. 3, 5, 6.

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ADDRESSES AND PAPERS READ BEFORE THE INSTITUTE AT
THE CONGRESS AND OTHER MEETINGS, JANUARY, 1887,
TO NOVEMBER, 1888.

READ BEFORE THE BOLTON CONGRESS, 1887.

ADDRESSES AND LECTURES.

- RIGHT HONOURABLE LORD BASING, F.R.S. President's Address.
PROFESSOR J. RUSSELL REYNOLDS, M.D., F.R.S., F.R.C.P. Address to
Section I.
PROFESSOR T. HAYTER LEWIS, F.S.A., F.R.I.B.A. Address to Section II.
AUGUST DUPRÉ, PH.D., F.I.C., F.C.S., F.R.S. Address to Section III.
ARTHUR RANSOME, M.D., F.R.S. Lecture to the Congress.
A. WYNTER BLYTH, M.R.C.S. Address to the Working Classes.
MAJOR LAMOROCK FLOWER. Address to the Working Classes.
HENRY LAW, M.INST.CE. Address to the Working Classes.

PAPERS.

- BRADSHAW, J. J., F.R.I.B.A. Sanitary Condition of Cotton Factories.
CARPENTER, ALFRED, M.D. Our Pioneers.
CHADWICK, EDWIN, C.B. Sanitary Condition of Water Supplies.
CHADWICK, EDWIN, C.B. Sanitary Sewage and Water Supply.
CHUDLEIGH, REVEREND R. A. On the Present Position of M. Pasteur
in relation to Public Health.
COLLINS, J., F.C.S., F.G.S. River Pollution in Lancashire and how to
meet it.
CORBETT, J. Health, Comfort and Economy in Cottage Construction.
DE RANCE, C. E., ASSOC.INST.C.E., F.G.S., F.R.G.S. Underground
Water Supplies.
DUNCAN, D. J. RUSSELL. Smoke Abatement.
FLETCHER, H. Smoke Abatement.
FLOWER, MAJOR LAMOROCK. The Fouling of Streams.
FRANKLAND, PERCY, PH.D., F.C.S. The Application of Bacteriology
to questions relating to Water Supply.
HALDANE, J. S., M.A., M.B. The Air of Buildings and Sewers.

- HONEYMAN, J., F.R.I.B.A. The size of House Drains, and the use
and misuse of Traps.
HOPE, E. W., M.D., L.R.C.P., ASST., M.O.H., Liverpool. Recent localised
outbreak of Typhus in Liverpool.
KENYON, G. A., M.B., L.R.C.P., M.O.H., Chester. Provision for Infec-
tious Patients in Rural Districts.
LIVY, JOHN, M.D. Remarks on the History and Progress of Public
Health.
MCKEOWN, D., M.A., M.D. Prevention of Blindness.
MIDDLETON, R. E., M.INST.C.E., M.I.M.E. House Drainage.
MIDDLETON, R. E., M.INST.C.E., M.I.M.E. Sanitary Registration of
Buildings Bill.
ORVIS, ORLAND D. Smoke Abatement.
PARKES, LOUIS, M.D. Water Analysis.
SERGEANT, E., L.R.C.P. LOND., M.R.C.S., M.O.H., Bolton. Notes on the
Sanitary Improvements of Bolton during the ten years ending
1886.
SUTCLIFFE, R. Artesian Wells and Water Supply.
SYKES, J. F. J., B.SC., D.P.H., M.B., Supervision of Dairies, Cowsheds,
and Milk Shops.
TAYLOR, J. STOPFORD, M.D., L.R.C.P., F.I.S., M.O.H., Liverpool. Liver-
pool Port Sanitary Authority and its Work.
TERRY, S. H. Village Water Supply.
VACHER, FRANCIS, F.R.C.S., M.O.H., Birkenhead. Death Causes and
their Classification.

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F.I.C., F.C.S.
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LIST OF FELLOWS, MEMBERS, AND ASSOCIATES, ELECTED
JANUARY, 1887, TO NOVEMBER, 1888.

FELLOWS.

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† Passed Examination for Local Surveyors.

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 HOPE, E. W., M.D., *Municipal Offices, Liverpool.*
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 VALON, William A., Gas and Water Department, *Hardress Street, Ramsgate.*
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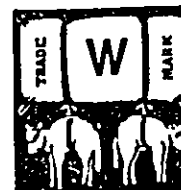
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Two Hundred
Millions of
Gallons daily.



The Highest Award
of the
Sanitary Institute of Great Britain
For Material for Filtering Water.

FOR TERMS, ADDRESS—

THE INTERNATIONAL
WATER & SEWAGE PURIFICATION
COMPANY, Limited,

6, WESTMINSTER CHAMBERS,
Westminster, LONDON, S.W.

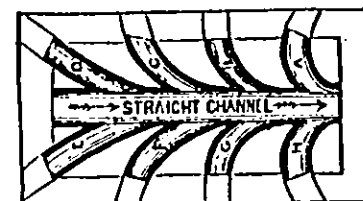
For the awards given by the Institute, see Appendix, pages 523, 531, 533, 548.

BROAD & CO.'S SANITARY SPECIALITIES IN WHITE ENAMELLED STONWARE, FOR WHICH CERTIFICATES HAVE BEEN AWARDED BY THE Sanitary Institute.

- | | | |
|--------------------------------------------------|---|------------------------------------------|
| White Enamelled Channel
Bends | } | Certificate awarded,
Leicester, 1885. |
| White Enamelled Gully Traps | | " |
| White Enamelled Sinks & Wash
Tubs | } | Medal awarded,
Leicester, 1885. |
| White Enamelled Drinking
Water Cisterns... .. | | " |
| White Glazed Bricks | } | Certificate awarded,
Leicester, 1885. |
| "Rock" Buff Facing Bricks | | " |

BROAD & CO.'S WHITE ENAMELLED CHANNEL BENDS, &c.

SECTION,
THREE-QUARTER
CIRCLE.



LARGE STOCK
AND
VARIETY OF
RADI.

These Bends are modelled with the greatest care, with the object of precipitating the
flow through the Interceptor.

FOR LATEST IMPROVEMENTS, SEE CATALOGUE.

BROAD & CO.,
(SOLE LONDON AGENTS FOR BOURTREEHILL CO.)
BRICKMAKERS, SANITARY SPECIALISTS, &c.,
SOUTH WHARF, PADDINGTON, W.
STANFORD'S JOINTS MADE ON THE PREMISES.

For the awards given by the Institute, see Appendix, pages 521, 551.

THE
SANITARY DRY LIME CO.,
Bancroft's Buildings, Ormond Street,
LIVERPOOL.

Certificate of Merit of the Sanitary Institute of Great Britain.
Gold Medal and Diploma, Antwerp, 1887.

MANUFACTURERS AND PATENTEES OF
SANITARY DRY LIME,

Prepared in a fine dry powder; easy to handle, distribute, and store; requires no size; ready for use by simply mixing with water; does not rub off; makes a perfect Sanitary wash for the prevention of infectious disease and animal contagion.

Copies of Testimonials:

Dr. EDWARD SERGEANT, Medical Officer of Health, Bolton,
writes:—

"I consider your Sanitary Dry Lime a valuable addition to the disinfectants available for the use of Sanitary Authorities, and have the greatest pleasure in contributing my recommendation. It has the advantage of being remarkably cheap, and in a form very convenient for immediate employment.

"In treating sewage at the Bolton Fever Hospital it has proved extremely useful as a quick and efficient precipitant, and made into a whitewash for infected houses and stables it has answered my highest expectation."

Mr. R. FARROW, Sanitary Inspector, Leek, writes:—

"In reply to your enquiries I have much pleasure in stating that the Sanitary Dry Lime supplied by you has been used for Whitewashing all the Wards and Out-offices of our Fever Hospital with the most satisfactory results in every respect."

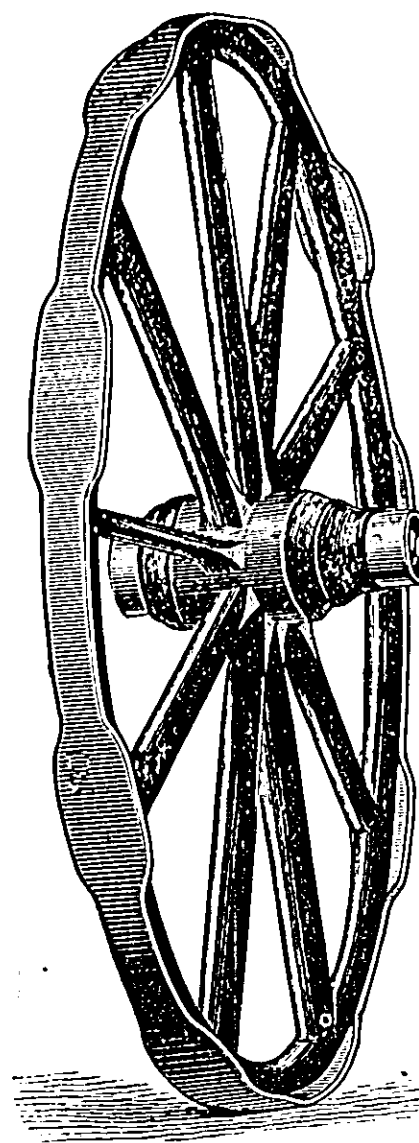
**EXTENSIVELY USED BY MANY LEADING
SANITARY AUTHORITIES.**

Samples, Prices, and Testimonials on application.

Telegraphic Address: "EIGGERT, LIVERPOOL."

For the awards given by the Institute, see Appendix pages 526, 550.

**WILLIAM FOX'S
PATENT
CORRUGATED
ROLLED STEEL TYRE BARS.**
"SAFETY, COMFORT, AND ECONOMY."



**THE LEEDS FORGE CO.,
LIMITED,
LEEDS,**

are now supplying Fox's Patent Corrugated Steel Tyre Bars, in all sizes, suitable for Omnibuses, Cabs, Vans, Railway Wherries, Private Carriages, such as Broughams, &c., in this, as well as many other countries, and are receiving daily numerous unsolicited testimonials from USERS and the PRESS.

It was of this Patent Corrugated Tyre, that the Committee of the Sanitary Institute of Great Britain made such repeated trials in London a short time ago, and which trials resulted in the awarding of the Medal of the Institute.

The advantages of this Life Saving appliance are obvious enough to many, though a few we will describe:—

1. Perfect safety in driving on the tramways.
2. No locking or skidding when driving on or about the tramway rails, or risk of injuring the felloes of a wheel by the vehicle coming in contact with kerbstones, as is the case with wheels fitted with plain tyres.
3. No wrenching of axles, breaking of springs, or damage to the body of the vehicle.
4. Great economy in repairs of vehicles.

These Corrugated Rolled Steel Tyre Bars may be had in all sizes from 1½-in. wide upwards.

For further particulars apply to

THE LEEDS FORGE COMPANY, Limited.

For the awards given by the Institute, see Appendix, pages 543, 552.

JEWSBURY & BROWN'S
(MANCHESTER)

Sparkling Table Waters,

UNRIVALLED FOR PURITY AND QUALITY.

SODA WATER, SELTZER WATER, POTASH WATER, LITHIA WATER, SIMPLE AERATED WATER, LEMONADE, GINGER ALE, QUININE TONIC, GINGER BEER, HOREHOUND BEER.

EXTRACTS FROM ANALYTICAL REPORTS.

"The examination of the Waters which I have made has satisfied me that they have been prepared with the greatest care, and are of excellent quality."

FRANCIS JONES, F.R.S.E., F.C.S.

"On the whole, I have no hesitation in stating that your Aerated Waters are of the highest standard of purity which is practically attainable."

LOUIS SEIBOLD, F.I.C., F.C.S.

"The Lemonade is, for flavour and general excellence, superior to any similar compound which I have examined, and contains no acid but Citric Acid."

"I took a sample of the water used in your manufactory, in the preparation of the Aerated Waters, and found it, as was the case with the completed compounds, entirely free from lead, copper, or any injurious matter whatever."

O. ESCOVAR, F.C.S., F.O.I.



THE ABOVE WATERS ARE SUPPLIED IN
SYPHONS, ORDINARY BOTTLES, AND HALF BOTTLES.

J. and 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 & Brown's Trade Mark in the glass, also their label, without which none is genuine.

CARRIAGE PAID, AND ON RETURNS.

Price Lists and Analytical Reports sent to any address, or may be had from agents.

113, MARKET STREET, AND 44, DOWNING STREET, MANCHESTER.

For the awards given by the Institute, see Appendix, pages 526, 545, 553.

MANLOVE, ALLIOTT & CO., LIMITED,
ENGINEERS,
NOTTINGHAM.

LONDON, GLASGOW, MANCHESTER.

SOLE MAKERS OF

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 colours 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.

"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 clinkers) are saleable. This is the most satisfactory, and, in many cases, the only method of safely disposing of town's 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.

"THE INCINERATOR" (DR. SARGEANT'S PATENT)

For burning the refuse of Hospitals, Asylums, Prisons, Workhouses, and similar Institutions where the quantity of material is too small for the adoption of "The Destructor."

FRYER'S CARBONISER

For converting vegetable refuse into charcoal.

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.

FOR FULL INFORMATION, APPLY TO THE MAKERS.

Telegraphic Address:—"Manloves," Nottingham.

*For the awards given by the Institute, see Elliott, Edminson, & Olney,
Appendix, pages 538, 550.*

THE
INCANDESCENT
GAS-LIGHT COMPANY,
LIMITED.
(WELSBACH SYSTEM.)

*A Medal was Awarded to the Exhibit of the Company's
Light at the Bolton Exhibition, 1888.*

50 to 70 per Cent. Saving of Gas.
Soft, Steady, Brilliant Light.
No Smoke. No Dirt.
Double the Illuminating Power of
Gas.

THE
INCANDESCENT GAS-LIGHT COMPANY,
LIMITED,
3, VICTORIA MANSIONS,
WESTMINSTER, LONDON, S.W.

Testimonials and all information on application to the Secretary.

For the awards given by the Institute, see Appendix, pages 524, 531, 553.

THE
PATENT VICTORIA STONE Co.
LIMITED.

INCORPORATED UNDER THE COMPANIES ACTS, 1862 to 1886.

Directors:

LEWIS H. ISAACS, Esq., M.P., Assoc. Inst. C.E., 3, Verulam Buildings, Gray's Inn, W.C.,
Director of the Metropolitan District Railway Company (*Chairman.*)
CHARLES HORSLEY, Esq., C.E., F.G.S., J.P., Highbury New Park, N., Chairman of
the St. Albans Water Company (*Deputy-Chairman.*)
T. G. H. GYNN, Esq., 2, Templeton Place, South Kensington, W., Director of the
Union Debenture Company, Limited.
H. SEATON-KARR, Esq., M.P., 7, Suffolk Place, Pall-Mall, S.W., Director of the
Economic Fire Insurance Company, Limited.
JAMES GLAISHER, Esq., F.R.S., 1, Dartmouth Place, Blackheath, S.E., Chairman,
of the Barnet District Gas and Water Company.
JOHN JAMES GRIFFITHS, Esq., The Grange, Highbury.
SECRETARY AND MANAGER—MR. HARRY ROGERS.

In view of the extension of powers under Local Government Acts to comparatively rural districts, the Company manufacture, on a large scale, cheap and useful first-class Concrete Slab Paving, and lay "Granitine" Paving *in situ*, in order to meet the requirements of places where traffic is less severe, and where the first cost is of importance. In consequence of the recent rules imposed by the Local Government Board, this Company are prepared to make the necessary plans, and arrange for the loan of money to Local Bodies, for the purpose of paving, at 3 to 4 per cent., according to the work executed.

The stone has been used as Paving to an enormous extent during the last 20 years, equal in length to 100 miles, mostly for 90 Vestries and Boards of Works.

Its cost is 15 per cent. less than York Stone, and its durability has been proved to be 33 per cent. greater.

It has two fair sides, and can be easily laid.

TWENTY YEARS' evidence of wear in London.

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.

TENSILE STRAIN.—The average of 10 briquettes (*vide* "Reid on Concrete") was 794 lbs. per square inch in 1879, but has now reached 1,125 lbs. per square inch.

CRUSHING STRAIN.—See Mr. Kirkcaldy's Certificate, May 28, 1887, 8,321 lbs. per cubic inch.

ABSORPTION.—See "Wray on Stone." Bulk of water absorbed as compared with bulk of stone, per cent., 7.6.

For Prices see LAXTON and other Price Books.

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

For the awards given by the Institute, see Lewis Haslam, Appendix, pages 530, 551.

CELLULAR CLOTH & CLOTHING.

AWARDED MEDAL 1887.

The principle involved in this material, for both outer and under clothing, is that it is cellular in structure, so that advantage is taken of the non-conducting power of the air (one of the best non-conducting substances known) to make it a covering for the body equally fitted for the cold of winter and the warmth of summer.

The cloth combines lightness and durability with the largest possible air surface. It has also the great advantages of being exceedingly cheap, and of washing without shrinking.

Exhalations from the body pass readily through this clothing, and cleanliness of the surface of the body is much promoted by its use. In this respect it is very superior to all substances, which, from closeness of texture, retain the cutaneous exhalations.

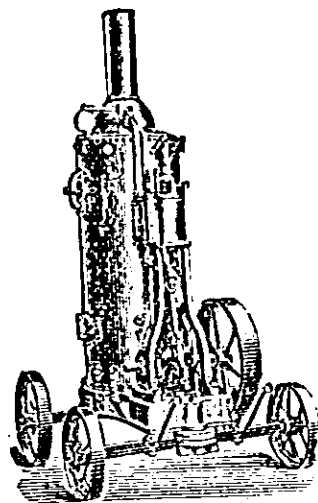
The Cellular Cloth is well adapted to many medical and surgical purposes. It is already in use for bandages, and in some hospitals it is used for sheeting, pillows, and night garments. Several medical men who have used it have accorded a willing testimony to its value.

List of Retail Agents, and Specimens of the Cloth, may be had on application by letter to

THE CELLULAR CLOTHING Co., Ltd.,
75, Aldermanbury, London, E.C.

Read "The Theory and Practice of Cellular Clothing," post-free.

For the awards given by the Institute, see Appendix, pages 523, 551.



E. S. HINDLEY,

London Offices, Show Rooms, & Stores:

11, QUEEN VICTORIA STREET, E.C.

Works: BOURTON, DORSET.

GENERAL PURPOSE STEAM ENGINES,

For Pumping, Electric Lighting, Ventilating,
Dairy Work, &c.

STEAM BOILERS,

For HEATING, BOILING, SCALDING, &c.

THE COMBINED GENERAL PURPOSE ESTATE ENGINE

Is adapted for the work of a Gentleman's Mansion, viz.:—
Pumping, Electric Lighting, Chaff Cutting, Grinding, and at small extra cost can be fitted
with a Pump, rendering it useful as a Steam Fire Engine, and for Irrigation purposes.

CIRCULAR AND BAND SAW BENCHES.

ILLUSTRATED CATALOGUES AND FULL PARTICULARS SUPPLIED ON APPLICATION.

For the awards given by the Institute, see Appendix, pages 527, 552.

PURE WATER SUPPLIES.

NORTON'S PATENT

"ABYSSINIAN" & ARTESIAN TUBE WELLS.

This System will be found to be the most economical and effective for procuring Urban or Rural Supplies of Pure Water, from the smallest requirements of a cottage to that of a whole town.

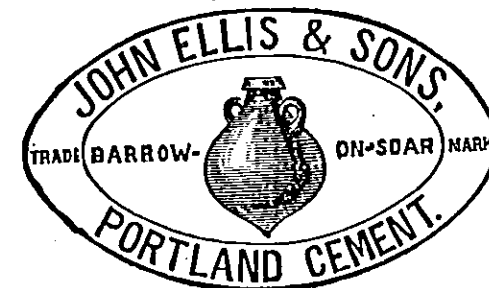
The following Towns have been furnished with these Wells for their Water Works, viz.:—

ABBOTTS LANGLEY, ALDERSHOT, ALNWICK, CIRENCESTER,
HERTFORD, SKEGNESS, SOUTHAMPTON, ST. ALBANS, STONY
STRATFORD, SWANSEA, SHREWSBURY, WALLINGFORD,
WATFORD and WEST WORTHING.

LEGRAND & SUTCLIFF,
Hydraulic Engineers and Contractors to H.M. Government,
100, BUNHILL ROW, LONDON, E.C.

For the awards given by the Institute, see Appendix, page 524, 550.

**BARROW LIME (BLUE LIAS HYDRAULIC),
PORTLAND CEMENT,
And PATENT SELENITIC CEMENT,**
Delivered to all parts of the kingdom.



Offices: 8, Market Street, Leicester. Works: Barrow-on-Soar, near Loughborough.

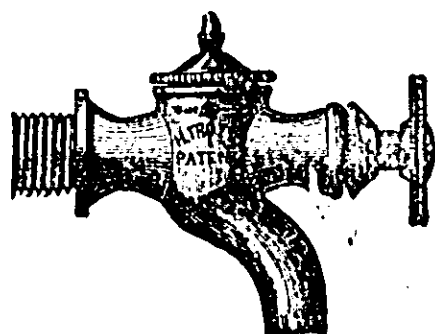
JOHN ELLIS & SONS.

For the awards given by the Institute, see Appendix, pages 527, 555.

**H. TROTT'S
PATENT QUICK FILLING BIB & OTHER VALVES,
FOR HIGH AND LOW PRESSURE WATER,**

Approved by the New River and other Water Co.'s. Patented in all the principal foreign countries.

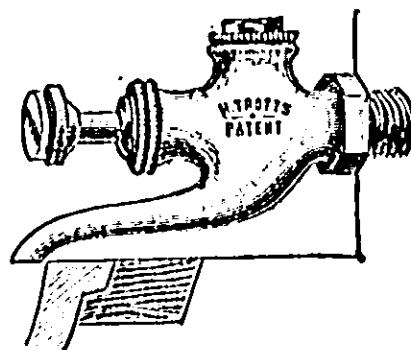
Awarded Certificates of Merit for Bib Valves for Hot or Cold Water by the Sanitary Institute of Great Britain.



NOTICE.

These Patent Valves do not require the
Screwing up like other valves.

SEE TESTIMONIALS.



Latest Patented Improvements in
Non-Concussive Self-Acting valves.

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

UPWARDS OF 13,900 OF THESE VALVES HAVE BEEN SOLD.

H. Trott's Patent Valves are the most perfect, simple and effective Valves now in use.
The Pin and Lever of Patent Ball Valves are not required to be removed to get at the Inner Valve, all that is necessary is simply to remove the Top Cap and take out Inner Valve.

**H. TROTT, Engineer and Patentee and Manufacturer,
75, 77, & 79, HIGH STREET, BATTERSEA, LONDON, S.E.**

COMPLETE CLASSIFIED LIST OF AWARDS

Given by the Institute

CAN BE HAD ON APPLICATION TO

THE SECRETARY, 74A, MARGARET STREET,

LONDON, W.

