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1881.

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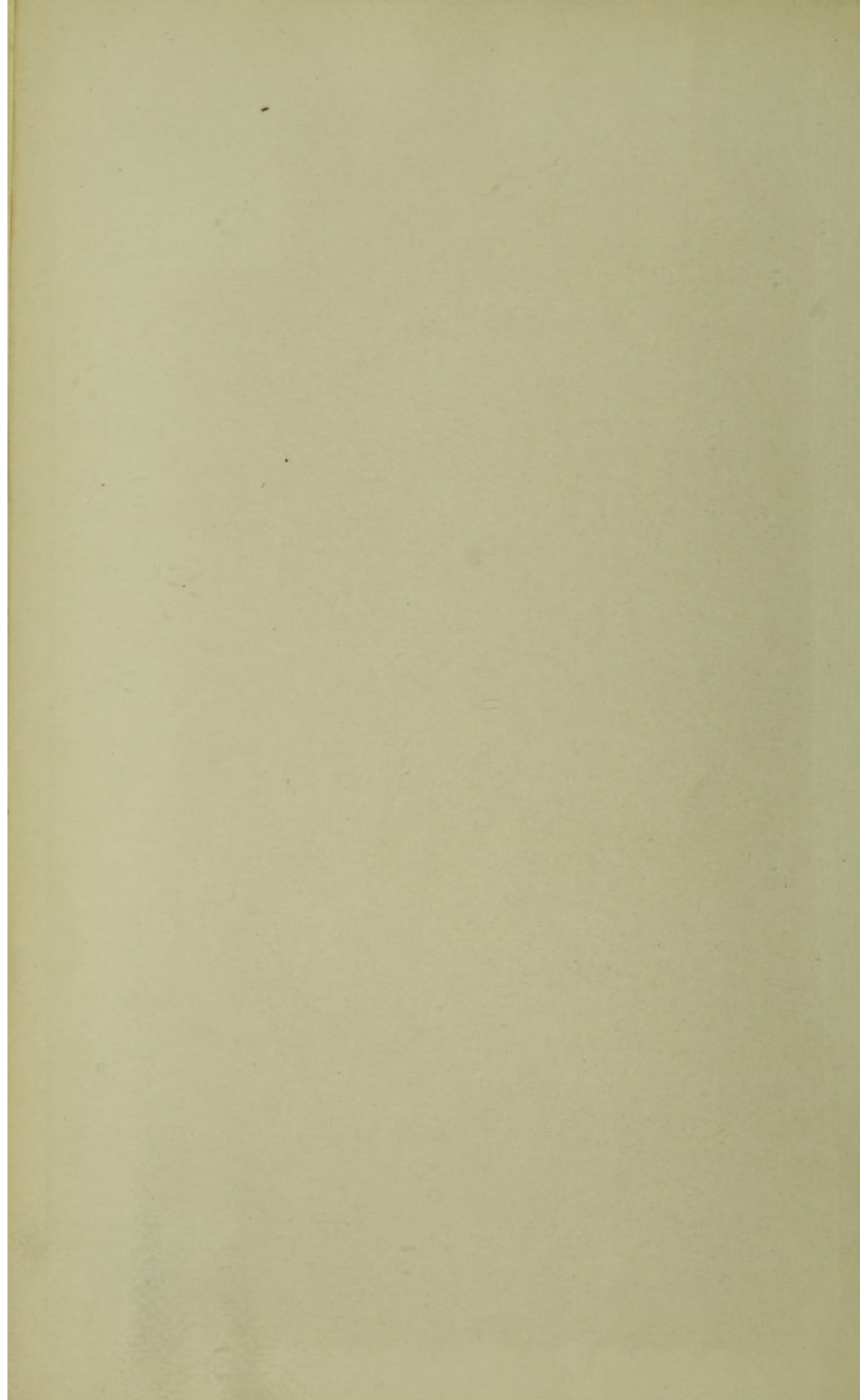
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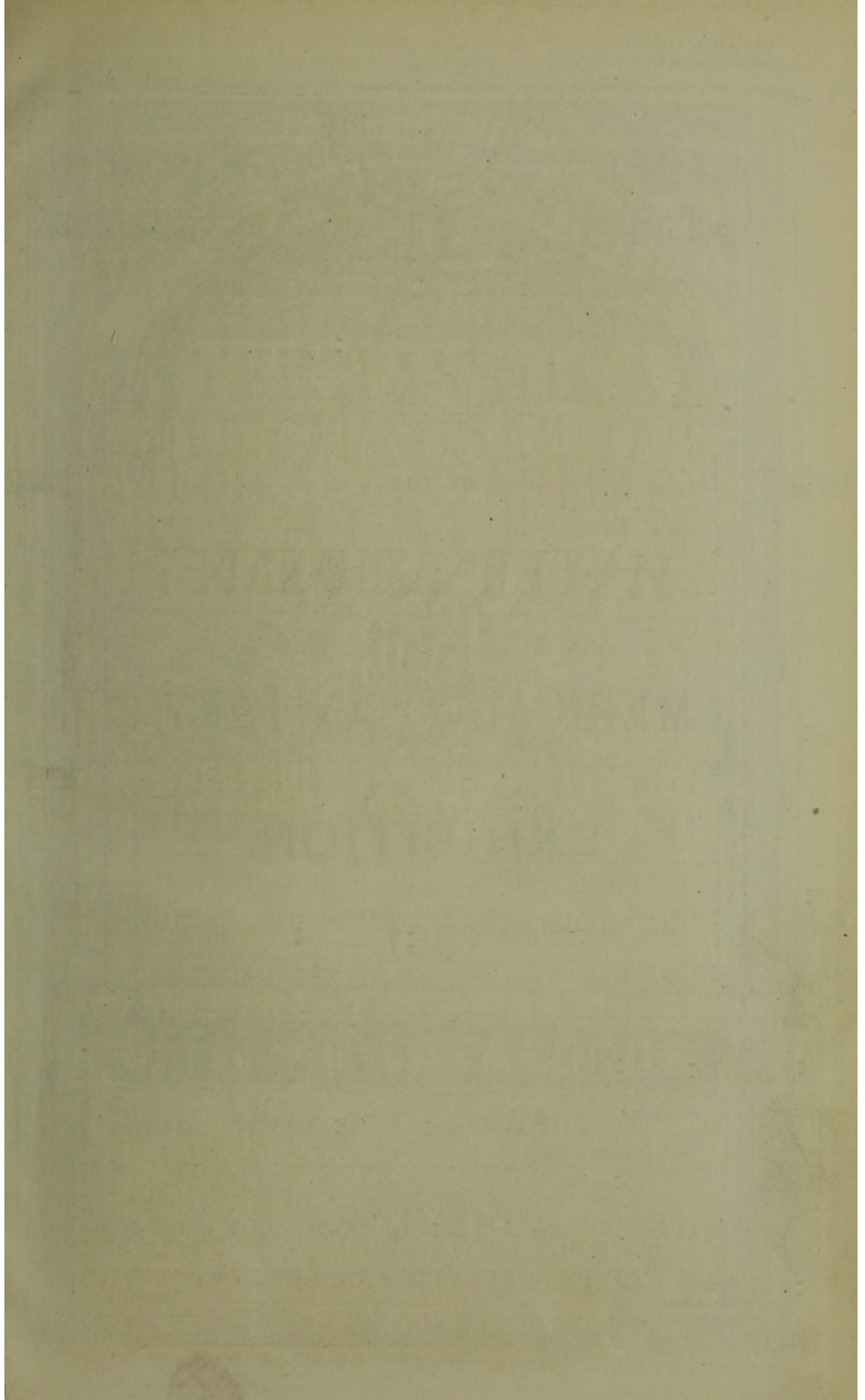
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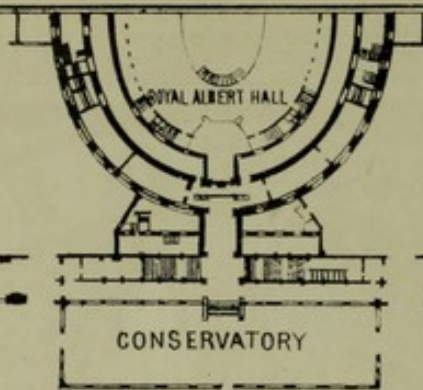
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From JULY 16
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To AUGUST 13.
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WESTERN QUADRANT

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P L A N

OF THE

INTERNATIONAL
MEDICAL & SANITARY
EXHIBITION,

1881,

SOUTH KENSINGTON.

Admission - - One Shilling.

Bank Holiday - Sixpence.

MARK H. JUDGE,

Secretary.

PARKES MUSEUM OF HYGIENE,

University College, Gower Street, London, W.C.

July 5th, 1881.

1914

CHECKED.



INTERNATIONAL

MEDICAL & SANITARY

EXHIBITION



South Kensington,

Saturday, July 16th to Saturday, August 13th

OFFICIAL CATALOGUE

PRICE ONE SHILLING.

LONDON

PUBLISHED BY THE EXHIBITION COMMITTEE
PARKES MUSEUM OF HYGIENE, COWER ST., W. C.

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P R E F A C E .

IN the Catalogue the Exhibits are classified, and in the Exhibition also, except where classification is impracticable, as, for instance, where one exhibit consists of articles belonging to different Sections.

Nearly the whole of the Medical Exhibits are placed in the Western Gallery, Western Arcade, Western Quadrant, and the Royal Albert Hall; the Sanitary Exhibits are arranged in the Eastern Arcade and Eastern Quadrant, with the exception of the Architectural and other Drawings, which are hung in the Western Gallery.

The numbering of the Exhibits on the western side commences with No. 1 at the entrance in Queen's Gate, and on the eastern side with No. 241 at the entrance in Exhibition Road.

An Alphabetical List, containing the names and addresses of Exhibitors, with their numbers, is first given, and on page 19 will be found a Numerical List of the Exhibitors in the order in which their Exhibits are placed, together with the Sections into which they are classified.

On page 30 is given the names of the Exhibitors in the seventeen Sections into which the contents of the Exhibition are divided. In each Section the names are arranged in alphabetical order, and a description of the Exhibits is given. Particulars of Late Exhibits will be found on page 113.

The Names of the Exhibitors in the different Sections (including those received late) are arranged in numerical order on page 125.

The Table of Contents will sufficiently explain the other parts of the Catalogue.

MARK H. JUDGE.

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ALPHABETICAL LIST OF EXHIBITORS.

- Abbott, G. Van, 5, Princes-street, Cavendish-square, W. No. 215.
Adams, Robert, 7, Great Dover-street, S.E. No. 395.
Adams, M. J. and S. H., 54, Albion-street, Leeds. No. 68.
Æsculap Bitter Water Company, Saracen's Head Buildings, Snow Hill, E.C. No. 192.
Albissima Paint Company Limited, The, 34, Lime-street, E.C. No. 300.
Allen and Hanburys, Plough-court, Lombard-street, E.C. No. 164.
Allen, James, and Son, 21 and 23, Marylebone-lane, W. No. 219.
Allen, Chas., 91, Dalberg-road, Brixton. No. 180d.
Allen, Thos., Bristol. No. 161.
Alment, Edward Johnstone, Stratford Bridge Works, E. No. 211.
Anderson, Tempest, M.D., 17, Stonegate, York. No. 29a.
Andover Aërated Water Manufactory. No. 187.
Angel, A. T., 144, Fulham-road, S.W. No. 304.
Anthracite Coal Company, Limited, The, 19, Spring-street, Paddington. No. 368.
Antitropic Company, The, 20, Stamford-street, S.E., and Glasgow. No. 107.
Antiseptic Apparatus Manufacturing Company, 27, Harrow-road, W. No. 324.
Apollinaris Company, Limited, The, 19, Regent-street, W. No. 179.
Arnold and Sons, 35 and 36, West Smithfield. No. 6.
Arsenical Water Company of Court-St.-Etienne, The, Brabant, Belgium. No. 194.
Artisans', Labourers', and General Dwellings Company, Limited, 34, Great George-street, Westminster, S.W. No. 60.
Ash, Claudius, and Sons, 6, 7, 8 and 9, Broad-street, Golden-square, W. No. 52.
Aylesbury Dairy Company, Limited, The, 31, St. Petersburg-place, W. No. 112.
Bacon and Co., J. L., 34, Upper Gloucester-place, W. No. 423.
Bœckman and Burmester, Stockholm. No. 30.
Bailey, W. H., and Son, 16, Oxford-street, W. No. 201.
Baillière, Tindall, and Cox, 20, King William-street, Strand. No. 146.
Baker, Bart., Sir Sherston, The Temple, E.C. No. 25c.
Banner Brothers and Co., 11, Billiter-square, E.C. No. 264.
Barda, Dr., 49, Rue Blanche Paris. No. 226.

- Bastien, Jean Baptiste, 11, Boulevard Magenta, Paris. **No. 90.**
 Barwell, Richard, Charing Cross Hospital, W.C. **No. 22d.**
 Battley and Watts, 32, Lower Whitecross-street, Cripplegate.
No. 101.
 Beard, Dent, and Hellyer, Newcastle-street, Strand, W.C. **No. 25A.**
 Beck, R. and J., 68, Cornhill, E.C. **No. 42.**
 Bell, H., Guildford-street, York-road, Lambeth. **No. 126.**
 Bellman and Ivey, 95, Wigmore-street, W. **No. 360.**
 Bellthal Brunnen Company, The, 4 and 5, Three Crown-square, S.E.
No. 199.
 Beneke, Professor, Marburg University, Prussia. **No. 94.**
 Benger, William, and Sons, 7, Sophien Strasse, Stuttgart. **No. 131.**
 Benham and Sons, 50—66, Wigmore-street, W. **No. 410.**
 Benton, Samuel, 2, Bennett-street, St. James's-street, W. **No. 75.**
 Berg, Carl, 3, Manteuffel Strasse, Berlin. **No. 140b.**
 Bigg, Heather, C.E., 56, Wimpole-street, W. **No. 15.**
 Biondetti, C. Walter, Bâle, Switzerland. **No. 132.**
 Bird, P. Hinckes, F.R.C.S., 1, Norfolk-square, W. **No. 378.**
 Birmingham Sanitary Association, The, 47, Colmore-row, Birmingham. **No. 271.**
 Björkbom, Oscar, Göteborg. **No. 22c.**
 Blake, Sandford, and, Blake, 47, Piccadilly, W. **No. 196.**
 Bogue, David, 3, St. Martin's-place, W.C. **No. 150.**
 Bolding, John, and Sons, 19, South Molton-street, W. **No. 247.**
 Bonthron, John, 106, Regent-street, W. **No. 113.**
 Booth, Lawrence, F.R.I.B.A., 88, King-street, Manchester.
No. 65.
 Bordiau, M., Rue Joseph II., No. 68, Brussels. **No. 89.**
 Bostel, Daniel Thos., 18 and 19, Duke-street, Brighton. **No. 268.**
 Bourjeaurd, P., 49, Davis-street, Berkeley-square, W. **No. 231.**
 Boyle and Son, Robert, 64, Holborn-viaduct, E.C. **No. 258.**
 Brace, Henry G., A.R.I.B.A., 22, Chancery-lane, W.C. **No. 66.**
 Bradford, Thomas, 140 to 143, High Holborn. **No. 441.**
 Braithwaite, H., and Co., 18, Swinegate, Leeds. **No. 347.**
 Brand and Co., 11, Little Stanhope-street, Mayfair, W. **No. 104.**
 Bravais, Roul, 13, Rue Lafayette, Paris, and 21, Fopstone-road, Kensington. **No. 407.**
 Brewster, F. W., St. Stephen's Club, Westminster. **No. 236.**
 Bridgman, H.H., A.R.I.B.A., 42, Poultry, E.C. **No. 82.**
 British Syphon Manufactory, The, 2, Gresham-buildings, Basinghall-street, E.C. **No. 197.**
 Briton-Ferry Coal and Pottery Company, Limited, The, Briton-Ferry, South Wales. **No. 252.**
 Broecker, I., Utrecht, Holland. **No. 29b.**
 Brooke, Edward, and Sons, Field House, Huddersfield. **No. 259.**
 Bryden and Sons, John, 2, Bulstrode-street, Cavendish-square, W.
No. 303.
 Buchan, W. P., 21, Renfrew-street, Glasgow. **No. 261.**
 Bufalini, Dr. Jean, Siena, Italy. **No. 25b.**

- Bullivant, R., Tagliaferro, and Co., 104, Ledbury-road, W. No. 392.
- Burk, C. H., 22 and 23, Archiv Strasse, Stuttgart, and 37, Farringdon-street, E.C. No. 224.
- Burgoyne, Burbidges, and Co., 16, Coleman-street, E.C. No. 167.
- Burroughs, Wellcome, and Co., 7, Snow-hill, E.C. No. 2.
- Bussadori, Bonifaio, Florence, *via* Bugalini, Italy. No. 25a.
- Bush, W. J., and Co, 20, 21, 22, and 23, Artillery-lane, E. No. 239.
- Bussy, J. H. de, Spuistraat, Amsterdam. No. 22a.
- Calvert and Co., F. C., Bradford, near Manchester. No. 229.
- Candy and Co., Great Western Pottery Works, Newton Abbot, Devon. No. 301.
- Canzuch, Brothers, Grande Rue de Péra, Constantinople. No. 182.
- Capper, Son and Co., 3, Ingram-court, Fenchurch-street, E.C. No. 332.
- Carter, John, 6A, New Cavendish-street, Portland-place, W. No. 151.
- Chapman, Henry, C.E., 13, Victoria-street, S.W. No. 399.
- Chapman, E., and Co., 10, Duke-street, Portland-place. No. 135.
- Charing-cross Hospital, Charing-cross, W.C. No. 460.
- Chesborough Manufacturing Co., 41, Holborn-viaduct. No. 129.
- Children's Hospital, Great Ormond-street, W. No. 464.
- Chisholm, W., Consulting Architect to the Government of Madras. No. 71.
- Chorlton and Dugdale, 19, Blackfriars-street, Manchester. No. 411.
- Churchill, J. and A., 11, New Burlington-street, W. No. 142.
- Ciullini, Arturo D., Dicomano, near Florence. No. 95.
- Clark, Frank William, 47, Milbank-street, Westminster. No. 355.
- Cliff, Joseph, and Sons, King's-cross Goods Depot, N. No. 270.
- Cocking, J. T., 7, Mandeville-place, Manchester-square, W. No. 469.
- Coe and Robinson, 4, Furnival's-inn, W.C.. No. 67.
- Coleman and Glendenning, 60, Wigmore-street, W., and Chalk Hill Works, Norwich. No. 235.
- Comyns, Ching and Co., Castle-street, Long-acre. No. 391.
- Condy's Fluid Company, 7, Falcon-street, E.C. No. 116.
- Constantine, Joseph, 23, Oxford-street, Manchester. No. 374.
- Constantine, T. J., 61, Fleet-street, E.C. No. 366.
- Conti, Aristide, Castrocaro, Florence, Italy. No. 118.
- Cooper, Henry Wm., Little Queen-street, Upper George-Street, Edgware-road, N.W. No. 386.
- Corbyn, Stacey, and Co., 300, High Holborn, W.C. No. 173.
- Corsan, J. R., 80, Gray's-inn-road, W.C. No. 130.
- Cortis, A. B., F.C.S., Worthing. No. 122.
- Cowan, William, 57, Stanhope-street, Glasgow. No. 29c.
- Coxeter James, and Sons, 23, Grafton-street East, W.C. No. 13.
- Croft, John James, *Lancet* Office, 423, Strand. No. 143.
- Crossley Bros., 24, Poultry, E.C. No. 357.
- Crouch, Henry, 66, Barbican, E.C. No. 35.

- Csatár, Dr. Louis Grósz de, 2, Universitatsgasse, Budapest. **No. 466.**
- Darton, D. F., and Co., 45, St. John-street, West Smithfield. **No. 36.**
- Davidson, James N., Dundee. **No. 205.**
- Davies, P. J., 2, Shaftesbury-terrace, Warwick-road, W. **No. 318.**
- Day, Ed. Overman, 78, Waterloo-road, S.E. **No. 125.**
- Deane and Co., 46, King William-street, E.C. **No. 430.**
- Defries, J., and Sons, 147, Houndsditch, E. **No. 433.**
- Deicke, Wilh. (Instrument Maker), Dresden **No. 38b.**
- Delacre's Extract of Beef Company, 48, King William-street, E.C. **No. 134.**
- Dental Manufacturing Company, Limited, The, 25, Broad-street, Golden-square, W. **No. 49.**
- Director General of the Army Medical Department, The. **No. 468.**
- Diver, E., M.D., Yateley House, Kenley, Surrey. **No. 180i.**
- Doulton, Henry, and Co., Lambeth, S.E. **No. 253.**
- Drake, Charles, and Co., Limited, Railway Wharf, Battersea Park. **No. 361.**
- Drysdale, John, M.D., 36a, Rodney-street, Liverpool (in conjunction with John W. Hayward, M.D.) **No. 387.**
- Dudgeon, Robt. Ellis, M.D., 53, Montagu-square, W. **No. 331.**
- Durham, C. W., 154, Michigan-avenue, Chicago, U.S.A. **No. 351.**
- Dyer, Frederick, 66, High-street, Camden Town, N.W. **No. 307.**
- Eassie, William, C.E., 11, Argyll-street, W. **No. 83.**
- Eckell, W. F. W., Christiana, Norway. **No. 114.**
- Edwards, Fredk., and Son, 49, Great Marlborough-st., W. **No. 417.**
- Edwards and Bradley, 266, South Lambeth-road, S.E. **No. 207.**
- Ellis and Co., 165, Fleet-street, E.C. **No. 234.**
- Ellison, C. O., 62, Dale-street, Liverpool. **No. 85.**
- Ellison, James E., Victoria-square, Leeds. **No. 278.**
- Emanuel, A., and Sons, 53 and 55, Marylebone-lane, W., and Phoenix Works, Spealling Stile-walk, Birmingham. **No. 331.**
- Emmanuele, Dr. Marone, Campobasso, Italy. **No. 38c.**
- "Eureka" Concrete Company, Queen's-buildings, 52, Queen Victoria-street. **No. 363.**
- Evans, Lescher, and Webb, 60, Bartholomew Close, E.C. **No. 181.**
- Evans and Wormull, 31, Stamford-street, Blackfriars, S.E. **No. 33.**
- Faraday and Son, 3, Berners-street, W. **No. 377.**
- Farwig, John F., 36, Queen-street, E.C. **No. 418.**
- Feltoe and Sons, 27, Albermarle-street, W. **No. 404.**
- Fletcher and Fletcher, North London Chemical Works, Holloway, N. **No. 208.**
- Finch, J., and Co., 9, Buckingham-street, Strand. **No. 302.**
- Forster and Gregory, Lonesome Chemical Works, Streatham-Common, S.W. **No. 220.**
- Fradelle, Albert E., 246, Regent-street, W. **No. 93.**
- Fraser, W. J., and Co., 98, Commercial-road, E. **No. 445.**
- Freehold Cottage Dwellings Company, Limited, 35, Spring-gardens, S W. **No. 57.**

- Furley, John, South Park, Sevenoaks. **No. 158.**
 Gale and Co., 15, Bouverie-street, Fleet-street, E.C. **No. 172.**
 Gallais, E., 27, Margaret-street, Regent-street, W. **No. 195.**
 Galton, Capt. Douglas, C.B., F.R.S., 12, Chester-st., S.W. **No. 84.**
 Gauernack and Reinboth, 29, Louisenstrasse, Dresden. **No. 31.**
 Gardner, E. and J., 453, Strand, W.C. **No. 398.**
 Geffers, C., 2, Cchiffbaurdam, Berlin, N.W. **No. 133.**
 Genoveva Natural Sparkling Mineral Water Company, The, 3, Great Tower-street, E.C. **No. 188.**
 Gerolstein Natural Mineral Water Company, 17, Philpot-lane, E.C. **No. 186.**
 Gibbs, Robert Renton, Mill-street Works, Liverpool. **No. 415.**
 Gillow and Co., 176, Oxford-street, W. **No. 381.**
 Gilmore and Clark, Oakdeane-house, Lower Norwood, S.E. **No. 385.**
 Grantham, Junr., and Denton, Junr., 22, Whitehall-place, S.W. **No. 92.**
 Griffin, Robert H., Lonsdale Chambers, 27, Chancery-lane, W.C. **No. 375.**
 Groves, W., 89, Bolsover-street, W. **No. 23.**
 Gulliver, Samuel, and Co., Vale of Aylesbury. **No. 191.**
 Guy's Hospital, St. Thomas's-street, Borough, S.E. **No. 452.**
 Hamilton, Wm., 45 and 46, Ship-street, Brighton. **No. 154.**
 Hammond, Francis, 5, Chandos-street, W.C. **No. 413.**
 Hancock, F. and C., Dudley, Worcestershire. **No. 137.**
 Hastings and St. Leonards Publicity Society. **No. 86.**
 Harzer Natural Mineral Water Company, Limited, The, 135, London Wall, E.C. **No. 193.**
 Hauck, W. J., 20, Kettenbrückengasse, Wieden, Vienna. **No. 1.**
 Hayes, John, Assoc. M. Inst. C.E., 27, Leadenhall-street, E.C. **No. 87.**
 Hayward, John W., M.D., 117, Grove-street, Liverpool (in conjunction with John Drysdale, M.D. **No. 387.**
 Hayward, Tylor, and Co., 84 and 85, Whitecross-street, E.C. **No. 329.**
 Haywood, J.S., Castle Gate, Nottingham. **No. 202.**
 Heinrich, Dr. Von, Römisches Bad, Vienna, II. B. **No. 77.**
 Hellier, William, 16, Duke-street, Grosvenor-Square, W. **No. 367.**
 Her Majesty's First Commissioner of Works. **No. 99.**
 Hilliard, W. B., and Sons, 65, Renfield-street, Glasgow. **No. 237.**
 Hilton, E., 10, Canonbury-road, Islington. **No. 227.**
 Hirst, T. T., and Co., 11, Queen Victoria-street, E.C. **No. 189.**
 Hobbs, Hart, and Co. 76, Cheapside, E.C. **No. 422.**
 Hoeber, Dr. Francis, Bad-Comberg, near Frankfort-on-Main. **No. 25d.**
 Hoff, M. and Leopold, 3, Charterhouse Buildings, E.C. **No. 190.**
 Holt, Henry P., S.E., 18, Park-row, Leeds. **No. 260b.**
 Hooper and Co., 7, Pall-mall East, S.W. **No. 178.**
 Hooper and Company, 121, Newgate-street, E.C. **No. 432.**
 Hopkinson, W.W., 141, Fetter-lane, E.C. **No. 241.**

- Horn and Son, 46, Elgin-road, Croydon. No. 22b.
 Hospitals of the Army and Navy. No. 465.
 House Improvement and Supply Association, Limited, The, 41
 Parliament-street, S.W. No. 373.
 How, James, and Co., 73, Farringdon-street, E.C. No. 16f.
 Howard, Edward, 34, Upper Gloucester-place, N.W. No. 306.
 Howard, Heaton H., M.R.C.S., 1, Devonshire-road, South Lambeth.
 No. 29d.
 Howard and Sons, 27, Berners-street, W. No. 442.
 Howorth, James, Victoria Works, Farnworth, near Bolton, Lan-
 cashire. No. 388.
 Humphreys, J. C., 15, Albert Gate, Knightsbridge, S.W. No. 235.
 Hungarian State Railway, The Council of the, Budapest. No.
 111.
 Hunt, Harry, 117, Newington Green-road, N. No. 429.
 Hutchison and Co., A., 3 and 4, Great Winchester-street, London
 Wall, E.C. No. 406.
 Ihlee and Horne, 31, Aldermanbury, E.C. No. 328.
 Indiarubber, Gutta Percha, and Telegraph Works Company,
 The, Limited, 106, Cannon-street, E.C. No. 17.
 Ingham and Sons, W., Wortley, near Leeds; and 35, Bucklersbury,
 E.C. No. 266.
 International Society for the Manufacture of Wound-dressing
 Materials, Schaffhausen, Switzerland. No. 43.
 Isenschmidt, Dr., 15, Sophien Strasse, Munich, Bavaria. No. 140d.
 Jamieson, W. and J., 10, Broad-street, Golden-square. No. 50.
 Jennings, George, Palace Wharf, Stangate, S.E. No. 257.
 Jeyes' Sanitary Compounds Company, Limited, 54½, Bishopsgate-
 street, E.C. No. 105.
 Jones, Francis E., 20, Cockspur-street, Pall Mall, S.W. No. 81.
 Journeymen Plumbers. No. 334 to 339.
 Joy, Albert Bruce, 76, Fulham-road, South Kensington. No. 74.
 Judge, Mark H., 8, Park-place Villas, London, W. No. 61.
 Kahnemann, Max, 3 and 4, Spandauerstrasse, Berlin. No. 26.
 Kappeller, H., jun., 2, Kettenbrückengasse, Vienna, V. No. 14.
 Karl, Heinrich, Olmutz. No. 123.
 Kaye, Joseph, and Co., 248, High Holborn, W.C. No. 396.
 King's College Hospital, Portugal-street, Lincoln's Inn, W.C.
 No. 458.
 Kirby, H. and T., and Co., 14, Newman-street, Oxford-street, W.
 No. 166.
 Kite C., and Co., 117, Charlton-street, N.W. No. 389.
 Kopf's Extract of Meat Company, Limited, 2, Draper's-gardens,
 E.C. No. 115.
 Krohne and Sesemann, 8, Duke-street, Manchester-square, W.
 No. 45.
 Labus, Professor, 8, Rue S. Andrea, Milan. No. 16b.
 Ladies' Sanitary Association, 22, Berners-street, Oxford-street, W.
 No. 148.

- Lanchester, Henry J., 3, Abchurch-yard, E.C. No. 72.
 Landolt, Dr., 4, Rue Volney, Paris. No. 16e.
 Laura, Dr. Giambattista, 41, Via Cavour, Turin. No. 230.
 Lee, Robert J., M.D., 6, Savile-row, W. No. 38d.
 Leiter, Josef, 11, Mariannengasse, Vienna. No. 44.
 Leoni, S., 66, St. Paul's-street, New North-road, N. No. 376.
 Liebe, J. Paul, Dresden. No. 176.
 Lipowsky, Eduard, Heidelberg. No. 140a.
 Lloyd, Thomas, Winchester. No. 384.
 Lloyd, W. H., Heath-road, Harborne, near Birmingham. No. 233.
 Lloyd, J. and C., and Co., Verulam-street, Gray's Inn-road, E.C.
 No. 103.
 Local Government Board, The, Whitehall, S.W. No. 467.
 Loefflund, Ed., Stuttgart. No. 127.
 Lœwenberg, Dr., 15, Rue Auber, Paris. No. 16d.
 London Hospital, The, Mile End, E. No. 454.
 London Necropolis Company, 2, Lancaster-place, Strand, W.C.
 No. 371.
 Longden and Co., Phœnix Foundry, Sheffield. No. 428.
 Loreta, Professor Pietro, Bologna, Italy. No. 16c.
 Lyon, Washington, 1, Cooper's-court, Cornhill, E.C., and 85,
 Asylum-road, Peckham, S.E. No. 364.
 Macfarlan, J. F., and Co., North Bridge, Edinburgh. No. 177.
 Macfarlane and Co., Walter, Saracen Foundry, Possilpark, Glasgow.
 No. 251.
 Mackenzie, G. Hunter, M.D., 1, Northumberland-street, Edinburgh.
 No. 29e.
 Mackey, Mackey, and Co., 1 and 2, Bouverie-street, Fleet-street,
 E.C. No. 232.
 Maguire and Son, 10, Dawson-street, Dublin. No. 282.
 Maignen, P. A., 22 and 23, Great Tower-street, E.C. No. 401.
 Maltine Manufacturing Company, Limited, The, 92 and 93, Great
 Russell-street, W.C. No. 200.
 Marr, David, 27, Little Queen-street, W.C. No. 40.
 Marratt and Ellis, 63, King William-street, E.C. No. 97.
 Marshall, Thomas, 46, Leadenhall-street, E.C. No. 124.
 Martindale, William, 10, New Cavendish-street, W. No. 171.
 Matheson and Gardner, 59 and 61, Bridgewater-street, Liverpool.
 No. 403.
 Matthews Brothers, 27, Carey-street, W.C. No. 37.
 Maw, Son, and Thompson, 7 to 12, Aldersgate-street, E.C. No. 4.
 Mayer and Meltzer, 71, Great Portland-street, W. No. 46.
 Mazzolini, Cav. Giovanni, 18, Via Quattro, Fontane, Rome.
 No. 223.
 McIlroy, T., 7, Grafton-street, Fitzroy-square, W.C. No. 162.
 Medland, J. B., 12, Borough High-street, S.E. No. 16a.
 Merck, E., Darmstadt, Germany. No. 213.
 Messter, Ed., 99, Friedrich Strasse, Berlin, N.W. No. 128.
 Metz, Paul, 10, Jewin-street, E.C. No. 18.
 Middlesex Hospital, Berners-street, W. No. 456.

- Middlesex Sanitary Association, 205 and 206, High Holborn, W.C.
No. 265.
- Millikin and Down, 3, St. Thomas-street, Borough. **No. 5.**
- Mitchell, Wm. Stephen, M.A., Fulham, S.W. **No. 70.**
- Monk and Co., W., 103, Great Russell-street, W.C. **No. 153.**
- Moorhouse and Co., J., Queen-street, Hulme, Manchester. **No. 135.**
- Morson, T., and Son, Southampton-row, W.C. **No. 216.**
- Mottershead and Co., 7, Exchange-street, Manchester. **No. 24.**
- Mouat, Frederick J., M.D., 12, Durham Villas, Kensington, W.
No. 91.
- Moule's Patent Earth Closet Company, Limited, 5a, Garrick-street,
W.C. **No. 317.**
- Musgrave and Co., 97, New Bond-street, W., and Ann-street
Iron Works, Belfast. **No. 412.**
- Nachet, M., 17, Rue St. Severin, Paris. **No. 21.**
- National Dwelling Society, Limited, The, 35, Spring-Gardens, S.W.
No. 58.
- National Hospital for the Deformed, 234, Great Portland-street.
No. 73.
- Neale, Richard, M.D., 60, Boundary-road, N.W. **No. 98.**
- Newberry, Francis, and Sons, 1, King Edward-street, Newgate-street,
E.C. **No. 165.**
- Newman, Henry, Winchester (with Samuel J. Newman, A.R.I.B.A.)
No. 80.
- Newman, S., 9 and 10, Railway Approach, London Bridge, S.E.
No. 136.
- Newman, Samuel J., A.R.I.B.A., 32, Abington-street, Northamp-
ton (with Henry Newman). **No. 80.**
- New Marylebone Infirmary, Notting Hill, W. **No. 462.**
- Newry Mineral Water Company, Limited, Downshire-road, Newry,
No. 184.
- Nixon, Newton H., Secretary to University College Hospital, W.C.
No. 140e.
- Nineteenth Century Building Society, Adelaide-place, London-
bridge, E.C. **No. 149.**
- Nycander, Professor, Georgstasse, 20, Bremen. **No. 76.**
- Oliveti, Dr. Francesco, Naples. **No. 27.**
- Order of St. John of Jerusalem in England, The, St. John's-gate,
Clerkenwell, E.C. **No. 157.**
- Owen, Henry, County-house, West Croydon. **No. 330.**
- Packham and Co., Katherine-street, Croydon. **No. 183.**
- Parker, John, Woodstock, Oxford. **No. 313.**
- Parker, John Battishill, 6, Bradninch-place, Exeter. **No. 209.**
- "Patentee," care of King and Co., 65, Cornhill, E.C. **No. 283.**
- Pfleiderer, Paul, 37, Farringdon-street, E.C. **No. 212.**
- Philipson, G. H., M.D., 7, Eldon-square, Newcastle-upon-Tyne.
No. 22e.
- Pickard, J. Reynard, 5A, Commercial-buildings, Leeds. **No. 315.**
- Pickard and Curry, 195, Great Portland-street, W. **No. 41.**
- Pillischer, 88, New Bond-street, W. **No. 10.**
- Planck, August, 16, Getreidemarkt, Vienna. **No. 121.**

- Pocock Brothers, 235, Southwark-bridge-road, S.E. No. 156.
- Poore, Dr. G. V., 30, Wimpole-street, W. (in conjunction with A. Waterhouse, A.R.A.) No. 59.
- Portway, Charles, and Son, Halstead, Essex. No. 421.
- Potter, Thomas, and Sons, 44, South Molton-street, W. No. 420.
- Pratt, Henry J., 3, Blossom-street, York. No. 180a.
- Priestley, Mrs., 17, Hertford-street, Mayfair, W. No. 353.
- Pritchett, G. E., F.R.I.B.A., 20, Spring-gardens, S.W. No. 248.
- Price's Patent Candle Company, Belmont Works, Battersea, S.W. No. 119.
- Pulvermacher, Isaac L., 194, Regent-Street, W. No. 32.
- Purnell, J., and Son, 15A, Kensington Place, Page-street, Westminster. No. 342.
- Quirk, Barton, and Co., 61, Gracechurch-street, E.C. No. 372.
- Radiator Range Company, The, 43, Cannon-street, E.C. No. 431.
- Ramsey, Wm., 55, Farringdon-Street, E.C. No. 352.
- Renner, Dr. Charles, 80, Portsdown-road, Maida Vale, W. No. 180e.
- Richards, John M., Great Russell-Street, W.C. No. 102.
- Richardson, John, and Co., 10, Friar-lane, Leicester. No. 163.
- Rimmel, Eugene, 96, Strand, W.C. No. 109.
- Ritchie and Co., 23, St. Swithin-lane, E.C. No. 382.
- Roberts and Cie., 76, New Bond-street, W. No. 217.
- Robins, Edward C., F.R.I.B.A., 14, John-street, Adelphi. No. 62.
- Robinson and Sons, Wheat Bridge Mills, Chesterfield. No. 204.
- Ross and Co., 164, New Bond-street, W. No. 7.
- Rosser and Russell, 22, Charing-cross, S.W. No. 427.
- Royal Free Hospital, Gray's Inn Road, W.C. No. 463.
- Russell, William, 57, George-street, Portman-Square. No. 20.
- Russell and Erwin Manufacturing Company, Limited, 47, Upper Thames-street, E.C., and New York. No. 394.
- Rutterford, G. W., 11, Poland-street, Oxford-street, W. No. 47.
- St. Bartholomew's Hospital, West Smithfield. E.C. No. 451.
- St. George's Hospital, Hyde-park-corner, S.W. No. 455.
- St. Mary's Hospital, Cambridge-place, Paddington, W. No. 461.
- St. Thomas's Hospital, Albert Embankment, Westminster-bridge, S.E. No. 453.
- Salmon, Ody, and Co., 292, Strand, W.C. No. 203.
- Salt and Son, 21, Bull-street, Birmingham. No. 39.
- Sanitary Appliance Company, The, Grafton-street, Ellor-street, Pendleton, Manchester. No. 88.
- Sanitary Assurance Association, 5, Argyll-place, Regent-street, W. No. 141.
- Sanitary Engineering and Ventilation Company, 115, Victoria-street, S.W. No. 286.
- Sanitary Paint Company, The, 34, Leadenhall-street, E.C. No. 239.
- Sanitas Company, Limited, The, Bethnal-green, E. No. 108.
- Savory and Moore, 143, New Bond-street, W. No. 3.
- Schieffelin, W. H., and Co., New York. No. 169.

- Schmidt, Victor, and Son, 48, Alleegasse, Wieden, Vienna. **No. 221.**
- Schneider, E. A., 4, Cambridge-villa, Chesterton-road, Cambridge. **No. 180b.**
- Schramm, K. R., 64, Belmont-street, Chalk Farm-road, N.W. **No. 170.**
- Scott, Bowes, and Read, Broadway Chambers, Westminster. **No. 340.**
- Seward, Henry, F.C.S., 147, Queen Victoria-street. **No. 305.**
- Seymour, Philip William, Guy's Hospital, S.E. **No. 34.**
- Shanks and Co., Tubal Foundry, Barrhead, near Glasgow. **No. 281.**
- Sharp, C. H., and Co., 11, Holborn-circus. **No. 327.**
- Sharp, Henry, Jones, and Co., Bourne Valley Pottery, Poole. **No. 341.**
- Shaw, Alfred, St. Ann's, Lewis. **No. 316.**
- Shaw, M.A., Heath Villa, Leighton Buzzard. **No. 369.**
- Shone Drainage, Sewerage, and Water Supply Company, Limited, The, 3, Westminster-chambers, S.W. **No. 284.**
- Siemens, Frederick, 5, Fabrik-strasse, Dresden. **No. 443.**
- Silber Light Company, The, 49, Whitefriars-street, E.C. **No. 380.**
- Silicated Carbon Filter Company, Limited, The, Battersea, S.W. **No. 402.**
- Smale Brothers, 19, Great Marlborough-street, W. **No. 48.**
- Silicate Paint Company, The, 107, Cannon-street, E.C. **No. 287.**
- Slater, Henry and Leigh, 12, Dantzie - street, Manchester. **No. 206.**
- Smith and Barnes, 43, Bermondsey-square, S.E. **No. 325.**
- Smith, T. and H., and Co., 12, Worship-street, E.C. **No. 168.**
- Smith and Stevens, Archd., 48, Leicester-square, W.C. **No. 425.**
- Smith, Thomas, and Co., Canal Potteries, Old Kent-road, S.E. **No. 269.**
- Smith, Professor T. Roger, F.R.I.B.A., 10, Lancaster-terrace, Somerset-house, W.C. **No. 55.**
- Smith, Elder, and Co., 15, Waterloo Place, S.W. **No. 145.**
- Society for the Prevention of Blindness, 48, Wimpole-street, W. **No. 117.**
- Smith and Turner, 56, Bartholomew-close. E.C. **No. 397.**
- Snell, H. Saxon, F.R.I.B.A., 22, Southampton-buildings, W.C. **No. 56.**
- Somzée, Leon, 217, Rue Royale, Brussels. **No. 110.**
- Southall Brothers and Barclay, Birmingham. **No. 225.**
- Spence, Peter, Pendleton Alum Works, Manchester. **No. 106.**
- Spence's Metal Manufacturing Company, Limited, 31, Lombard-street, E.C. **No. 354.**
- Spitzert, Dr. Bernhard, Szabadka, Hungary. **No. 222.**
- Spongy Iron Domestic Filter Company, The, 505, Oxford-street, W.C. **No. 400.**
- St. John's Ambulance Association, St. John's-gate, Clerkenwell. **No. 159.**

- Steel and Garland, 45, Holborn Viaduct, E.C. No. 346.
 Stevens, Charles R., 56, Loampit Vale, Lewisham. No. 383.
 Stevens, H. K., Flitwick Mineral Springs, near Amptill, Beds. No. 405.
 Steven Brothers and Co., 35 and 36, Upper Thames-street. No. 250.
 Stidolph, Thos. Wm., 82, High-street, Dartford, Kent. No. 155.
 Stiff, James, and Sons, London Pottery, Lambeth, S.E. No. 255.
 Stretton, Samuel, M.R.C.S., Kidderminster. No. 160.
 Strode and Co., 48, Osnaburgh-street, N.W. No. 426.
 Sun Auto-Pneumatic Lighting and Heating Company, The, 115, Southwark-street, S.E. No. 436.
 Swift, James, and Son, 81, Tottenham-court-road, W.C. No. 8.
 Tabrich, Jules, 97, Boulevard St. Germain, Paris. No. 28.
 Tapling, Thos., and Co., Gresham-street, E.C. No. 409.
 Teale, T. Pridgin, M.B., F.R.C.S., 38, Cookridge-street, Leeds. No. 142a.
 Thames Bank Iron Company, The, Upper Ground-street, S.E. No. 280.
 Thaulow, Dr., Modums Kuranstalt, Norway. No. 69.
 Thistleton, J. B., 1, Old Quebec-street, W. No. 11.
 Thomason, Yeoville, F.R.I.B.A., 40, Bennett's-hill, Birmingham. No. 63.
 Tommasi, Dr., 12, Borgognissanti, 2 P., Florence. No. 38f.
 Tonks, George T., 62, Rea-street, Birmingham. No. 243.
 Tonks, William, and Sons, Moseley-street, Birmingham. No. 242.
 Townson and Mercer, 89, Bishopsgate-street Within, E.C. No. 19.
 Tripier, A., 4, Rue de Hanovre, Paris. No. 78.
 Trübner and Co., 56 and 57, Ludgate-hill. No. 144.
 Tudor, E. C. Buchanan, Goole, Yorkshire. No. 260a.
 Turner, Ernest, F.R.I.B.A., 246, Regent-street, W. No. 64.
 Twining, Thomas, Perryn House, Twickenham. No. 96.
 Tylor, Henry, and Son, 28 and 30, East-road, City-road, N. No. 238.
 Tylor and Sons, 2, Newgate-street, E.C. No. 256.
 Ulbrich, Anton, Pullna, Bohemia. No. 218.
 Underhay, F. G., Crawford Passage, Farringdon-road, E.C., No. 326.
 Universal Ventilating, Sanitary and Engineering Company, Limited, The, Lewisham-bridge, S.E. No. 390.
 University College Hospital, Gower-street, W.C. No. 457.
 Valentine, Mann S., Richmond, Va., U.S.A. No. 174.
 Vallardi, Dr. F., 15, Via Disciplini, Milan, Italy. No. 147.
 Vajda, Dr., 28, Naglergasse, Vienna. No. 25e.
 Verity Bros., 1, Stanhope-street, Euston-road, and 127, Regent-street, W. No. 416.
 Victoria Bitter Water, Company, 92, Great Russell-street, W.C. No. 198.
 Waiz Brothers, Drs., Cormans, Austrian Tyrol. No. 79.
 Walker, Alfred, 8, Crystal Palace-road, East Dulwich, and 94 Wellington-street, Leeds. No. 362.
 Waller, and Co., 47, Fish-street-hill, E.C. No. 249.

- Walton, Frederick, and Co., Sunbury-on-Thames, and 9, Berners-street, W. **No. 288.**
- Ward, John, 245 and 246, Tottenham-court-road, W.C. **No. 152.**
- Warner, Edward, Stowmarket. **No. 263.**
- Warner, John, and Sons, 27, Jewin-crescent, Cripplegate, E.C. **No. 333.**
- Waterhouse, A., A.R.A., 20, New Cavendish-street, W. (In conjunction with Dr. G. V. Poore.) **No. 59.**
- Weare, Robert, 178, Higher Broughton, Manchester. **No. 311.**
- Weeks and Co., J., King's-road, Chelsea. **No. 414.**
- Weiss, J., and Son, 62, Strand, W.C. **No. 53.**
- Wells, George, 12, North-street, Westminster. **No. 210.**
- Westminster Hospital, opposite Westminster Abbey, S.W. **No. 459.**
- White, Samuel S., Chesnut-street, corner of Twelfth-street, Philadelphia, U.S.A. **No. 51.**
- White, William, F.S.A., 30a, Wimpole-street, W. **No. 262.**
- Wilcock and Co., Burmantofts, Leeds. **No. 279.**
- Wilson, J. P., Reading. **No. 180c.**
- Wilson Engineering Company, Limited, The, 247, High Holborn, W.C. **No. 444.**
- Windler, H., 3, Dorotheen Strasse, Berlin. **No. 12.**
- Winfield and Co., Cambridge-street Works, Birmingham, and 47, Holborn Viaduct, E.C. **No. 419.**
- Winter, R. J., and Co., 57 and 59, Goodge-street, Tottenham-court-road, W.C. **No. 228.**
- Wood, James, Clythia Park-road, Newport, Monmouthshire. **No. 358.**
- Woodward, James, Swadlincote, near Burton-on-Trent. **No. 323.**
- Woollams, William, and Co., 110, High-street, Manchester-square, W. **No. 439.**
- Wordsworth and Co., H., 6, Sloane-street, Knightsbridge, S.W. **No. 140c.**
- Worthington, Thos., F.R.I.B.A., 110, King-street, Manchester. **No. 54.**
- Wortley Fire Clay Company, The, Elland-road, Leeds. **No. 365.**
- Wright, C., and Co., 108, New Bond-street, W. **No. 9.**
- Young's Paraffin Light and Mineral Oil Company, Limited, 7, West George-street, Glasgow. **No. 120.**
- Young and Postans, 35, Baker-street, W. **No. 214.**
- Zemsch, August, Worms-on-Rhine. **No. 38e.**
- Zimmermann, A. and M., 21, Mincing-lane, E.C. **No. 175.**

For Names received late, see Appendix.



NUMERICAL LIST OF EXHIBITORS.

Western Gallery.

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- 2 Burroughs, Wellcome, and Co.,—Section VII.
- 3 Savory and Moore,—Sections VII., XI., and XII.
- 4 S. Maw, Son, and Thompson,—Sections I., II., III., VI., VIII., X., and XII.
- 5 Millikin and Down,—Sections I., II., V., X., and XI.
- 6 Arnold and Sons,—Sections I., VIII., and X.
- 7 Ross and Co.,—Section IX.
- 8 James Swift and Son,—Section IX.
- 9 C. Wright and Co.,—Sections I., II., V., and X.
- 10 M. Pillischer,—Sections VIII., IX., and X.
- 11 J. B. Thistleton,—Sections VIII. and XI.
- 12 H. Windler,—Section XI.
- 13 James Coxeter and Son,—Sections I., III., V., VI., and VIII.
- 14 H. Kappeller, jun.,—Section X.
- 15 Heather Bigg,—Section I.
- 16a John B. Medland,—Section IX.
- 16b Professor Labus,—Section X.
- 16c Professor Pietro Loreta,—Section I.
- 16d Dr. Loewenberg,—Section I.
- 16e Dr. Landolt,—Section III.
- 16f James How and Co.,—Section X.
- 17 India Rubber, Gutta Percha, and Telegraph Works Co.,—Section VIII.
- 18 Paul Metz,—Sections I., VII., and X.
- 19 Townson and Mercer,—Section X.
- 20 William Russell,—Sections I. and II.
- 21 A. Nachet,—Sections III. and IX.
- 22a J. H. De Bussy,—Section I.
- 22b Horn and Son,—Section X.
- 22c Oscar Bjorkbom,—Section VII.
- 22d Richard Barwell,—Section I.
- 22e G. P. Philipson, M.D.,—Section I.
- 23 W. Groves,—Section VIII.
- 24 Mottershead and Co.,—Sections VII., VIII., and X.
- 25a Bonifacio Bussadori,—Section I.
- 25b Dr. Jean Bufalini,—Section X.

- 25c Sir Sherston Baker, Bart.,—Section XVII.
 25d Dr. Francis Hoeber,—Section XVII.
 25e Dr. Vajda,—Section X.
 26 Max Kahnemann,—Section I.
 27 Dr. Francisco Olivete,—Section II.
 28 Jules Tabrich,—Section X.
 29a Dr. Tempest Anderson,—Section III.
 29b J. Broeker,—Section I.
 29c William Cowan,—Section X.
 29d Heaton C. Howard,—Section I.
 29e Dr. G. J. H. Mackenzie,—Section X.
 30 Böeckmann and Burmester,—Section X.
 31 Gauernack and Reinboth,—Section VIII.
 32 Isaac L. Pulvermacher,—Section VIII.
 33 Evans and Wormull,—Sections I. and XII.
 34 Philip William Seymour,—Section VIII.
 35 Henry Crouch,—Section IX.
 36 F. D. Darton and Co.,—Sections VI., X., and XVII.
 37 Matthews Bros.,—Section I. and X.
 38a Dr. R. Ellis Dudgeon,—Section XI.
 38b W. Deicke,—Section I.
 38c Dr. M. Emanuele,—Section X.
 38d Dr. Robert J. Lee,—Section X.
 38e August Zemsch,—Section X.
 38f Dr. Tommaso Tommasi,—Section XII.
 39 Salt and Son,—Sections VI., IX., and X.
 40 David Marr,—Sections I. and IX.
 41 Pickard and Curry,—Sections III. and IX.
 42 R. and J. Beck,—Sections I. and IX.
 43 International Society for the Manufacture of Wound-
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 47 G. W. Rutterford,—Section IV.
 48 Smale Bros.,—Section IV.
 49 Dental Manufacturing Company,—Section IV.
 50 W. and J. Jamieson,—Section IV.
 51 Samuel S. White,—Section IV.
 52 Claudius Ash and Sons,—Section IV.
 53 John Weiss and Son,—Section I., II., III., IV., V., and VIII.
 54 T. Worthington, F.R.I.B.A., Architect,—Section XIII.
 55 Professor T. Roger Smith, F.R.I.B.A., Architect,—Sec. XIII.
 56 H. Saxon Snell, F.R.I.B.A., Architect,—Section XIII.
 57 Freehold Cottage Dwelling Company, Limited,—Sec. XIII.
 58 National Dwellings' Society, Limited,—Section XIII.
 59 Dr. G. V. Poore, and A. Waterhouse, A.R.A.,—Section XIII.
 60 Artizans', Labourers', and General Dwellings Co., Limited,
 Section XIII.

- 61 Mark H. Judge, Architect,—Section XIII.
 62 E. C. Robins, F.S.A., F.R.I.B.A., Architect,—Section XIII.
 63 Yeovil Thomason, F.R.I.B.A., Architect,—Section XIII.
 64 Ernest Turner, F.R.I.B.A., Architect,—Section XIII.
 65 Lawrence Booth, F.R.I.B.A., Architect,—Section XIII.
 66 H. G. Brace, A.R.I.B.A., Architect,—Section XIII.
 67 Coe and Robinson, Architects,—Section XIII.
 68 M. J. and S. H. Adams,—Sections XIII. and XIV.
 69 Dr. Thaulow,—Section XIII.
 70 W. S. Mitchell, M.A.,—Section XIII. and XV.
 71 W. Chisholm, Architect to the Government of Madras,—
 Section XIII.
 72 H. J. Lanchester,—Section XIII.
 73 Hospital for the Deformed,—Section XIII.
 74 Albert Bruce Joy,—Section XVII.
 75 S. Benton,—Section X.
 76 Professor Nycander,—Section XVII.
 77 Dr. Von Heinrich,—Section XIII.
 78 A. Tripier,—Section XIII.
 79 Drs. Waiz Bros.,—Section XIII.
 80 S. J. Newman, A.R.I.B.A., Architect,—Sections XIII. and
 XIV.
 81 F. E. Jones,—Section XIII.
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 83 W. Eassie, C.E.,—Section XIII.
 84 Captain Douglas Galton, C.B., F.R.S.,—Section XIII.
 85 C. O. Ellison,—Section XIII.
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 87 J. Hayes, M. Inst., C.E.,—Section XIII.
 88 Sanitary Appliance Co.,—Section XIII.
 89 M. Bordian,—Section XIII.
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 92 Grantham, Junr., and Denton, Junr.,—Section XIII.
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 96 Thomas Twining,—Section XII.
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Western Arcade.

- 100 *See Appendix*
 101 Battley and Watts,—Section VII.
 102 J. M. Richards,—Section VII.
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 120 Young's Paraffin, &c., Co.,—Section I.
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 126 H. Bell,—Sections I. and VI.
 127 E. Loefflund,—Section VII.
 128 Edward Messter,—Section I.
 129 Chesebrough Manufacturing Co.,—Section VII.
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 131 W. Bengler and Son—Section XVII.
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 133 C. Geffers,—Section I.
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 137 F. and C. Hancock,—Sections VII. and XVII.
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 140b Carl Berg,—Section X.
 140c H. W. Wordsworth & Co.,—Section X.
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 160 S. Stretton, M.R.C.S.,—Section XII.
 161 Thomas Allen,—Section VI.
 162 Thomas McIlroy,—Sections II., VI., X., and XI.
 163 John Richardson and Co.,—Sections VII. and XII.
 164 Allen and Hanburys,—Section VII.
 165 Francis Newberry and Sons,—Section VII.
 166 H. and T. Kirby and Co.,—Sections VII. and XII.
 167 Burgoyne, Burbidges, and Co.,—Section VII.
 168 H. H. Smith and Co.,—Section VII.
 169 W. H. Schieffelin & Co.,—Section VII.
 170 K. H. Schramm,—Section I.
 171 Wm. Martindale,—Sections I, VI., and VII.
 172 Gale and Co.,—Section VII.
 173 Corbyn, Stacey, and Co.,—Section VII.
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 177 J. F. Macfarlan & Co.,—Sections I. and VII.
 178 Hooper and Co.,—Section VI. and VII.
 179 Apollinaris Company,—Section VII.
 180a H. J. Pratt,—Section VII.
 180b E. A. Schneider,—Section VII.
 180c J. P. Wilson,—Section VII.
 180d Charles Allen,—Section VII.
 180e Dr. Charles Renner,—Section X.
 180f E. Diver, M.D.,—Sections II. and VI.
 181 Evans, Lescher, and Webb,—Section VII.
 182 Canzuch Bros.,—Section VII.
 183 Packham and Co.,—Section VII.
 184 Newry Mineral Water Co.,—Section VII.
 185 J. Moorhouse and Co.,—Section VII.
 186 Gerolstein Natural Mineral Water Co.,—Section VII.
 187 Andover Aërated Water Manufactory,—Section VII.
 188 Genoveva Natural Sparkling Mineral Water Co.,—Sec. VII.
 189 T. T. Hirst and Co.,—Section VII.
 190 M. and Leopold Hoff,—Section VII.

- 191 Samuel Gulliver and Co.,—Section VII.
 192 Aesculap Bitter Water Co.,—Section VII.
 193 Harzer Natural Mineral Water Co.,—Section VII.
 194 Arsenical Water Co. of Court St. Etienne,—Section VII.
 195 E. Gallais,—Section VII.
 196 Blake, Sandford, and Blake,—Section VII.
 197 British Syphon Manufactory,—Section XVII.
 198 Victoria Bitter Water Co.,—Section VII.
 199 Bellthal Brunnen Co.,—Section VII.
 200 Maltine Manufacturing Co.,—Section VII.
 201 W. H. Bailey and Son,—Section I.
 202 J. S. Haywood,—Section I.
 203 Salmon, Ody, and Co.,—Section I.
 204 Robinson and Sons,—Section I.
 205 James N. Davidson,—Section VII.
 206 Henry and Leigh Slater,—Section VI. and VII.
 207 Edwards and Bradley,—Section I.
 208 Fletcher and Fletcher,—Section VII.
 209 J. Battishill Parker,—Section VI.
 210 George Wells,—Section VI.
 211 E. J. Alment,—Section VI.
 212 P. Pfeleiderer,—Section XVII.
 213 E. Merck,—Section VII.
 214 Young and Postans,—Section VII.
 215 G. Van Abbott,—Section VII.
 216 T. Morsons and Sons,—Section VII.
 217 Roberts, C., et Cie.,—Sections I., VII., and X.
 218 Anton Ulbrich,—Section VII.
 219 James Allen and Son,—Sections I. and VI.
 220 Foster and Gregory,—Section VII.
 221 Victor Schmidt and Son,—Section VII.
 222 Dr. Bernard Spitzer,—Section I.
 223 Dr. Car Giovanni Mazzolini,—Section VII.
 224 C. H. Burk,—Section VII.
 225 Southall Bros. and Barclay,—Sections I. and VII.
 226 Dr. Barda,—Section VIII.
 227 E. Hilton,—Section VI.
 228 R. J. Winter and Co.,—Section I.
 229 F. C. Calvert and Co.,—Section VII.
 230 Dr. Giambattista Laura,—Section IX.
 231 P. Bourjeurd,—Section I.
 232 Mackey, Mackey, and Co.,—Section VII.
 233 W. H. Lloyd,—Section VI.
 234 Ellis and Co.,—Section VI.
 235 Coleman and Glendenning,—Sections VI. and XVII.
 236 F. W. Brewster,—Section XII.
 237 W. B. Hilliard and Son,—Sections I., II., III., V., and X.
 238 Henry Tylor and Son,—Sections VI., XV., and XVII.
 239 W. J. Bush & Co.,—Section VII.
 240 *see Appendix*

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- 241 W. W. Hopkinson,—Sections XIV. and XVI.
 242 Wm. Tonks and Son,—Sections XIII., XIV., and XVII.
 243 Geo. T. Tonks,—Section XVI.
 244 } *see Appendix.*
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 246 } J. Bolding and Son,—Sections XV. and XVI.
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 248 G. E. Pritchett, F.S.A., Architect,—Sections XIII., XIV., and XVII.
 249 T. Waller and Co.,—Sections VII., XIII., XIV., and XV.
 250 Steven Bros. and Co.,—Sections XIII., XIV., and XV.
 251 Walter Macfarlane and Co.,—Sections XIII., XIV., XV., XVI., and XVII.
 252 Briton Ferry Coal and Pottery Co.,—Section XV.
 253 Henry Doulton and Co.,—Sections XIII., XV., and XVI.
 254 Beard, Deut, and Hellyer,—Sections XIV., XV., and XVI.
 255 James Stiff and Sons,—Section XIII., XIV., XV., and XVI.
 256 J. Tylor and Sons,—Sections XV. and XVI.
 257 Geo. Jennings,—Sections XV. and XVI.
 258 Robert Boyle and Son,—Sections XIII. and XIV.
 259 Edward Brooke and Sons,—Sections XIII. and XV.
 260a E. C. Buchanan Tudor,—Section XVI.
 260b Henry P. Holt, C.E.,—Section XIII.
 261 W. P. Buchan,—Sections XIII., XIV., and XV.
 262 Wm. White, F.S.A., Architect,—Sections XV. and XVII.
 263 Edward Warner,—Sections XV. and XVII.
 264 Banner Bros. and Co.,—Sections XIII., XIV., and XV.
 265 Middlesex Sanitary Association,—Section XIII.
 266 W. Ingham and Son,—Sections XIII., XIV., and XV.
 267 *see Appendix.*
 268 Daniel T. Bostel,—Sections XIV. and XV.
 269 Thomas Smith and Co.,—Sections XIII., XV., and XVI.
 270 Joseph Cliff and Sons,—Sections XIII., XIV., and XV.
 271 Birmingham Sanitary Association,—Section XV.
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 273 } *see Appendix.*
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 278 J. E. Ellison,—Section XIV.
 279 Wilcock and Co.,—Sections XIV. and XV.
 280 Thames Bank Iron Co.,—Sections XIII., XIV., XV. and XVI.
 281 Shanks and Co.,—Sections XV. and XVI.
 282 Maguire and Co.,—Sections XIII., XV., and XVI.
 283 "Patentee,"—Section XV.

- 284 Shone Drainage, &c., Company,—Section XV.
 285 J. C. Humphreys,—Section XIII.
 286 Sanitary Engineering and Ventilating Co.,—Section XIV.
 287 Silicate Paint Co.,—Section XIII.
 288 Fredk. Walton and Co.,—Section XIII.
 289 Sanitary Paint Co.,—Section XIII.
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 300 Albissima Paint Co.,—Section XIII.
 301 Candy and Co.,—Sections XIII. and XV.
 302 J. Finch and Co.,—Sections XIII. and XV.
 303 Bryden and Sons,—Sections XIII. and XVII.
 304 A. T. Angell,—Section XV.
 305 Henry Seward,—Section XV.
 306 Edward Howard,—Section XV.
 307 Fredk. Dyer,—Section XIV.
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 309 } *see Appendix.*
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 311 Robert Weare,—Section XV.
 312 *see Appendix.*
 313 John Parker,—Section XV.
 314 *see Appendix.*
 315 J. Reynard Pickard,—Sections XIV. and XV.
 316 Alfred Shaw,—Section XV.
 317 Moule's Patent Earth Closet Co.,—Section XV.
 318 P. J. Davies,—Section XV.
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 320 } *see Appendix.*
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 323 James Woodward,—Section XV.
 324 Antiseptic Apparatus Manufacturing Co.,—Section XV.
 325 Smith and Barnes,—Section XV.
 326 F. G. Underhay,—Sections XV. and XVI.
 327 C. H. Sharp and Co.,—Sections XIV., XV., and XVI.
 328 Ihlee and Horne,—Sections XII. and XIII.
 329 Hayward, Tyler, and Co.,—Sections XV. and XVI.
 330 Henry Owen,—Section XV.
 331 A. Emanuel and Sons,—Sections XV. and XVI.
 332 Capper, Son, and Co.,—Section XV.
 333 John Warner and Sons,—Section XV.

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 336 } Exhibits of Journeymen Plumbers.—Section XV.
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 340 Bowes Scott, and Read,—Section XV.
 341 H. Sharp, Jones, and Co.,—Section XV.
 342 J. Purnell and Son,—Section XV.
 343 }
 344 } *see Appendix.*
 345 }
 346 Steel and Garland,—Section XIV.
 347 Braithwaite and Co.,—Section XV.
 348 }
 349 } *see Appendix.*
 350 }

Eastern Quadrant.

- 351 C. W. Durham,—Section XV.
 352 Wm. Ramsey,—Sections XIII., XIV., XV., XVI. and XVII.
 353 Mrs. Priestley,—Section XIV.
 354 Spence's Metal Manufacturing Co.,—Section XIII.
 355 Frank W. Clark,—Sections XIV. and XV.
 356 *see Appendix.*
 357 Crossley Bros.,—Section XIV.
 358 James Wood,—Section XV.
 359 *see Appendix.*
 360 Bellman and Ivey,—Section XIII.
 361 Charles Drake and Co.,—Sections XIII. and XV.
 362 Alfred Walker,—Sections XIII. and XV.
 363 "Eureka" Concrete Co.,—Sections XIII. and XV.
 364 Washington Lyon,—Section XV.
 365 Wortley Fire Clay Co.,—Sections XIII. and XV.
 366 T. J. Constantine,—Section XIV.
 367 Wm. Hellier,—Section XIV.
 368 Anthracite Coal Co.,—Section XIV.
 369 M. A. Shaw,—Section XVII.
 370 *see Appendix.*
 371 London Necropolis Co.,—Section XII.
 372 Quirk, Barton, and Co.,—Sections XIII, XIV. and XVI.
 373 House Improvement and Supply Association,—Sections XIII.,
 and XIV.
 374 Joseph Constantine,—Section XIV.
 375 Robert H. Griffin,—Section XIV.
 376 S. Lèoni and Co.,—Sections XIV and XV.
 377 Faraday and Son,—Section XIV.
 378 P. Hinckes Bird, F.R.C.S.,—Sections VII., XIV. and XVII.
 379 *see Appendix.*

- 380 Silber Light Co.,—Section XIV.
 381 Gillow and Co.,—Section XV.
 382 Ritchie and Co.,—Section XIV.
 383 C. R. Stevens,—Sections XIV. and XV.
 384 Thomas Lloyd,—Sections XII. and XIV.
 385 Gilmore and Clark,—Section XIV.
 386 H. W. Cooper,—Section XIV.
 387 J. W. Hayward, M.D., and J. Drysdale, M.D.,—Sections XIII. and XIV.
 388 James Howorth,—Section XIV.
 389 C. Kite and Co.,—Section XIV.
 390 Universal Ventilating Sanitary and Engineering Co.,—Section XIV.
 391 Comyns, Ching, and Co.,—Section XIV.
 392 R. Bullivant, Tagliaferro, and Co.,—Section XIII.
 393 *see Appendix.*
 394 Russell and Erwin Manufacturing Co.,—Sections XIII. and XIV.
 395 Robert Adams,—Sections XIII. and XVII.
 396 Joseph Kaye and Co.,—Section XIII.
 397 Smith and Turner,—Sections XIII. and XVII.
 398 E. and J. Gardner,—Section XVI.
 399 H. Chapman,—Section XVI.
 400 Spongy Iron Domestic Filter Co.,—Section XVI.
 401 P. A. Maignen,—Section XVI.
 402 Silicated Carbon Filter Co.,—Section XVI.
 403 Matheson and Gardner,—Section XVI.
 404 Feltoe and Sons,—Section VII.
 405 H. K. Stevens,—Section VII.
 406 Hutchinson and Co.,—Sections XII. and XIII.
 407 Roul Bravais,—Section VII.
 408 *see Appendix*
 409 Thos. Tapling and Co.,—Section VI.
 410 Benham and Sons,—Sections VI., XIV., XV., and XVII.
 411 Chorlton and Dugdale,—Sections VI., XIV., and XVII.
 412 Musgrave and Co.,—Section XIV.
 413 Francis Hammond,—Section XIV.
 414 J. Weeks and Co.,—Section XIV.
 415 R. Renton Gibbs,—Section XIV.
 416 Verity Bros.,—Sections XIV. and XV.
 417 Fredk. Edwards and Son,—Section XIV.
 418 J. F. Farwig,—Section XIV.
 419 R. W. Winfield and Co.,—Sections VI., VIII., IX., XIII., XIV., and XVII.
 420 J. Potter and Sons,—Section XIV.
 421 Charles Portway and Son,—Section XIV.
 422 Hobbs, Hart, and Co.,—Section XIII.
 423 J. L. Bacon and Co.,—Section XIV.
 424 *see Appendix.*
 425 A. Smith and Stevens,—Sections XIII. and XIV.

- 426 Strode and Co.,—Sections IX. and XIV.
 427 Rosser and Russell,—Sections XIII. and XIV.
 428 Longden and Co.,—Section XIV.
 429 Harry Hunt,—Section XIV.
 430 Deane and Co.,—Section XIV.
 431 Radiator Range Co.—Section XIV.
 432 Hooper and Co.,—Sections XIV. and XVI.
 433 J. Defries and Sons,—Sections XIV. and XVI.
 434 } *see Appendix.*
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 436 The Sun Auto-Pneumatic Lighting and Heating Co.,—Section XIV.
 437 } *see Appendix.*
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 439 W. Woollams and Co.,—Section XIII.
 440 *see Appendix.*
 441 Thomas Bradford,—Section XVII.
 442 Howard and Sons,—Section XIII.
 443 Fredk. Siemens,—Section XIII.
 444 Wilson Engineering Co.,—Section XIV.
 445 W. J. Fraser and Co.,—Section XV.
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Royal Albert Hall.

- 451 St. Bartholomew's Hospital,—Sections I. and VI.
 452 Guy's Hospital,—Sections I. and VI.
 453 St. Thomas's Hospital,—Sections I. and VI.
 454 The London Hospital,—Sections I. and VI.
 455 St. George's Hospital,—Sections I. and VI.
 456 Middlesex Hospital,—Sections I. and VI.
 457 University College Hospital,—Sections I. and VI.
 458 King's College Hospital,—Sections I. and VI.
 459 Westminster Hospital,—Sections I and VI.
 460 Charing Cross Hospital,—Sections I. and VI.
 461 St. Mary's Hospital,—Sections I. and VI.
 462 New Marylebone Infirmary,—Sections I. and VI.
 463 Royal Free Hospital,—Sections I. and VI.
 464 Children's Hospital,—Sections I. and VI.
 465 Hospitals of the Army and Navy,—Sections I. and VI.
 466 Dr. Louis Grósz de Csátár,—Section X.
 467 The Local Government Board,—Section XIII.
 468 The Director-General of the Army Medical Department,—Section XII.
 469 J. T. Cocking,—Section I.

For Names received late see Appendix.



SECTION I.

Surgical Instruments and Apparatus.

NAMES OF EXHIBITORS ARRANGED ALPHABETICALLY.

NUMERICAL LIST OF THIS SECTION ON PAGE 113.

James Allen and Sons. No. 219.

Steam Spray Apparatus, price from £3.

Steam Spray Producers for Throat, price 18s.

Rising and Revolving Table and Stands for Spray Producers,
price £3.

Arnold and Son. No. 6.

Surgical Instruments and Apparatus.

W. H. Bailey and Son. No. 201.

Surgical Appliances. Trusses, &c.

Richard Barwell. No. 22d.

Surgical Appliance.—For ligature of 'arteries in continuity—made
of the Aorta of an Ox.

R. and J. Beck. No. 42.

Surgical Instruments.

H. Bell. No. 126.

Indiarubber Surgical Appliances.

Enema Apparatus.

Truss Pads. Medical Gloves.

Chest Expanders.

Hospital Bandage and General Surgical Appliances.

Heather Bigg. No. 15.

Orthopædic Appliances.

C. Walter Biondetti. No. 132.

Surgical Instruments.

P. Bourjeaurd. **No. 231.**

Elastic Stockings, Knee Caps, Thigh Pieces, &c.

J. Broeker. **No. 29b.**

Stupe of Flax.

Bonifacio Bussadori. **No. 25a.**

Urethrotomy Instruments.

J. H. De Bussy. **No. 22a.**

Splints.

J. T. Cocking. **No. 469.**

Surgical Appliances. Poroplastic Felt Spinal Jackets. Surgical Splints and Supports.

Jas. Coxeter and Son. **No. 13.**

Amputation Instruments. Anæsthetic Apparatus. Lithotrites.
Stricture Instruments. Poroplastic Corsets and Splints.

W. Deicke. **No. 38b.**

Instrument for Tapping Pleura and Pericardium, price 15s.

Edwards and Bradley. **No. 207.**

Infant Truss made of Indiarubber. Bandages—Indiarubber.
Ether Inhaler, Detached Well, to hold Sponge and Ether, made
of Indiarubber, Silk, and Metal.

Evans and Wormall. **No. 33.**

Splints made of Cane, Wire, and Iron. Steam Spray Producer,
made of Copper and Brass, price £6 10s.

Hernia Instruments, for radical cure of Hernia, made of Steel.
Price £1 15s.

C. Geffers. **No. 133.**

Artificial Limbs.

J. S. Haywood. **No. 202.**

Surgical Appliances and Apparatus.

Heaton C. Howard. **No. 29d.**

Nasal Instruments. Inflating Nasal Plug for Epistaxis, price 3s. 6d.

W. B. Hilliard and Sons. **No. 237.**

Dr. M. Ewens' Chromic Gut, price 7s. 6d.

Operating Table, price from fifteen guineas.

Carbolic Foot Spray, price £1 8s.

Adams' Spray Machine, price 5s.

Plaster Heater, price 7s. 6d.

Splint Material

HOSPITALS.

- ST. BARTHOLOMEW'S HOSPITAL, No. 451.
 GUY'S HOSPITAL, No. 452.
 ST. THOMAS'S HOSPITAL, No. 453.
 THE LONDON HOSPITAL, No. 454.
 ST. GEORGE'S HOSPITAL, No. 455.
 MIDDLESEX HOSPITAL, No. 456.
 UNIVERSITY COLLEGE HOSPITAL, No. 457.
 KING'S COLLEGE HOSPITAL, No. 458.
 WESTMINSTER HOSPITAL, No. 459.
 CHARING CROSS HOSPITAL, No. 460.
 ST. MARY'S HOSPITAL, No. 461.
 THE NEW MARYLEBONE INFIRMARY, No. 462.
 THE ROYAL FREE HOSPITAL, No. 463.
 THE CHILDREN'S HOSPITAL, No. 464.
 THE HOSPITALS OF THE ARMY AND NAVY, No. 465.

Splints and Apparatus for fractured limbs.

International Society for the Manufacture of Wound Dressing
 Materials. No. 43.

Surgical Dressings.

Collections of Lints, Gauzes, Cottons, Catgut, and Wound Dressings.

Dr. Loewenberg. No. 16d.

Nasal Galvano-cautery, Loewenberg's.

Professor Pietro Loreta. No. 16c.

New Apparatus for Perineal Cystotomy.

Max Kahnemann. No. 26.

Surgical Bandages. Apparatus for Antiseptic Treatment.

Krohne and Sesemann. No. 45.

Surgical Instruments and Apparatus.

J. F. Macfarlan and Co. No. 177.

Appliances and Chemicals for Antiseptic Treatment.

David Marr. No. 40.

Spray Producers. Surgical Instruments and Apparatus.
 Steam Antiseptic Spray Producers.
 Antiseptic Dressings and Appliances.

William Martindale. No. 171.

Ear and Nasal Syringes for use by the patient without the liquid
 running down his arms.

Nasal Douche. Eucalyptus Gauzes.

Matthews Bros. **No. 37.**

Hæmorrhoidal Clamps (Mr. Henry Smith's), price £1 5s.
 Cutting Cauterics (Mr. Henry Smith's).
 Tracheotomy Tubes. Mouth Gag—Rose's.
 Surgical Instruments.
 Trusses (Mr. John Wood's) price from £1 10s.
 Steam Spray Producers, price from £3 10s.
 Lithotomy Tube. Catheters (silver and German silver).

S. Maw, Son, and Thompson. **No. 4.**

Amputation and Operation Instruments.—Full Army Set in mahogany case.
 Field Case. Portable Field Case.
 Set of Operation Knives.
 Aspirators and Aspirating Trocars.—
 Dieulafoy's, Three Needles. Dieulafoy's, Ten Needles
 Dieulafoy's, for Hospital use.
 Potain's, with improved additions.
 Trocar.
 An assortment of the New Patent Surgical Tubes of Soft Rubber for Throat, Rectum, Vagina, Uterus. Catheters.
 Chloroform Inhalers.—Bird's, Clover's, Parker's, Ormsby's, and Burton's.
 Drainage Tubing.
 Enema Apparatus and Injection Syringes.—
 Bennett's Irrigateur Reservoir.
 A series of Indiarubber bottles.
 Higginson's, various patterns.
 Stomach pump.
 Lithotomy, Lithotripsy, Bladder, and Urethra Instruments.—
 Complete Set Lithotomy Instruments.
 Complete Set Lithotripsy Instruments.
 Bigelow's Instruments—Catheters—Set of 12.
 Brodie's. Duncan's. Lester's. Wagstaff's.
 Urethrotomes.—
 Teevan's. Thompson's. Hill's. Maisonneuve's.
 Bougies, Elastic Gum. Catheters, Elastic Gum.
 Thompson's Aspirating Bottle.
 Bougies Complete Set of Duncan's.
 Minor Operation Instruments.—Portable case, in ivory handles.
 Tenotomy Knives, complete set, in case.
 Necrosis and Risetion set, in case.
 Skin Grafting Scissors.
 Vaccination Instrument, Cooper Rose's
 Vaccination Instrument, Hilliard's.
 Vaccination Lancets, various.
 Para Rubber Bandages, with selected specimens of the Rubber in its manufactured and unmanufactured state.

- Pocket Dressing Instruments.—Two-fold Pocket Case, with improved spring back knives.
 Two-fold Miniature Pocket Case, Maw's special pattern.
 Three-fold Pocket Case.
 Three-fold Pocket Case, complete.
- Surgery Basins. Transfusion Apparatus (various).
- Syringes for Subcutaneous Injections (an assortment of the latest improvements).
- Throat Instruments.—Laryngoscope, Turck's. Laryngoscope, Maw's.
 Laryngoscope, Mackenzie's. Tracheotomy, Canula.
 Tracheotomy, Split. Tracheotomy, Oscillating Shield.
 Insufflator, with plain end.
 Insufflator, with Indiarubber ball.
 Tongue Depressers, hinged—assorted.
 Tongue Depresser, Fraenkels. Throat Syringe.
 Trachea Dilators. Mouth Gags. Staphylonaphy Needles.
 Oesophagus Bougies, with Obturator.
 Oesophagus Bougie, with Syringe.
 Prosser James' Instruments, complete. Guillotines.
 Laryngeal Forceps, various sizes.
- Tournaquets.—Esmeirch's. Langenbeck's. Maw's.

Mayer and Meltzer. **No. 46.**

- Steam Spray Apparatus with Self-feeding Boiler.
 Spinal Supports. Galvanic Cauterics. Lithotrites.
 Lithotomy Instruments.
 New form of Truss, and other Surgical Instruments and Apparatus

Edward Messter. **No. 128.**

Surgical Instruments.

Paul Metz. **No. 18.**

Surgical Instruments.

Millikin and Down. **No. 5.**

- Subcutaneous Syringes, price 16s. 6d. each.
 Tracheotomy Instruments. Marrant Baker's Tracheotomy Tubes, price 4s. each.
 "Golding Bird's" Trahea Dilator, price 15s.
 "Howse's" Flexible Tracheotomy Tube, price 16s. 6d.
 "Hale White's" Tracheotome, price 17s. 6d.
 "Skate's" Splint and Cradle, combined for extension, price 12s. 6d.
 Pocket Dressing Instruments.
 "Lucas'" Pocket Case, price £4 18s. 6d.
 Gowlland's extra flexible Rectum Bougies (elastic), price 5s. 6d. each.
 "Jacobson's" Colotomy Plug, price 7s. 6d. each.
 "Sydney Jones'" Parallel Pile Clamp, price £1 2s. 6d.

Bougies-à-Boule, extra flexible, 18s. dozen.

Catheters-à-Boule, price 18s. dozen.

Tapering Catheters for Passing Fine Strictures, price £1 16s. per dozen.

LeGros Clark's Guarded Hernia Knife, price 15s.

Furk's Laryngoscope, with nose rest, price £1 17s. 6d.

Pocket Dressing Instruments.

"Bryant" Pocket Cases, price £6 6s.

"Bryant's" Torsion Forceps, price 7s. 6d. and 8s. 6d.

"Golding Bird's" Pocket Case, price £5 10s. 6d.

Do. Scraper for removing Adenoid Tumours of the Naso Pharynx, price 13s. 6d. each.

Moon's Apparatus for Fractured Jaw, price £2 2s.

"Golding Bird's" Hand Spray Producer, price £1 17s. 6d.

"Bryant's" Shoes for Talipes Varus and Valgus, price 15s. per pair.

W. Monk and Co. **No. 153.**

Operating Chairs.

G. P. Philipson, M.D. **No. 22e.**

The Original McIntyre Splint, invented 1819.

Roberts et Cie. **No. 217.**

Surgical Appliances.

Robinson and Sons. **No. 204.**

Bandages. Cotton Wools. Cotton and Flax Lints.
Surgical Appliances.

William Russell. **No. 20.**

Elastic Stockings, Silk and Indiarubber, price from 10s. 6d.

Spiral Stockings, price £1 1s.

Salmon, Ody, and Co. **No. 203.**

Trusses, self-adjusting, with Ball and Socket Action, price from 10s.

K. R. Schramm. **No. 170.**

Elastic Gum Surgical Instruments, price 1s. 6d. doz.

Sponge Tents, etc., price to 7s. 6d.

Operation Table, price about £40.

Crutches, price from 15s. per pair.

Beemer's Talipes Shoes, price 7s. 6d. each.

Southall Brothers, and Barclay. **No. 225.**

Ladies' New Sanitary Towels, price 2s. per doz.

Absorbent and Antiseptic Pads and Sheets, price 1s. to 9s. per doz.

Prepared Millboard Splints and Armpieces, price 1s. per lb.

Arm Angles, price 3s. per doz.

Tenax (prepared tarred rope), price 1s. 4d. per lb.
Hospital Strapping, price 7s. per doz. yards.

Bernhard Spitzer, M.D. **No. 222.**

Antiseptic Bandages, used in Hungarian Army, price £1.

J. Weiss and Son. **No. 53.**

Orthopædic Instruments. Splints. Belts. Supports.
Trepining, Necrosis, Resection, and Amputation Instruments.
Staphyloraphy, Lithotomy, and Lithotrity Instruments.
Carbolic Spray Producers.

R. J. Winter and Co. **No. 228.**

Bandages. Lints. Cotton Wools.

C. Wright and Co. **No. 9.**

Benham's Hæmorrhoidal Crusher, price £1 15s.
Benham's Steam Antiseptic Spray Producer, price £1 10s.
Davy's Lever, price 8s. 6d. to 12s. 6d.
Davy's Lion Forceps, price 12s. 6d.
Davy's Continuous Suture Needle, price £2 2s.
Portable Case of Surgeon's Operating Instruments, price £9.
Adams' Knives and Saws for Subcutaneous Osteotomy, price £2 2s.

Young's Paraffin Light and Mineral Oil Co., Limited. **No. 120.**

Paraffin Splints, with cotton wool.





SECTION II.

Obstetric Instruments, &c.

NAMES OF EXHIBITORS ARRANGED ALPHABETICALLY.

NUMERICAL LIST OF THIS SECTION ON PAGE 126.

E. Diver, M.D. **No. 180f.**

Midwifery Apparatus; an arrangement of belt in two parts, cord and stirrups, for patient's use, price £1 1s.

Also a modification of above, price 10s. 6d.

W. B. Hilliard and Sons. **No. 237.**

Tarnier's Forceps, price £4.

Leonard's Speculum, price £1.

Dr. Christie's Antiflooding by Hydrostatic Bags, price 12s. 6d.

Dr. Christie's Forceps, price £1 5s.

Dr. Lyon's Tractors, price £1 1s.

Hilliard's Tractors, price £1 1s.

Dr. Leishman's Forceps, price £1.

Dr. Gray's Hystrotome, price £1 16s.

Dr. Reid's Forceps, price £2.

Dr. Whittaker's Forceps, price £3 3s.

Mayer and Meltzer. **No. 46.**

Ovariectomy. Instruments. Pessaries. Speculums.

Midwifery Forceps. Uterine Dilators.

Instruments for Vaginal Fistula.

S. Maw, Son, and Thompson. **No. 4.**

Instruments for Obstetric and Uterine Operations.—

Atthill's Canula for Nitric Acid.

Barnes' Hydrostatic Bags for dilating the Os.

Galvanic Stems, Simpson's. Hick's Ecraseur.

Heywood Smith's Tumour Forceps.

Heywood Smith's Uterus Scissors.

Lee's Canula for Premature Labour.

Hook, Oldham's. Meadow's Ecraseur.

Maw's Ecraseur, improved. Ovariectomy Clamps.

Ovariectomy Trocars.	Playfair's Probe.		
Speculums, the latest improvements.		Simpson's Sounds.	
Sim's Sounds.	Heywood Smith's Sounds.		
Caustic Instruments.	Uterine Dilators.		
Obstetric Forceps.—Barnes'.		Ramsbottom's.	
Simpson's.	Lever's.	Barclay's.	
Barnes' and Morgan's Tractors		Simpson's Short.	
Abortion Forceps.—			
Oldham's Fine Hook.		Symond's Tractor.	
Craniotomy Forceps.—Barnes'.		Mathews Duncan's.	
Hall Davis's.	Hick's.	Simpson's.	Kidd's.
Perforators.—			
Holmes'.	Greenhalgh's		Oldham's
Ragby's.	Roper's		Simpson's.
Pessaries.—			
Hodge's	Meyer's.		Schilling's.
Hewitt's	Galabin's		Watch Spring.
	Tivank's	Thomas's	
Vagina Rests.			
Tampon Holder and Introducer, Barnes'.			Tent Holders.

Thomas McIlroy. **No. 162.**

Gynæcological Chair, price from £15.

Millikin and Down. **No. 5.**

Galabin's, Prolapsus Pessary, Vulcanite, price 3s.

Galabin's, Anteversion do. do. do. 3s. 6d.

Gervis's Curette, Steel, price 8s. 6d.

do. Wire Loop and Contractor, price 5s. 6d.

Galabin's Traction Forceps, price £2 2s.

Gervis's Craniotomy Forceps, price £1 1s.

The G.P.'s Midwifery Bag, price £4 5s. 6d.

Dr. Francisco Olivete. **No. 27.**

Obstetric Instruments.

William Russell. **No. 20.**

Pelvic Belts, price from £1 7s.

Abdominal Belts, price from £1 1s.

Spiral Belts, price £2 10s. Obstetric Binder, price 10s. 6d.

Intra Uterine Pessaries, price from 5s.

do. Stems, price 3s.

Elastic Retroversion Pessaries, price 3s. 6d.

Mushroom Pessaries, price 10s. 6d.

Modified Zwancke's Pessaries, price 2s. 6d.

Watch Spring Pessaries, price 3s. 6d.

Dr. Greenhalgh's Pessaries, price from 1s. 6d.

Hodge's do. do.

Dr. Routh's Ovarian Supporter, price 4s. 6d.

Dr. Gervis's Retroflexion Pessaries, price 2s.

J. Weiss and Son. **No. 53.**

Gynæcological Instruments.

C. Wright and Co. **No. 9.**

Barnes's Instrument for applying Nitric Acid to the Uterus,
price £2 5s. 0d.





SECTION III.

Ophthalmic Instruments.

NAMES OF EXHIBITORS ARRANGED ALPHABETICALLY.
NUMERICAL LIST OF THIS SECTION ON PAGE 127.

Tempest Anderson, M.D. **No. 29a.**
Ophthalmometer, price £6 6s. 6d.

James Coxeter and Son. **No. 13.**
Ophthalmic Instruments.

W. B. Hilliard and Sons. **No. 237.**
Ophthalmoscope (Dr. Wolfe's), price £1 7s.

Dr. Landolt. **No. 16e.**
Telemeter.

Marratt and Ellis. **No. 97.**
Artificial Eyes, price £2 2s.

S. Maw, Son, and Thompson. **No. 4.**
Eye Instruments.—Complete set of operation instruments.
Douche's Graefes, three patterns. Eyelid retractors.
Critchell's. Bowman's. Graefe's.
Laurence's. Maw's. Probes, Bowman's. Probes, Wattons.
Ophthalmoscopes.—Coccius'. Liebreich's. De Weeker's
Landolt's. Follin's. Forceps, Iris.
Forceps, Cilia. Forceps, Entropium.
Scissors, straight. Scissors, curved.

Mayer and Meltzer. **No. 46.**

Ophthalmic Instruments.

Nachet, A. **No. 21.**

Set of Glasses for Oculists.

Boxes Containing all the Glasses used by Oculists, price £15 10s.

Pickard and Curry. **No. 41.**

Oculist's Trial Case.

Test Types for Distant and Near Vision.

Ophthalmoscopes

Holmgren's Worsteds.

Astigmatic Clocks.

Meridian Delineator.

Critchett's Chart for determining the Field of Vision.

Snellen's Test for Feigned Blindness in One Eye.

John Weiss and Son. **No. 53.**

Ophthalmic Instruments.





SECTION IV.

Dental Instruments, &c.

NAMES OF EXHIBITORS ARRANGED ALPHABETICALLY.
NUMERICAL LIST OF THIS SECTION ON PAGE 127.

Claudius Ash and Sons. **No. 52.**

Mineral Teeth.—Made of feldspar and silex, price from £1 per 100.
Dental Rubbers.—Made of Para rubber, price from 9s. per lb.
Stoppings.—Cements made of oxychloride of zinc, amalgams of gold, silver and tin.
Instruments —Dental turning engine, forceps, barrs, excavators, engine drills and mallets. Made of steel.
Furniture, Tools, &c.—Chairs, cabinets, nitrous oxide gas apparatus, vulcanizers, &c.

Dental Manufacturing Co. **No. 49.**

Dental Instruments. Mineral Teeth, made of feldspar, &c.
Forceps, made of Steel. Rubbers, made of Para gum and sulphur.
Vulcanizers, made of gun metal and copper.
Lathes, "Double Cone," iron and gun metal.

W. and J. Jamieson. **No. 50.**

Dental Instruments and Appliances.

Mayer and Meltzer. **No. 46.**

Dental Instruments.

G. W. Rutterford. **No. 47.**

Dental Sundries.

Smale Bros. **No. 48.**

Dental Instruments, Tools, and Appliances.

Mineral Teeth.

John Weiss and Son. **No. 53.**

Dental Instruments.

Samuel S. White. **No. 51.**

Dental Instruments and Apparatus.



SECTION V.

Aural Instruments.

NAMES OF EXHIBITORS ARRANGED ALPHABETICALLY.
NUMERICAL LIST OF THIS SECTION ON PAGE 127.

Jas. Coxeter and Son. **No. 13.**

Aural Instruments.

W. B. Hilliard and Sons. **No. 237.**

Dr. Cassell's Aurist's Case, price £3 15s.

S. Maw, Son, and Thompson. **No. 4.**

Ear and Nose Instruments.—Ear Syringe, Tonybée's.

Ear Syringe, Allen's.

Ear Douches, Weber's (two kinds).

Ear Channel, Brown's.

Ear Forceps (a series of patterns).

Snare, Blake's. Snare, Wylde's

Politzer's New Apparatus. Brunton's Aurescope.

Weber's Aurescope.

Ecraseur for Nasal Polypus. Fraenkel's Nose Dilator.

Hearing Trumpets.

Ear Speculums (assorted patterns).

Eustachian Catheters.

Mayer and Meltzer. **No. 46.**

Aural Instruments.

Millikin and Down. **No. 5.**

Forceps with Movable Blades for Removal of Foreign Bodies, price 8s. 6d.

Gardiner Brown's Air Douche for Inflating the Eustachian Tubes, price 5s. 6d.

Gardiner Brown's Instrument for Removing Foreign Bodies, price 4s. 6d.

Gardiner Brown's Tuning Fork and Method for Estimating the Hearing Power by Comparison with Touch.

Gardiner Brown's Trough for use in Ear Syringing, price 4s. 6d.

J. Weiss and Son. **No. 53.**

Aural Instruments.

C. Wright and Co. **No. 9.**

Baber's Improved Snare for Aural and Nasal Polypus, price £1.



SECTION VI.

Appliances for the Ward and Sick Room.

NAMES OF EXHIBITORS ARRANGED ALPHABETICALLY.
NUMERICAL LIST OF THIS SECTION ON PAGE 128.

James Allen and Sons. **No. 219.**

Fomentation Steamer and Kettle combined, for Bronchitis, price 10s. 6d.

Invalids' and Nursery Baths combined, price £2 10s. to £3 10s.

Foot Warmers for Infants and Invalids, price 10s. and upwards.

Portable Hot Air and Vapour Bath (Iron and Copper), price from £1 10s.

Bronchitis Kettles (Tinned Iron), price 7s. 6d.

Vapourizing Kettle, price 5s.

Ventilating Croup Kettle, price £1 5s.

Inhaler, price 5s. to 6s.

Thomas Allen. **No. 161.**

Bedsteads and Invalids' Tables.

E. J. Alment. **No. 211.**

Appliances for the Ward and Sick Room.

H. Bell. **No. 126.**

Appliances for the Sick Room.

Benham and Sons. **No. 410.**

Hospital Bath on noiseless wheels. Hospital Coal Cellarette.

Hospital Cot and Sliding Tray (Children's).

Washstand and Drawers. Clothes Bin.

John Carter. **No. 151.**

Invalid Furniture.—Adjustable couches and chairs, bed rests, and leg rests, made of wood and iron, price from £5 5s.

Bath Chairs. Merlin Chairs. Invalid Carriages.

Bath Chairs with adjustable back and leg rests.

Merlin Chairs, made of wood and iron, price from £5 5s.

Invalid Chairs, Carriage Chairs, Ambulances, Bed Lifts, made of wood, iron, and brass, price from £2 16s. 6d.

Chairs, Invalid Bedsteads, &c., Invalid Bedstead with self-adjusting back and commode arrangement. Commode Chairs made of iron and wood, price from £4 15s.

Reading Stands and Bed Tables, Patent Literary Machine, and Carter's Patent Bed Tables, made of wood and iron, price from 12s. 6d.

Chorlton and Dugdale. **No. 411.**

Hospital Furniture, wood and metal.

"Excelsior" Spring Mattress, 6 ft. 2 in. by 2 ft., price £1 13s. 6d.

"Excelsior" Epileptic Bed, 6 ft. 2 in. by 6 ft., price £3 8s.

"Matlock" Bed Rest, price from £1 7s. 6d.

"Matlock" Invalid Couch, price from £4 10s.

"Excelsior" Spring Chair, with adjustable back and leg rest price from £2 10s.

Combined "Pillow Divider" and Cup Rest, price from 7s. 6d.

Coleman and Glendenning. **No. 235.**

Couch.—Dr. Roth's Spinal Couch, made of birchwood, horse-hair, wool, brass, and iron, price £6 15s.

Chair.—Dr. Roth's Hygienic Chair, with Glendenning's patent spiral pad, made of birchwood, price 10s. 6d., walnut wood, 15s., oak, £2.

Dr. Roth's Patent Folding Chair, made of oak, price 9s.

J. R. Corsan. **No. 130.**

Hospital Glass.

James Coxeter and Son. **No. 13.**

Appliances of the Ward and Sick Room.

F. Darton and Co. **No. 36.**

Thermometer for Testing Fluids, price 3s. 6d.

E. Overman Day. **No. 125.**

Feeding Bottle made of glass, india rubber.

E. Diver, M.D. **No. 180f.**

Bed-pan, with diaphragm to separate excretions.

Appliances for the Ward and Sick Room.

Ellis and Co. **No. 234.**

Cabinet Turkish Baths.

The "Cabinet" Turkish Bath, made of pine, price £5 10s.

Made of walnut, price £9.

William Hamilton. **No. 154.**

Invalid Couch.

E. Hilton. **No. 227.**

Appliances for the Ward and Sick Room.

Hooper and Co. **No. 178.**

Air Beds and Cushions.

HOSPITALS.

Charing Cross Hospital. **No. 460.**

Children's Hospital, The. **No. 464.**

Guy's Hospital. **No. 452.**

Hospitals of the Army and Navy. **No. 465.**

King's College Hospital. **No. 458.**

London Hospital, The. **No. 454.**

Middlesex Hospital, The. **No. 456.**

New Marylebone Infirmary, The. **No. 462.**

Royal Free Hospital, The. **No. 463.**

St. Bartholomew's Hospital. **No. 451.**

St. George's Hospital. **No. 455.**

St. Mary's Hospital. **No. 461.**

St. Thomas's Hospital. **No. 453.**

University College Hospital. **No. 457.**

Westminster Hospital. **No. 459.**

Bedsteads and Bedding, and various Hospital Appliances.

Krohne and Sesemann. **No. 45.**

Appliances for the Sick Room.

Edward Lipowsky. **No. 140a.**

Appliances for the Ward and Sick Room.

W. H. Lloyd. **No. 233.**

Requisites for Sick Room.—Bronchitis Kettle, Food Warmer, Hot Air and Vapour Baths in one, made of earthenware, tin, copper, and brass, price, small size, 15s.

Thos. Marshall. **No. 124.**

Feeding Bottles.

Wm. Martindale. **No. 171.**

Antidote Bag, containing stomach pump, hypodermic syringe, and chemical and physiological antidotes for poisons.

Portable Inhaler, for medicating hot moist air for inhalation, does not exhaust the patient, and packs in 7in. by 5in. by 5 in.

Poor Man's Inhaler, cheaper embodiment of principles of above.

Throat Insufflator, with or without elastic bellows, scoop, scraper, and powder bottle.

S. Maw, Son, and Thompson. **No. 4.**

Hospital Ward Thermometers, &c.

Steam and Hand Ball Sprays.—

Desmaurix's.

Maw's, for Carbolic Acid (improved patterns).

Richardson's.

Lee's.

Siegle's.

Clark's.

Dewar's.

Trusses.—

Maw's single and double Circular.

Salmon and Odey's ditto

Maw's single and double, new pattern.

Cole's single and double.

Maw's single and double wire.

Mocmain, single and double

Scrotal, single and double.

Hollow pad truss. Femoral

Hulls, for Prolapsus Uteri.

Children's, single and double.

Mayer and Meltzer. **No. 46.****Appliances of the Ward and Sick Room.**Thomas McIlroy. **No. 162.**

Invalid Elevator and Fracture Bedstead combined, made to elevate head, and raise knees, etc., price from £2.

Surgical Operating Table, price from £10.

Surgical Operating Table for Hospitals or Consulting Room, walnut wood, price from £15.

Invalid's Wheel Chair, price from £10.

Commode and Chair.

W. Monk and Co. **No. 153.**

Appliances for the Ward and Sick Room.

Invalid Furniture.

Newton H. Nixon. **No. 140e.**

Bed Rest.

Bed Table, of wood and steel.

Bronchitis and Tracheotomy Kettle, made of block tin.

Appliances for the Ward and Sick Room.

John Battishill Parker. **No. 209.**

Revolving Bed, price £5 5s.

Pocock Bros. **No. 156.**

Padded Room.—Panels indestructible and watertight, specially prepared cloth with coating of indiarubber, price 2s. per square foot.

Air Bed, with tubes arranged side by side, forming a mattress with drainage, made of air-proof cloth, price from £2 10s.

Water Bed, with tubes arranged side by side, forming a mattress with drainage, made of water-proof cloth; price from £3 10s.

Air and Water Bed, with tubes arranged side by side, forming a mattress with drainage, made of air and waterproof cloth, price from £4 10s.

Air Bed.—Do. convertible into a couch for invalids by means of a wedge-shaped pillow, which will raise the body to any angle by inflation, airproof cloth, price from £5 10s.

Price's Patent Candle Company, Limited. **No. 119.**

Night Lights. Chamber Candles. Food Warmers. Paraffin
Salt and Son. **No. 39.**

Bowkett's patent Clinical Thermographs, price £5 5s.

Dudgeon's Pocket Sphygmographs, price £2 12s. 6d.

Bartleet's Miniature Aspirators, price from £3 3s.

Salt and Son's Aluminium Pocket Dressing Cases, price from
£3 13s. 6d.

Salt and Son's Hypodermic Syringes, price from £1 5s.

Do. New Portable Chemical Urinary Test Cases, price
from £1 5s.

Thomas William Stidolph. **No. 155.**

Invalid Bedstead, made of wood, iron, and flax combined, for
Epileptic Patients.

Mattress, linen and hair, price £2 5s.

Ventilating Pillow, to prevent suffocation from lying on face.

Invalid Bedstead, noiseless moving.

Institution or Barrack Bedstead, folding, price £2 17s. 6d.

Bolster for do. price 7s. 6d.

Do. do. price £1 14s. 6d.

Mattress, linen and horsehair, price £1 7s. 6d.

Thomas Tapling and Co. **No. 409.**

Invalid Bedstead, price £5 2s. 6d.

Henry Tylor and Son. **No. 238.**

Hospital Bedsteads, made of brass and iron, price from £1 1s. 6d.

Hospital Cot, with varnished Pine Table, made of iron and pine-
wood.

Hospital Bedstead Blind, with invalid rest, made of iron, price
£2 11s.

Thomas Twining. **No. 96.**

Mesopodium and Crutches, made of wood.

John Ward. **No. 152.**

Mechanical Invalids' Bed, to raise the invalid to different positions,
made of wood, springs, stuffing, price from 22 guineas.

Geo. Wells. **No. 210.**

Feeding Bottle.

R. W. Winfield and Co. **No. 419.**

Metallic Bedsteads, Cots, and Furniture.

Metallic Bedsteads and Cots, adapted to several positions at
pleasure, made of iron, brass, and gun metal.



SECTION VII.

Drugs, Disinfectants, Dietetic Articles, and Mineral Waters.

NAMES OF EXHIBITORS ARRANGED ALPHABETICALLY.
NUMERICAL LIST OF THIS SECTION ON PAGE 129.

G. Van Abbott. **No. 215.**

Mineral Waters.

Dietetic Articles.—Chocolate, with Liebig's Extract of Meat, with and without sugar, price 6s. 6d. per lb.

Nutrimentin, made of meat and gluten flour, price 1s. 6d. per tin.

Glycerine Jujubes, with gelatine, without sugar, price 6d. and 1s.

Meat and Vegetable Extracts and Essences.

Hypophosphite of Lime Biscuits. Price 2s. 6d.

Gluten Bread, Biscuits, Flour, Semola, Macaroni, Vermicelli, and Chocolate.

Æsculap Bitter Water Co. **No. 192.**

Mineral Waters.

Chas. Allen. **No. 180d.**

Tine Tine, an antiseptic wash.

Allen and Hanburys. **No. 164.**

Pharmaceutical Preparations.

Medical Dietetic Articles.

Andover Aërated Water Manufactory. **No. 187.**

Glauber Purgative Waters.

Medicinal Aërated Waters

Acid Waters.

Tonic Waters.

Table Waters.

Saccharine Waters.

Antitropic Co. **No. 107.**

Beverages and Dietetic Articles.

Apollinaris Company, Limited. **No. 179.**

Apollinaris Water (Natural). Hunyadi Janos Water (Natural).

Arsenical Water Co. of Court St. Etienne. **No. 194.**

Mineral Arsenical Waters.

Aylesbury Dairy Co., Limited. **No. 112.**

Koumiss. Cow's Milk Fermented. Artificial Human Milk,
prepared by removal of casine from cow's milk. Peptonised Milk.
Milk treated with Liquor pancreaticus. Whey. Milk treated
with rennet.

Battley and Watts. **No. 101.**

Pharmaceutical Preparations, including Liquor Opii Sedat., Liquor
Cinch. Cort., Liquor Secalis.

Bellthal Brünnen Co. **No. 199.**

Mineral Water (Natural)—An acidulated alkaline mineral water.

Peter Hinckes Bird, F.R.C.S. **No. 378.**

Disinfectants.

Oscar Björkbom. **No. 22c.**

Malt Extract.

Blake, Sandford, and Blake. **No. 196.**

Mineral Waters.

John Bonthron. **No. 113.**

Gluten Bread, Biscuits, Flour and Bran.

Brand and Co. **No. 104.**

Beef, Veal, Mutton, Chicken, Turtle, Oxtail, and Albuminous, Teas,
Essences, Broths, and Soups.

Roul Bravais. **No. 407.**

Condensed Milk. Mineral Waters.

Pharmaceutical Preparations of Iron and Quinine.

Burgoyne, Burbidges and Co. **No. 167.**

Vanilline.

Heliotropine.

C. H. Burk. **No. 224.**

Medicated Wines.—Containing pepsine, iron, cocoa, Peruvian bark.

W. J. Bush and Co. **No. 239.**

Essential Oils—Sandal, &c.

Fruit Essences.

Burroughs, Wellcome, and Co. **No. 2.**

Inhaler for Generating Pure Gas of Chloride of Ammonia, price 12s.

Drug Mill (the Enterprise), price £2.

Tincture Press (the Enterprise), price £1.

Compressed Drugs and Powders.

Chlorate of Potash, free from Gum or Sugar.

Chloride of Ammonium.

Bicarbonate of Soda

Bicarbonate of Potash.

Chlorate of Potash and Borax.

Soda Mint.

Dialyzed Iron.

Lawton's Absorbent Cotton.

Peptonic Tablets.

Beef and Iron Wine. Hazeline from fresh green bark of Witch Hazel.

Syrup of Hypophosphites.

Hygienic Toilet Water, distilled from the petals of the blossoms of magnolia, rose, orange and violet, with spirit and water, together with the leaves and flowers of other fragrant plants of tropical Florida.

Skin Soap from fine tar, glycerine, olive oil, and soda.

Porous plasters (B.P.)

Symes' Lac Bismuth.

F. C. Calvert and Co. **No. 229.**

Disinfectants.

Pharmaceutical Preparations.

Soaps.

Canzuch, Bros. **No. 182.**

Pharmaceutical Products.

E. Chapman and Co. **No. 135.**

Mineral Water.

Koumiss, Full (made of milk fermented).

Koumiss Medicine. Whey, and Diabetic Bland, consisting of whey.

Chesebrough Manufacturing Co. **No. 129.**

Preparations of Vaseline.

Vaseline.

Arturo D. Ciullini. **No. 95.**

Pharmaceutical Preparations.

Condy's Fluid Company. **No. 116.**

Disinfectants.

Aristide Conti. **No. 118.**

Chemicals.

Corbyn, Stacy, and Co. **No. 173.**

Pharmaceutical Preparations. Drugs. Medical Dietetic Articles.

J. R. Corsan. **No. 130.**

Chemists' Fittings.

A. B. Cortis. **No. 122.**

Chloricalcium.

James N. Davidson. **No. 205.**

Medical Dietetic Articles.—Concentrated sweet rennet, made of calf's rennet, spirit of wine, water, price from 6d. per bottle.

Pharmaceutical Preparations.—Emulsions of cod liver oil.

Delacre's Extract of Beef Co. **No. 134.**

Extract of Beef, made of beef only.

W. F. W. Eckell. **No. 114.**

Medical Dietetic Articles.

Evans, Lescher, and Webb. **No. 181.**

Vin Santé, an aërated beverage, made of the Hypophosphites of Lime, Sem. Soda, and Potash.

Feltoe and Sons. **No. 404.**

Lime Juice Cordial. (the "Spécialité.")

Fletcher and Fletcher. **No. 208.**

Chemical and Pharmaceutical Preparations.

Forster and Gregory. **No. 220.**

Pharmaceutical Preparations, including:
Hypophosphites of the Alkalies and Metals.

Indiarubber, Chemicals made of Sulphur, and Metals, and Oxide of Metals.

Refined Sulphur or Brimstone.

Nitro Compounds of Benzole and Napthaline.

Gale and Co. **No. 172.**

Collection of Pharmaceutical Specimens.

E. Gallais. **No. 195.**

Mineral Waters.

St. Galmier Table Water

Rakoyi Aperient Water.

St. Raphael Tonic.

Genoveva Natural Sparkling Mineral Water Co. **No. 188.**

Mineral Waters.

Gerolstein Natural Mineral Water Company. **No. 186.**

Mineral Waters.

Samuel Gulliver and Co. **No. 191.**

Beverages.

Quinine Tonic.

Aërated Waters.

Lemonade.

Lime Juice Champagne.

Ginger Ale.

F. and C. Hancock. **No. 137.**

Machines for mixing Pharmaceutical Preparations.

Harzer Natural Mineral Water Co., Limited. **No. 193.**

Mineral Waters.

T. T. Hirst and Co. **No. 189.**

Mineral Waters.

M. and Leopold Hoff. **No. 190.**

Medical Dietetic Articles.

Malt made by a special process to develop the largest percentage of
Diastase, Cocoa, Sugar, and Pepsin Soup.

Malt Beverage. Malt Concentrated. Malt Chocolate.
Malt Lozenges.

Hooper and Co. **No. 178.**

Mineral Waters.

Jeye's Sanitary Compounds Co. **No. 105.**

Jeye's Disinfectant Soap, made of Naphthaline and Creosote.

Jeye's Sanitary Powder, made of Naphthaline.

Soft Soap, made of Fats and Creosote.

Heinrich Karl. **No. 123.**

Pharmaceutical Preparations.

H. and T. Kirby and Co. **No. 166.**

Concentrated Mixtures for Hospital use.

Ethereal Tincture and Elixirs.

Hospital Pills, coated.

Pil Ferri Phosphatis.

Eucalyptus Ointment.

Eucalyptus Collodion.

Carbolic Acid Ointment.

Suppositories Bougies, &c.

Glycerole or Jelly Lozenges.

Glycerine Jujubes.

Medicine Cases for Colonial Travelling, price 6s. to £5 5s.

Thymol Powder for Personal use.

Dietetic Articles. Beef Oatehein, various forms.

Food for Diabetics, Beef and Gluten Flour.

Prepared Haricot Beans.

Kopf's Extract of Meat and Compressed Food, Co. **No. 115**

Extract of Beef.

Essence of Beef.

Beef Lozenges.

Dietetic Biscuits.

Consolidated Soups.

Extract of Tea, Coffee, Cocoa.

J. Paul Liebe. **No. 176.**

Medical Dietetic Articles.

J. and C. Lloyd and Co. **No. 103.**

Medical Dietetic Articles.

Ed. Loefflund. **No. 127.**

Malt Extracts.

J. F. Macfarlan and Co. **No. 177.**

Pharmaceutical Preparations.

Alkaloid Chemicals.	Opium Products.	Chloroform.
Chrysophanic Acid.	Sulphate of Bebeerine.	Salicin.

Mackey, Mackey, and Co. **No. 232.**

Disinfectants. Chemical and Pharmaceutical Preparations.

The Maltine Manufacturing Co. **No. 200.**

Maltine, made from Barley, Wheat and Oats.

Wm. Martindale. **No. 171.**

Nitro-Glycerine Tablets and Alcoholic Solution.	Nitrite of Amyl.
Eucalyptus Oil and Ointment.	Resorcin. Ethidene Dichloride.
Iodide of Ethyl Capsules.	Liquor Jaborandi. Liquor Ergotæ.
Medicated Urethral Bougies of Iodoform and Eucalyptus, and of Sulphate of Zinc and Belladonna.	Sodio Magnesium.
Ointments of Boracic Acid, Glycerole of Lead, and Salicylic Acid.	A series of Plastic Pilules.
Effervescent Sulphate of Soda.	Pastils of Aconite.
Aperient Citrate of Potash, effervescent.	Some Rare Alkaloids.
Phosphorus Pills.	Quinine Pills.

Cav. Giovanni Mazzolini. **No. 223.**

Pharmaceutical Preparations.

E. Merck. **No. 213.**

Medicinal Preparations.

Paul Metz. **No. 18.**Chemicals, Physical.—Glass Instruments and Apparatus.
Kanoldt's Tamarind Lozenges.J. Moorhouse and Co. **No. 185.**

Aërated Waters. Mineral Waters.

T. Morson and Son. **No. 216.**

Chemical and Pharmaceutical Preparations.

Mottershead and Co. **No. 24.**

Medical Dietetic Articles.

Samuel Newman. **No. 136.**

Dietetic Articles.—Johann Hoff's Malt Extract.	
Malt Extract, with Sem. and Quinine.	
Malt Lozenges, Soups, and Chocolate.	Iron and Chocolate.

Francis Newbery and Sons. **No. 165.**

Pharmaceutical Preparations (from Philadelphia).

Nowry Mineral Water Co., Limited. No. 184.

Aërated Waters.

Mineral Waters.

Packham and Co. No. 183.

Aërated Waters.

Mineral Waters.

August Planck. No. 121.

Dietetic Articles.

Henry J. Pratt. No. 180a.

Cod Liver Oil Jelly. (Agnew's.)

Price's Patent Candle Company, Limited. No. 119.

Hygienic, Toilet, Nursery, and Bath-room soaps.

Oleic Acid. Coco-olein. Brown's and Price's Glycerines.

J. M. Richards. No. 102.

Lacto-peptine Powder, Syrup, and Wine, with Strychnia, Bismuth, and Phosphate of Iron.

John Richardson and Co. No. 163.

Pharmaceutical Preparations.

Soluble Pearl-coated Pills.

Compact Medicine Chests.

Thymol Soup and Jelly.

Phosphorised Cod Liver Oil (Emulsion).

Compound Pepsine Wine.

Thymol Soap.

Eugene Rimmel. No. 109.

Disinfectant.—Aromatic Ozonizer, composed of sawdust of various odoriferous trees, essence of eucalyptus, and various plants of the labiate order.

Aromatic Vinegar. Perfume vaporiser and special compounds for same.

Carbolic and Coal Tar Soap.

Carbolic Dentifrice. Toilet Vinegar.

Roberts et Cie. No. 217.

Pharmaceutical Preparations.

The Sanitas Co., Limited. No. 108.

Disinfectant and Antiseptic Fluids. Oil, powder, soap, and toilet articles. Ointments and antiseptic gauze.

Savory and Moore. No. 3.

Dietetic Articles.

Fluid Meat.

Pepsine.

Pancreatic Emulsion.

Infants' Food.

Drugs and Chemicals, including Medical Gelatine Preparations.

Carbolic Acid Vaporiser, specially designed for disinfecting purposes, made of metal, price 7s. 6d. each.

- W. H. Schieffelin and Co. **No. 169.**
 Pharmaceutical Preparations. Coated Pills and Granules.
- Edward Albert Schneider. **No. 180b.**
 Liquid Essence of Beef, for sea use and home use.
- Victor Schmidt and Son. **No. 221.**
 Drugs.
- Henry and Leigh Slater. **No. 206.**
 Disinfectant Paper Blanket ("Chartaline"), price from 2s. each.
- T. and H. Smith and Co. **No. 168.**
 Opium Products. Alkaloids. Pharmaceutical Preparations.
- Southall Brothers and Barclay. **No. 225.**
 Cod Liver Oil. Soluble Meat.
 Sea Salt.—The Aquarium Sea Salt for Baths.
- Henry King Stevens. **No. 405.**
 Flitwick Natural Mineral Water.
 Do. do. Carbonaceous Powder.
 Do. do. Porous Peroxide of Iron.
 Do. do. Carbonaceous Peroxide of Iron.
- Anton Ulbrich. **No. 218.**
 Pullna Bitter Waters (Natural).
- Mann S. Valentine. **No. 174.**
 Dietetic Articles.
- The Victoria Bitter Water Co. **No. 198.**
 Aperient Waters.—Natural Water as drawn from spring.
- Thomas Waller and Co. **No. 249.**
 Soaps.
- J. P. Wilson. **No. 180c.**
 Lactate of Lead Liniment.
 Syrup of Protochloride of Iron.
- Young and Postans. **No. 214.**
 Medicated Effervescent Granules.
 Phosphorised Cod Liver Oil. Antiseptics.
- A. and M. Zimmermann. **No. 175.**
 Chemicals for Medical Use, including Chloral Hydrate, Croton Chloral, Tannic, Gallic and Pyrogallic Acids (sublimed), Salicylic Acid (crystallised), Salicine, Salts of Quinine, Cinchonine and Cinchonidine, Potassium Bromide, and Iodide, Essential Oils.



SECTION VIII.

Electrical Instruments and Appliances.

NAMES OF EXHIBITORS ARRANGED ALPHABETICALLY.
NUMERICAL LIST OF THIS SECTION ON PAGE 131.

Arnold and Sons. **No. 6.**

Electrical Instruments.

Dr. Barda. **No. 226.**

Electrical Bath Apparatus.

Jas. Coxeter and Son. **No. 13.**

Electrical Instruments and Appliances.

Gauernach and Reinboth. **No. 31.**

Electrical Apparatus.

W. Groves. **No. 23.**

Medical Batteries.

The Indiarubber, Gutta Percha, and Telegraph Works Co.,
Limited. **No. 17.**

Leclanche's Medical Batteries.

Krohne and Sesemann. **No. 45.**

Electrical Instruments.

S. Maw, Son, and Thompson. **No. 4.**

Electrical Instruments.

Mayer and Meltzer. **No. 46.**

Galvanic Batteries and Appliances.

Mottershead and Co. **No. 24.**

Batteries.

M. Pillischer. **No. 10.**

Electrical Instruments.

I. L. Pulvermacher. **No. 32.**

High Tension Electric Chain Batteries, price £4 4s.

Pocket Batteries, price £5 5s.

Voltaic Chain Bands. Electrodes.

Electrolytic Dosometer for measuring Voltaic Current, price 5s.

P. W. Seymour. **No. 34.**

Magnetic Appliances for Chest, Abdomen, and Spine.

Permanent Steel Magnets with movable poles, price 2s. 6d.

Electro Magnet with pole changer.

Galvanic Battery.

J. B. Thistleton. **No. 11.**

Electrical Apparatus—Continuous Current Batteries, 20, 30, and 40 cell, with modified dial collectors for selection of any cell, composed of brass, mahogany, indiarubber, carbon, zinc, and glass, price from £4 4s.

Du Bois Reymond Induction Apparatus, with 3 secondary coils, and automatic interrupter, made of copper, brass, steel, iron, ebonite, and mahogany, price from £13 13s. each.

Interrupted Current Apparatus, various, price from £1 1s. each.

Galvano Cautey with accessories (Professor Brine's) composed of ebony, steel, platinum, porcelain, and brass, price from £4 4s. each.

Small and large Absolute Galvanometers, divided as suggested by M. de Watteville, composed of agate, steel, brass, copper, and mahogany, price from £1 5s. each.

Portable Tangent Galvanometer (2 coils).

Circular Dial Wire and Water Rheostats, composed of German silver, ebonite, and brass, price from 2s. each.

Current Reverser, De Watteville's, Alternator and Combiner, made of brass, ebonite, mahogany, and nickel, price from £1 12s. 6d. each.

Interrupting Handles, made of brass, mahogany, and ivory, price from 6s. each.

Disc and Olivary Carbon Electrodes, various, made from carbon, leather, brass, and amadou, price from 1s. each.

Rheophores of various forms for continuous and induced currents, made of copper, gutta percha, and silk, price from 1s. 6d. per pair.

Electrodes for applying static electricity, made of nickel, brass, and glass, price from 2s. 6d. each.

John Weiss and Son. **No. 53.**

Galvanic Batteries.

R. W. Winfield and Co. **No. 419.**

Copper Wire of high conductivity for electric purposes.



SECTION IX.

Microscopes and Optical Apparatus.

NAMES OF EXHIBITORS ARRANGED ALPHABETICALLY.
NUMERICAL LIST OF THIS SECTION ON PAGE 131.

R. and J. Beck. **No. 42.**

Microscopes.

Henry Crouch. **No. 35.**

Microscopes. Ophthalmic Instruments. Trial Glasses.

W. J. Hauck. **No. 1.**

Optical Instruments.

Dr. Giambattista Laura. **No. 230.**

Microscopic Sections.

David Marr, **No. 40.**

Microscopes.

J. B. Medland. **No. 16a.**

Cabinet for Microscopical Specimens, price £1 1s.

Microscope Companion, price £1 7s. 6d.

New Object Cabinet, price 5s.

Nachet, A. **No. 21.**

Microscopes.—Models for Students, price from £6.

Pickard and Curry. **No. 41.**

Microscopes.

M. Pillischer. **No. 10.**

Optical Instruments.

Microscopes, Accessory Apparatus, and Object Glasses.

Ross and Co. **No. 7.**

Microscopes, price £6 6s.

Microscope Object Glasses, price £1 11s. 6d.

Microscope Illuminating Apparatus, price 5s. to £5 10s.

Illuminators, Reflectors, Micrometers.

Salt and Son. **No. 39.**

Pocket Clinical Microscope for Urinary Examination.

Strode and Co. **No. 426.**

An Oculist's Universal Gas Bracket, made of Brass and Glass.

James Swift & Son. **No. 8.**

Microscopes and Microscopical Apparatus, price from £5 5s. to £41.

R. W. Winfield and Co. **No. 419.**

Tubes for Surgical Instruments and Microscopes.





SECTION X.

Appliances used in Teaching Medicine, and other Medical Apparatus.

NAMES OF EXHIBITORS ARRANGED ALPHABETICALLY.
NUMERICAL LIST OF THIS SECTION ON PAGE 132.

Arnold and Sons. **No. 6.**

Apparatus used in the Investigation of Disease.

Beneke, Professor **No. 94.**

Diagrams exhibiting the relative size in health and constitutional disease in different ages.

Böeckmann and Burmester. **No. 30.**

Medical Apparatus.

Samuel Benton. **No. 75.**

Diet Chart.

Carl Berg. **No. 140b.**

Chemical Apparatus.

Dr. Jean Bufalini. **No. 25b.**

A Plessimeter, price 100 francs.

William Cowan. **No. 29c.**

Vaccination Shield, made of wire and cotton, for adults and babies.
price 6d. to 2s. and 2s. 6d.

Vaccination Shield.

Dr. Louis Grósz de Csatár. **No. 466.**

Medical Apparatus.

F. Darton and Co. **No. 36.**

Clinical Thermometer.

Dr. M. Emmanuele. **No. 38c.**

An Auto-Stethoscope.

W. B. Hilliard and Sons. **No. 237.**

Dr. Whittaker's Stethoscope.

Horn and Sons. **No. 22b.**

Regulating Digitorium for finger practice in cases of Paralysis, Rheumatism price £2 10s.

James How and Co. **No. 16f.**

Apparatus for estimating Urea by means of Hypobromite of Sodium.

Dr. Isenschmidt. **No. 140d.**

Model of the Larynx for Teaching.

Henry Kappeller. **No. 14.**

Thermometers, Clinical.

Krohne and Sesemann. **No. 45.**

Appliances used in teaching medicine.

Professor Labus. **No. 16b.**

Appliances used in teaching medicine.

Robert J. Lee, M.D. **No. 38d.**

Inhaler. Steam Draft and Regulating Lamp, made of metal.
Inhaler.

G. H. Mackenzie, M.D. **No. 29e.**

Respirators, price 10s. 6d.

Matthews, Bros. **No. 37.**

Stethoscopes (Dr. Hicks'), price 3s. 6d. each.

Mayer and Meltzer. **No. 46.**

Diagnostic Instruments.

S. Maw, Son, and Thompson. **No. 4.**

Instruments for Diagnosis and General Research. Clinical Thermometers.

Maw's Lenticular, with indestructible indices, a series of patterns in cases.

Surfaces, by Dupire. Surface, by Granville.

Sphygmograph, Mahomed's

Stethoscopes, Binaural, single chest piece. Binaural, double chest piece.

Binaural, with single and double chest pieces combined.

Barron's Billing's Burrow's ebony.

Burrow's ebony and ivory. Dobell's
Fergusson's cedar. Fergusson's walnut.
Fergusson's walnut and ebony.

Stethoscope's. Hughes'. Stoke's cedar.
Stoke's, with percussion ring. Walsh's, hollow.
Walsh's, solid. Metallic, with ebonite plate.
Metallic, with speculum combined. Trabes.
Vulcanite. Vulcanite, portable for pocket.

Urinary Test Case and Stands. Maw's open stand.
Maw's closed stand. Maw's Vulcanite "registered"
Maw's Laboratory. Dobell's Sediment Collector.

Thomas McIlroy. **No. 162.**

Post-mortem Table or Anatomical Weighing Table, in Walnut
price £75.

Paul Metz. **No. 18.**

Kanoldt's Inhalation Instrument; price 10s. 6d.

Millikin and Down. **No. 5.**

Palmer's Binaural Stethoscope and Caliper combined, price £1 5s.
Mahomed's Chest Measure, price 6s. 9d.

Mottershead and Co. **No. 24.**

Chemical Glass.

Richd. Neale, M.D. **No. 98.**

Chemical Lung as a punkah, made of a solution of caustic soda
or potash

M. Pillicher. **No. 10.**

Apparatus used in the Investigation of Disease.

Dr. Charles Renner. **No. 180e.**

Specimen of Calf Lymph.

Roberts et Cie. **No. 217.**

Medical Apparatus.

Salt and Sons. **No. 39.**

Portable Stethoscope; price from 7s. 6d.
Salt's Portable Vaccine Case, with tablets; price 12s. 6d.

Jules Tabrich. **No. 28.**

Anatomical Models.

Townson and Mercer. **No. 19.**

Chemical Apparatus.

Graduated Instruments.

Dr. Vajda. **No. 25e.**

Urethral Apparatus, made of indiarubber and glass.

H. Wordsworth and Co. **No. 140c.**

Respirators.

C. Wright and Co. **No. 9.**

Dr. Morton's Portable Urinary Test Case, price 18s. 6d.

Dr. Alexander's Portable Urinary Test Case, price £1 10s.

August Zemsch. **No. 38e.**

Inhalation Apparatus.





SECTION XI.

Physiological Instruments.

NAMES OF EXHIBITORS ARRANGED ALPHABETICALLY.
NUMERICAL LIST OF THIS SECTION ON PAGE 133.

Dr. R. E. Dudgeon. **No. 38a.**

Pocket Sphymograph, made of nickel, brass, steel, and wood, price £2 12s. 6d.

W. J. Hauck. **No. 1.**

Physiological Instruments.

Mayer and Meltzer. **No. 46.**

Physiological Instruments.

Millikin and Down. **No. 5.**

Golding Bird's Apparatus for Anæsthesia, price 12s. 6d.
Guy's Nasal Ether Inhaler, price 15s.

Savory and Moore. **No. 3.**

Chemical Cabinet for analysis of air and water, designed by Professor Parkes, made of wood and metal.

J. B. Thistleton. **No. 11.**

Physiological Instruments.

H. Windler. **No. 12.**

Physiological Apparatus, Pneumatic Apparatus, Polygraphion, price £35.



SECTION XII.

Street Ambulances and other Appliances used for the Treatment of Sick and Wounded.

NAMES OF EXHIBITORS ARRANGED ALPHABETICALLY.
NUMERICAL LIST OF THIS SECTION ON PAGE 133.

F. W. Brewster. **No. 236.**

Life Saving Apparatus, with covers and cloaks, cork or air tubes, covered with variety of materials, price from £3 3s.

Director General of the Army Medical Department (lent by). **No. 468.**

Specimens of various forms of Ambulance, from the earliest times to the present, from the Museum of the Military Medical School at Netley.

Evans and Wormall. **No. 33.**

Ambulance Bag; all requirements for first dressing of wounds, price £3 3s.

John Furley. **No. 158.**

Two-wheeled Ambulance Litter, with removable stretcher and waterproof cover, weight 1 cwt., made of wood, iron, or canvas, price £10 10s.

Support Elastique, to form bed for stretcher, made of wood and steel, price £1 5s.

Hungarian State Railway (Lewis de Folnay, Director).
No. 111.

Case of Medical and Surgical Apparatus for use in case of Railway Accidents, price £30.

A. Hutchinson and Co. No. 406.

Life Saving Mattrass.

Life Saving Seat Cushion, for ship's use.

Ihlee and Horn. No. 328.

Luminous Life Buoys.

H. and T. Kirby and Co. No. 166.

Miniature Dispensaries, made of wood, leather, and glass, price from £2 10s.

London Necropolis Co. No. 371.

Patent "Earth to Earth" Coffin.

S. Maw, Son, and Thompson. No. 4.

Appliances used for the Treatment of Sick and Wounded during War.

Thomas McIlroy. No. 162.

Portable Invalid Carrying Chair, price £2 10s.

Order of St. John of Jerusalem. No. 157.

St. John Ambulance Wheeled Litter.—Stretcher can be detached from wheels without removing patient, made of wood, metal and canvas, price £16.

John Richardson and Co. No. 163.

Medicine Chest.

Savory and Moore. No. 3.

Medicine Chests, various, including one specially manufactured for the Physician to the Khedive of Egypt, price £1 1s.

Regulation Medicine Chest, designed for use in H.M. Army, made of wood and metal.

Medical Field Panniers, designed for field use in H. M. Army, made of hide and wicker-work.

Medical Field Companion, with water bottle, made of hide and wicker-work.

Surgical Haversack, with water bottle, specially arranged for the first dressing of wounds, made of waterproof cloth.

St. John's Ambulance Association. No. 159.

Folding Stretcher, weight 23lbs., price £2 2s.

Hamper in Waterproof Case, for use in factories and large establishments; and Knapsack, for use of volunteers and others, fitted with articles required in rendering first aid to the injured.

Folding Stretchers, price £2 2s.

Hamper in Waterproof, containing articles for first aid to the injured, price £2 2s.

Knapsack.

Samuel Stretton, M.R.C.S. **No. 160.**

Bier for under-carriage, acting also as grave barrier, made of wood metal, and leather, price from £4.

Dr. Tommaso Tommasi. **No. 38f.**

A Belt, which can be used for producing artificial respiration.

Thomas Twining. **No. 96.**

Mesopodium.

John Ward. **No. 152.**

Carrying Chair, made portable for travelling, to carry an invalid up and down stairs, made of wood and cane, price from £5 5s.

Brighton Chair, made of wood, iron, cloth, and leather, price from £33 12s.

Self Propelling Chair.—For the invalid to wheel from room to room without assistance, made of wood and morocco, spring stuffing, price from £10 10s.





SECTION XIII.

Domestic and Hospital Architecture.

*Planning, Construction, Decorative
Materials.*

NAMES OF EXHIBITORS ARRANGED ALPHABETICALLY.
NUMERICAL LIST OF THIS SECTION ON PAGE 134.

Robert Adams. **No. 395.**

Spring Door Hinges, compensating and adjustable, made of brass, steel, and iron. Single action from 15s. each, double action from £1 4s.

Sash and Casement Fasteners (Patent), made of brass, steel, and iron.

Anti-Accident Reversible Window (Patent).

Locks and Lock Furniture, made of iron, brass, wood, and china.

Casement Watertight Sill Bars, made of brass and indiarubber, price about 6s. per foot lineal.

M. J. and S. H. Adams. **No. 68.**

Drawings of "Quick Charging" Syphon.

Drawings of "Pneumatic" Sewer Ventilator.

Albissima Paint Co., Limited. **No. 300.**

"Sanitary Paints," made from zinc.

Artisans' Labourers', and General Dwellings Co., Limited
(Rowland Plumbe, F.R.I.B.A. Architect). **No. 60.**

Architectural Drawings.—Artisans' Houses.—First-class House, Eight Rooms, Front and Back Parlour, Kitchen, and Scullery, with Larder, w.c., and Dustbin on the ground floor, and Three Bedrooms, w.c., and Bath Room on floor above, rents 13s. 6d. including rates and taxes.

Second-class House, Seven Rooms, Front and Back Parlour, Kitchen, and Scullery, with Larder, w.c., and Dustbin on the ground floor, and Three Bedrooms on the floor above, 10s. per week, including rates and taxes.

Third-class House, Six Rooms, Parlour, Kitchen, and Scullery, with Larder, w.c., and Dustbin on the ground floor, and Three Bedrooms on the floor above, 8s. 6d. per week, including rates and taxes.

Fourth-class House, Five Rooms, Parlour, Kitchen, and Scullery, with Larder, w.c., and Dustbin on the ground floor, and two bedrooms on floor above, 7s. 6d per week, including rates and taxes.

Fifth-class now being built.

Plan of Shaftesbury Park Estate, Battersea.

Plan of Queen's Park Estate, Kilburn.

Banner Bros. and Co. **No. 264.**

Models and Plans of System of Sanitation.

Bellman and Ivey. **No. 360.**

Parian Cements.—Scagliola marbles.

Lawrence Booth, F.R.I.B.A. **No. 65.**

Hospital Plans.

Plans for Dwellings.

M. Bordian. **No. 89.**

Plans of Public Buildings.

Robert Boyle and Son. **No. 258.**

Drawings of Complete System of Ventilation for Dwelling Houses.

Henry G. Brace, A.R.I.B.A. **No. 66.**

Plans of Dwellings.

Plans of System of Ventilation.

H. H. Bridgman, A.R.I.B.A. **No. 82.**

Drawings.—View of Marble Cooling Room, the Camden Turkish Baths.

Engraving.—Plans and Sections of the Camden Turkish Baths.

Ground Floor Plan, Section and View of proposed Hydropathic Establishment, Bournemouth.

The Briton Ferry Coal and Pottery Company, Limited. **No. 252.**

Chimney Tops, Copings, Damp Proof Courses Flue Linings, Terra-cotta Ware.

Edward Brooke and Sons. **No. 259.**

Enamelled Bricks.

John Bryden and Sons. **No. 303.**

Bellhanging Apparatus (Mechanical and Electric).—Bells, pulls and side levers, made of brass and copper.

Electric Indicators, made of wood and brass.

Hoists.—Overhead machinery with endless rope, made of wood, iron, and gun metal.

Gates.—Apparatus for opening and closing, made of iron, price £4

Window Sashes.—Apparatus for opening and closing pivot sashes in hospitals, under control of attendants only, as supplied at Edinbro' Infirmary, made of iron, price 10s. 6d.

Cords and Pullies for opening and closing usual sashes, made of brass and cord, price 7s. 6d.

William Paton Buchan. **No. 261.**

Diagram of Anti-Bell Trap (Buchan's Patent).

Diagram of Open Air Channel Style of Fitting Soil Pipes and Waste Pipes (Buchan's).

Diagram of Sectional or Isolation System of House Drainage (Buchan's).

R. Bullivant, Tagliaferro and Co. **No. 392.**

Window, to Prevent Accidents.—Sliding sashes easily removable for cleaning or painting, made of deal, oak, and zinc, 1s. 2d. per foot super.

Candy and Co. **No. 301.**

Bricks.—Damp proof, gray or bath-stone colour, known as "Devonshire Gray's," price £1 17s. 6d. per 1,000.

Brown Glazed, for Sanitary and Building Purposes, price £2 10s. per 1,000.

White Terra-Cotta (Plain and Ornamental), price £2 10s. per 1,000.

Paving.—Decomposed granite and stoneware clay, price £2 15s. per 1,000.

Fire and Fire-resisting Material, made from fire clay and free silica, combined.

W. Chisholm. **No. 71.**

Hospital Plans.—Plans of New Lying-in Hospital, Madras, constructed on the pavilion system. The Central Block contains the Labour Wards, and covered passages unite this block with the remaining four pavilions. Each floor of each pavilion is complete in itself, with nursery and scullery. At back of building, and constructed apart, are cottages for contagious diseases.

Joseph Cliff and Sons. **No. 270.** See page 113.

Messrs. Coe and Robinson. **No. 67.**

Plans of West Herts Infirmary, Hemel Hempstead.
Plans of South Devon and East Cornwall Hospital, Plymouth.

Doulton and Co. **No. 253.**

Art Ware.—Hand-made Articles in stoneware and faience.

Charles Drake and Co., Limited. **No. 361.**

Marble Concrete Floor, Marble Tiles, Polished Concrete Walls.

John Drysdale, M.D. (in conjunction with J. W. Hayward, M.D.). **No. 387.**

Model of House, Illustrating a Plan of Ventilating by Warm Air.

William Eassie, C.E. **No. 83.**

Drawings of the various arrangements for the performance of Cremation erected in different countries up to the present time.

C. O. Ellison. **No. 85.**

Plans of Hospital, suitable for special treatment of Eye Diseases, arranged to secure easy and economic working and entire separation of Out and In-door patients.

“Eureka” Concrete Co. **No. 363.**

Concrete Gas Detector, Block, and Pipe (Patented), with drawings, showing method of laying.

Concrete.—Model of stable showing method of laying “Eureka” Concrete, price from 8d. per superficial foot.

Ordinary Flooring, price from 6d. per foot

J. Finch and Co. **No. 302.**

Glazed Bricks, made of Fireclay, Bisque Glaze, price from £13 2s. 6d.

Freehold Cottage Dwellings Co., Limited. **No. 57.**

Plans of Workmen's Cottage Dwellings, six different classes, costing to build in brick, from £150 to £285, or in Haughton's patent concrete, from £135 to £255.

Captain Douglas Galton, C.B., F.R.S. **No. 84.**

Plans of Herbert Hospital, Woolwich.

Grantham, Junr., and Denton, Junr. **No. 92.**

Drawings of designs for Abattoirs.

Hastings' and St. Leonards' Publicity Society. **No. 86.**

Plans and Photographs of Hastings and St. Leonards, with statistics relating to their climate, health, water supply, drainage, &c.

John Hayes, C.E. **No. 87.**

Plans of project for Supplying London with Sea Water on Hays' patent system.

Dr. Von Heinrich. **No. 77.**

Plans of the Roman Baths at Vienna.

H.M. First Commissioner of Works. **No. 99.**

Ordnance Survey Maps of the different health resorts of the United Kingdom.

Hobbs, Hart, and Co. **No. 422.**

Locks and Lock Furniture and Fittings. Locks adapted for asylums, hospitals, prisons, and general purposes, made of iron, steel, and wood.

Safes and Iron Doors, for various purposes, made of iron, steel, and wood.

Henry P. Holt, C. E. **No. 260b.**

Models illustrating Sanitary Arrangements.

Plans of Sanitary Arrangements.

The House Improvement and Supply Association, Limited.
No. 373.

Plans for Dwellings.

Plans of Sanitary Arrangements.

Howard and Sons. **No. 442.**

Parquet Flooring (Patent). Impervious to dust or dirt. Oak, walnut, mahogany, &c. Price from 6d. per superficial foot.

James Charlton Humphreys. **No. 285.**

Galvanized Iron Roofing. Price 3s. per sheet 6 ft. long by 2ft. 2 in.

Iron Hospital, with air chamber throughout, made of match boarding, felt, and galvanized corrugated iron. Price from 3s. per superficial foot of floor space covered.

A. Hutchinson and Co. **No. 406.**

International Impermeable Gas Tube, made of indiarubber and its compounds, covered with woollen twill, leather, leather cloth, woven cotton, worsted silk.

Speaking Tubes. International Tube, made of indiarubber, covered with woollen twill, woven worsted, woven silk.

Ihlee and Horne. **No. 328.**

Luminous Ceilings for Hospitals.

Luminous Paints, including Aërated Varnish, Balmain's Luminous Paint, Luminous Boards for Lanterns, Luminous Leather Cloth, Model Cottage, painted with Balmain's Luminous Paint.

W. Ingham and Son. **No. 266.**

Chimney Pieces formed of Glazed Bricks.

Glazed Bricks and Hearths.

Francis E. Jones. **No. 81.**

Drawing of Hospital on the Circular Ward System.

Mark H. Judge, Architect. **No. 61.**

Plans of Three-roomed Dwellings for Artisans and Labourers, on the same area as that occupied by an ordinary house. These plans provide two separate and distinct dwellings, each having a separate street-entrance, scullery, yard, and offices.

Drawing for Fireplace Trimmer.

Joseph Kaye and Co. **No. 396.**

Locks and Latches (Kaye's Patent) for doors of every description, made of metal. Price from 6d. each and upwards.

Lock Furniture (Kaye's Patent Spindle), made of wood and metal. Price from 1s. per set.

H. J. Lanchester. **No. 72.**

Drawings of Waterproof Facing Bricks, to be made of earthenware. Price to cost from £3 per 1,000.

Josef Leiter. **No. 44.**

Medical Appliances.

Maguire and Co. **No. 282.**

Corrugated Sheet Iron, oxidized by Professor Barff's process, price about £16 per ton.

Thomas Lloyd. **No. 384.**

Staircase Model, made of wood.

The Local Government Board. **No. 467.**

Plans of various Hospital Buildings.

Walter Macfarlane and Co. **No. 251.**

Ridgings, Terminals, Railings, Panels, Stairs, Balconies, Dust Bins.

Middlesex Sanitary Association. **No. 265.**

Plans of Sanitary Arrangements.

Wm. Stephen Mitchell, M.A. **No. 70.**

Plans of Nice, Cannes, San Remo, and Mentone.

Frederick J. Mouat, M.D. **No. 91.**

Hospital Plans.—Perspective view, with plans and sections of hospital at Montpellier, now in course of construction, with arrangements for 600 beds, capable of being enlarged to 750. Also a hospital for 320 beds, to be erected in the immediate neighbourhood of Paris, on the same system. Designed by M. Tollet.

National Dwellings Society, Limited. **No. 58.**

Plans of Blocks of Artisans' Dwellings, erected in Great Eastern-street, Shoreditch, E.C., and Peel-street, Kensington, W.

National Hospital for the Deformed. **No. 73.**

Drawings representing plans, elevations, and sections of new buildings proposed to be erected in Great Portland-street for the National Hospital for the Deformed (late National Orthopædic Hospital), also showing system of drainage and ventilation.

Samuel J. Newman, A.R.I.B.A., Architect. **No. 80.**

Drawing of Drinking Fountain recently erected at Winchester.

Dr. G. V. Poore and A. Waterhouse, A.R.A. **No. 59.**

Plan for the Re-construction of University College Hospital on its present site.

G. E. Pritchett, F.S.A., F.R.I.B.A., Architect. **No. 248.**

Form of Building Construction, with Indented Ventilation Pipes, made of clay-ware and cement.

Quirk, Barton, and Co. **No. 372.**

Sheet Lead (Patent).—Tin-lined sheet lead, made of lead and pure block tin, price £2 5s. per cwt.

Sheet Lead.—Laminated lead, price £1 4s. per cwt.

William Ramsey. **No. 352.**

Stained and Leaded Glass.

Glass.—Cast, rolled, blown, pressed, cut, engraved, etched, silvered, bevelled, composed of chrysolite, Derby spar sand and ashes.

Paint Solution, Ivory Enamel, made from zinc white solution of lees.

Tiles, made of opal glass.

Lantern Panels. Door Panels.

Edward C. Robins, F.S.A., Architect. **No. 62.**

Premitted design for the Hampstead Infirmary (Pavilion System).

Design for the North Staffordshire Hospital. Simple form of the Pavilion system, V-formed windows, to enable patients in bed to see out of window.

Alternative Design for the Coventry and Warwickshire Hospital.

Premitted Design for the London Orphan Asylum, to which £150 was awarded. The Pavilion principle adapted to an Orphan Asylum.

Design for a Metropolitan Workhouse and Infirmary.

Design for the example of the "Hall passage" system, City of London School.

Rosser and Russell. **No. 427.**

Mode of Glazing.

Russell and Erwin Manufacturing Co. **No. 394.**

Door Locks and Furniture.—Window Pullies, Electric Stroke Bells, bolts, hinges, sash fasteners.

The Sanitary Appliance Co., Limited. **No. 88.**

Drawing of Dry Closet.—Self-acting ash screening closet (Morrell's Patent).

The Sanitary Paint Co. **No. 289.**

Paints and Colours.—Enamel Paints, Griffith's Patent White, Petrifying Liquids, Silicate Distemper, Silicate Paints, Varnishes.

Fredk. Siemens. **No. 443.**

Model of Crematory Apparatus.

The Silicate Paint Co. **No. 287.**

Paints and Colours.—Charlton White, Oils, Pulp Colours for Paper Stainers, Silicate Distemper, Silicate Enamels, Silicate Paints, Varnishes.

Professor T. Roger Smith, F.R.I.B.A., Architect. **No. 55.**

Hospital Plans.

Thos. Smith and Co. **No. 269.**

Damp-Proof Courses.

Archd. Smith and Stevens. **No. 425.**

Sill Bars and Casement Bolts.—Weathertight, made of brass, copper, and nickel, price 7s. 6d. each.

Door Knobs and Locks, in one piece, made of wood, brass, iron, steel, and nickel, price 10s. 6d. each.

Door-spring Hinges, self-closing, made of brass, iron, and steel, price £1 15s. each.

Smith and Turner. **No. 397.**

Door Springs.—Double action, adjustable, regulating (Ben Turner's Patents), made of iron, brass, gun metal, and steel, price from 17s. 6d. each.

Single action, adjustable and regulating, price from 7s. each.

Water Bars, (Smith's Patent), made of steel, brass, and iron, price from 18s. per set, two sashes complete.

Bolts.—Espagnolette, made of steel, brass, and iron, price from 3s. 3d. per foot.

H. Saxon Snell, F.R.I.B.A., Architect. **No. 56.**

Designs for Charitable and Parochial Establishments.

Clerkenwell Mortuary.

Hendon Union Lunatic Ward.

Holborn Union Infirmary.

Industrial School for 437 Children.

Industrial School for 628 Children.

Kensington District Schools.

Lodgings for Houseless Poor at Nijny Novgowd.

Metropolitan Convalescent Institution—Plans.

Patriotic Fund Boys' School.
 St. George's Union Infirmary.
 St. George's Union Workhouse.
 St. Luke's Workhouse—Plans.
 St. Luke's Workhouse—Views.
 St. Marylebone Infirmary.
 St. Marylebone New Casual Wards.
 St. Marylebone Northern Dispensary and Relief Station.
 St. Marylebone Southern Dispensary and Relief Station.
 St. Marylebone Swimming Bath.
 St. Marylebone Temporary Casual Wards.
 St. Marylebone Workhouse Infirm Wards.
 St. Olave's Union Infirmary.
 Thermhydic Fireplaces—Details.
 Water Closets, Sinks, Baths, &c., for Sick Wards—Details.
 Window Sashes for Sick Wards.
 Workhouse Infirmary, A, with Circular Ward.

Spence's Metal Manufacturing Co. **No. 354.**

Specimens of Spence's Metal as used for joining gas and water pipes; for fixing iron railings; for repairing and re-covering roofs; and for lining tanks.

Steven Brothers and Co. **No. 250.**

Iron Railings.	Columns.	Balusters.	Verandahs.
Rain Pipes and Gutters.		Railings and Gates.	
Finials and Weather Vanes.		Ornamental Staircases.	

James Stiff and Sons. **No. 255.**

Art Stoneware.—Large Etruscan Vase, coloured and salt glazed, made of various clays and colours, price £21.
 Three Water Filters, etched and coloured, made of various clays and colours, price from £3.
 Group of Vases, Tankards, Bowls, Jugs, Cruets, &c., made of various clays and colours, price from 3s.

The Thames Bank Iron Co. **No. 280.**

Iron Skirting. Roof for Laundry, showing gear for ventilating.

Yeoville Thomason, F.R.I.B.A., Architect. **No. 63.**

Plans of Sanitary Arrangements.

Dr. Thaulow. **No. 69.**

Photographs and Plans of the St. Olaf's Bath and the Sulphur and Sea Baths at Sandefjord, Norway.

W. Tonks and Sons. **No. 242.**

Door Chains and Bolts (Patent) for securing doors when shut and when open a little way for ventilation, price from 1s. 6d. each.

- Steel Ribbon Sash Lines (Hookham's Patent) for securely hanging heavy sashes, made of metal, price from 3d. per foot.
- Wedge Casement Stays (Patent) for fastening casements by means of wedged-shaped arms, made of metal, price 1s. 3d. each.
- Fanlight Opener and Fastener (Skerrett's Patent) for fastening fanlights at any distance by pulling a cord, made of metal.
- Keyed Door Furniture (Patent) with the patent key fitting into shoulder of knob, for securing it to the spindle of the lock, made of metal, glass, china, and wood, price, from 3s. 4d. per set.
- Flush Bolts, with Hayward's registered knob, for preventing the second folding door being locked when the first door is not bolted, made of metal, price, from 5½d each.
- Window Fasteners (Hopkinson's Patent) with shoulder on arm for tightly wedging instruments with which the window is attempted to be opened, made of metal, with knobs of brass, china, and wood, price, from 6½d each.
- Sash Openers and Fasteners (Patent) for automatically fastening the windows when shut and when slightly open for ventilation, and for opening large windows with cords, made of metal, with cords, price 16s. per set.
- Sash Fasteners (Patent) for automatically fastening windows when shut and when slightly open for ventilation, made of metal, price 4s. 10d. per set.

Dr. A. Tripier. **No. 78.**

Ventilation.—Plans for the ventilation of theatres and hospitals.

Ernest Turner, F.R.I.B.A., Architect. **No. 64.**

Hospital Plans. Plans for House Drainage.
Plans for Steam Laundry.

Drs. Waiz Brothers. **No. 79.**

Plans of the Baths at Roncegno.

Thos. Waller and Co. **No. 249.**

Drawings of Sanitary Arrangements. Model of Hospital.

Alfred Walker. **No. 362.**

Concrete Building Material. Concrete Flooring.

Fredk. Walton and Co. **No. 288.**

Wall Decorations.—Lincrusta Walton, Daelves, Fillings, Friezes, Borders, Panels, &c., made of oxidized linseed oil and wood fibre price, from 6d. per yard.

R. W. Winfield and Co. **No. 419.**

Decorative Work for Building Purposes.—Metallic and tiled paneling for external and internal walls of buildings, made of copper earthenware, stone, marble, iron, and wood.

Brass, Copper, and Tin Tubes. Copper Tubes lined with tin.

Wm. Woollams and Co. **No. 439.**

Wall and Ceiling Papers.—Bright colours and neutral tints, free from arsenic, paper size, flock, and non-arsenical pigments, price from 3d. per yard.

Thos. Worthington, F.R.I.B.A., Architect. **No. 54.**

Hospital Plans. Plans for Dwellings.

The Wortley Fire Clay Co. **No. 365.**

Glazed Bricks, white and coloured, made of Leeds Clay.





SECTION XIV.

Ventilating, Lighting, and Warming.

NAMES OF EXHIBITORS ARRANGED ALPHABETICALLY.
NUMERICAL LIST OF THIS SECTION ON PAGE 136.

M. J. and S. H. Adams. **No. 68.**

Drawings of System of Ventilation.

The Anthracite Coal Company, Limited. **No. 368.**

Anthracite Smokeless Coal, as raised, not manufactured, price from £1 1s. per ton.

J. L. Bacon and Co. **No. 423.**

Heating Apparatus, coil cases, Renaissance design (Registered), made of cast iron, price £12 12s.

Gothic Design, cast iron, price £7 4s.

Perforated, wrought iron, £5.

Glass Vessel, with patent non-freezing fluid.

Drawings, showing system of heating and ventilating.

Model of skirting, showing arrangement of hot-water pipes, concealed behind ornamental gratings, with stop valve to shut off a portion, made of cast iron, wrought iron, gun-metal, and wood.

Furnace complete, with coil as used for hot water apparatus, made of wrought iron, cast iron, and fire-brick.

Knotted pipe, showing possibility of bending to suit any requirement; made of wrought iron.

Coil, bent cold, wrought iron.

Standards, for carrying pipes around rooms, made of cast iron.

Banner Bros. and Co. **No. 264.**

Ventilators.

Beard, Dent, and Hellyer. **No. 254.**

Cowls.

Benham and Sons. **No. 410.**

Ventilator and Cold Air Grating (War Department pattern).

Ventilating Globe Light (Benham's) fitted with ventilating pipes, cold air inlet, and valve.

Gas Fire (Dr. Siemen's). Anglo-German Porcelain Stove.

Hospital Ward Kitchen, Hot Plate and Oven (gas and coal).

Independent Hospital Cooking Apparatus for coal and wood fires (Benham's) as made for military hospitals.

Peter Hinckes Bird, F.R.C.S. **No. 378.**

Ventilator Inlets (models) made of wood, glass, and linen.

Ventilator Outlet (model) made of zinc.

Daniel T. Bostel. **No. 268.**

Cowl.

Robert Boyle and Son. **No. 258.**

No. 27. System of Ventilating Steamships, &c. (Boyle's), made of wood and galvanized iron, price £1.

No. 26. Vertical Tubes.—Vertical Tubes for admission of fresh air; made of wood and galvanized iron, price £1.

No. 23. Chimney Cowls, galvanized iron.—(Boyle's patent) for preventing a blow down, price £1 15s.

No. 24. (Boyle's patent) for preventing a blow down, and also to assist the up draught in sluggish chimneys, to fit 9in. diameter pot, price £1 10s.

No. 25. Do. with a base 14in. by 9in., price £1 15s.

Ventilators, made of Galvanized iron:

No. 1. Ornamental Gothic, price £15.

No. 2. Ornamental Gothic, for ventilation of churches, price £15.

No. 3. Ornamental Gothic, for ventilation of schools, price £14.

No. 4. Ornamental Design No. 2, for ventilation of halls and public buildings, price £13.

No. 5. Ornamental Ventilator for museums, price £26.

No. 6. Ornamental Design No. 1, for billiard rooms and dwelling houses.

No. 7. Plain Ventilator for cottages and workmen's houses, price £3 10s.

No. 8. Ventilator for hospitals and infirmaries, price £5 5s.

No. 9. Plain Ventilator for warehouses, workshops, factories, &c., £7.

Nos. 10, 11, 12 and 13, Specimens of Air Pump Ventilators.

No. 14. 10in. Soil Pipe Ventilators for 3in. and 4in. pipe, price £1 12s. 6d.

No. 15. 8in. Soil Pipe Ventilators for 2in. to 3in. pipe, price £1 5s.

- No. 16. 12in. Water Closet Ventilator for 4in. pipe, price £2 2s.
 No. 17. 14in. Drain Ventilator, 4½in. pipe, price £2 12s. 6d.
 No. 18. 16in. Sewer Ventilator, 5in. pipe, price £3 10s.
 No. 19. 18in. do. do. 6in. pipe, price £4 10s.
 No. 20. 10in. Double Action Soil Pipe Ventilator, for 3in. to 4in.
 pipe. £2 5s.
 No. 21. Ship Ventilator, price £6.
 No. 22. Yacht Ventilator, price £3.

Wm. Paton Buchan. **No. 261.**

- Ventilators.—Self-acting, Induced Current, Fixed Ventilator.
 No. 1 pattern, 9in. diameter for 4in. soil pipes, &c. (Buchan's patent) made of metal, price £1 5s.
 No 2 pattern, 13ins. diameter, for 6in. pipe (Buchan's patent) metal, price £1 19s.
 No. 3 pattern (model), 7½ins. diameter (Buchan's patent) metal, price double that of No. 2 pattern of same size.
 Ventilator for Railway Carriages (Buchan's patent), metal, price from 16s.

Chorlton and Dugdale. **No. 411.**

- Stoves.—“Sunlight” Cooking Stove, of iron, price £5 5s.
 “Sunlight” Heating Stove, made of iron, price from £3 5s.
 Hot-water Apparatus.—Safety Stove Coil for baths, lavatories, &c., with syphon safety cylinder complete, made of metal.
 Cooling Utensils.

Frank W. Clark. **No. 355.**

- Gas Engine. Gas Lamps. Atmospheric Burners.
 Portable Gas Machine.—An apparatus for manufacturing gas from gasoline by the aid of heat generated by the machine itself.

Joseph Cliff and Sons. **No. 270.**

- Fireplaces. Fenders. Stoves.

Comyns, Ching, and Co. **No. 391.**

- Ventilators (Thomas Boyle's patent).—Turret, outlet, mica valves, made of iron, brass, zinc, and mica, price from £2 10s.
 Chimney Breast Outlet, mica valves, price from 4s. 6d.
 Inlet Rotary Disc Deflector, made of iron, brass, zinc, and copper, price from 6s. 6d.

Joseph Constantine. **No. 374.**

- Heating Apparatus.—Convolute Stove (patent), made of cast iron, price £40.

T. J. Constantine. **No. 366.**

- Cooking Apparatus.
 “Treasure” Smoke Consuming Cooking Ranges, price from £1 10s.

With wrought iron high pressure circulating Steamer Boiler,
price £22.

“Treasure Stoves,” enamelled, price from £1 10s.

H. W. Cooper. **No. 386.**

Glass Ventilators.

Crossley Bros. **No. 357.**

“Otto” Silent Gas Engine.

Dean and Co. **No. 430.**

Register Stove.—Side flues for burning anthracite, and for curing
smoky chimneys, made of iron and fire brick, price from £3 3s.

J. Defries and Sons. **No. 433.**

Glass Globes for Lamps.

John Drysdale, M.D., and Jno. W. Hayward, M.D. **No. 387.**

Model of Dwelling House, illustrating system of self-acting Ven-
tilation by suction power, made of ordinary building materials

Fredk. Dyer. **No. 307.**

Hot Water Apparatus.

Fredk. Edwards and Son. **No. 417.**

Fire Grates, made of iron and fire-brick, price from £2 10s. each.

Jas. Ed. Ellison. **No. 278.**

Ventilating Bricks.—Conical perforations, made from earthenware
in various colours, price from 1s. 6d. each.

Ventilating Valves, made of iron, price, from 5s. 6d. each.

Ventilating Skirting, conical perforations, made of wood, price
1s. 6d. per lineal foot.

Air Diffuser, with wedge-shaped compartments, by which means
the air is dispersed in all directions, made of wood and metal,
price £1 2s. each.

Ventilating Air Grates, conical perforations, made of earthenware
in various colours, price, from 2s. 6d. each.

Faraday and Son. **No. 377.**

Ventilating Gasfittings.—Pendants for Sitting-rooms, 16in. reflec-
tor, composed of brass and opal glass, price £5 10s.

Pendant for Offices, 14in. reflector, price £4.

Bracket, price £3.

Gas-fittings.—Bracket, with Heating Burner and Kettle, made of
brass and copper, price £2 10.

J. F. Farwig. **No. 418.**

Gas Stoves for warming and ventilating, made of sheet iron, price
£3 3s. to £10 10s.

Ditto, sheet copper, price £5 5s.

Slow Combustion Stove, for warming and ventilation, made of sheet iron and fire-clay, price £6 6s.

Robert Renton Gibbs. **No. 415.**

Ventilators.—Air Cleaning Apparatus, made of wood and glass, price £10 10s.

Hot Water Apparatus—Boilers—(Renton Gibb's Patent), made of iron and brickwork, price £8 per lineal foot for iron-work only.

Furnaces (Renton Gibb's Patent), made of ironwork and fire-brickwork, price from £5 to £21.

Coil Cases, made of iron-work and marble.

Large Classic Case, £10.

Large Gothic Case, £10.

Small Classic Case, £5.

Small Gothic Case, £5.

Long Gothic Case, £10.

Pillar Case, £6.

Valves, Cocks, &c.—Pumping Valve (Gibb's Patent), made of gun metal, price £1.

Stop Cock (Gibb's Patent), made of gun metal, price £2.

Insulator (Gibb's Patent), made of china, price 2s.

Solution, Anti-Freezing (Patent), price 1s. per gallon.

Gilmore and Clarke. **No. 385.**

Ventilators.—To ventilate and regulate temperature automatically, made of metal and earthenware, price from 6s. each.

Induced Current Air Bricks.—To prevent in-draughts and excite out-draughts, metal and earthenware, price, from 6s. each.

Chimney and Shaft, Tops and Caps.—To induce up-draughts and out-draughts in chimney air shafts and sewer ventilators, metal and earthenware, price, from 15s. each.

Robert H. Griffin. **No. 375.**

Stoves.

Francis Hammond. **No. 413.**

Gas and Coke Stoves.

Gas Lighting Apparatus.

Gas Stoves.

Gas Ventilating Apparatus.

Gas Warming Apparatus.

William Hellier. **No. 367.**

Instantaneous Water Heater (Patent), made of copper, brass, and galvanised iron, price, for gas, from £4 4s.; for oil, £14.; with cistern for storing the water, from £7 10s.

Hot Water Coil, made of cast-iron, price £3.

Heater for ditto copper, brass, and iron, price £4 4s.

Bath, made of zinc, price £3 15s.

Hooper and Co. No. 432.

Heating Stoves, to burn hydro-carbon oils, requiring neither flues or fixing of any kind, made of tin, iron, copper, brass, and cotton wicks, price 6s. each.

Lamps to burn hydro-carbon oils, made of crystal, brass, bronze, and procelain, price, from 12s. each.

W. W. Hopkinson. No. 241.

Libra Lamps, with independent reservoir for mineral oil, and Hopkinson's Patent Valve for regulating the supply of the oil to the lamp in place of constant filling and trimming, made of metal, glass, vulcanised indiarubber filtering substance. Brackets, from £2 15s. each; Table Lamps, from £4 10s. each; Chandeliers, from £6 each.

House Improvement and Supply Association. No. 373.

Heating Apparatus.

Lighting Apparatus.

James Howorth. No. 388.

Ventilators.—Self-acting Air Pump and Induced Current fixed Ventilator (James Howorth's New Patent).—For foul air, gas, or steam; also for soil pipes; made of tin sheets, galvanised iron, wrought and cast iron, price from £1 15s. each.

James's Howorth's New Patent Valve for Ventilators.—For preventing down draughts in ventilating shafts; made of cast-iron and talc, or mica, price, from 7s. 6d. to 12s. 6d. each

James Howorth's Patent Archimedean Screw Ventilators and Chimney Cowls; made of tin sheets, galvanised iron, steel, wrought and cast-iron, price, from £1 5s. each.

James Howorth's New Patent Ventilator.—Designed for extracting foul air and gases from mines and ships, and for forcing fresh air into the working places; made of tin sheets, galvanised iron, steel, wrought and cast-iron, price, from £10 10s.

Harry Hunt. No. 429.

Warming Stoves.—The "Crown Jewel" Base Burner, for burning anthracite coal, and other smokeless fuels, for economically warming dwelling-houses and other building; made of cast-iron, price £10 10s.

W. Ingham and Sons. No. 266.

Ventilators.

C. Kite and Co. No. 389.

Ventilators.

Chimney Tops.

Modern Building.

S. Leoni and Co. No. 376.

Heating Stoves, made of china cover fire-clay tiles, price £2 14s.

Ditto enamelled cast-iron, copper reflector, price £5 10s.

Nickelised Colorifere (Patent), made of iron, fire-clay and platinum, price £10 10s.

Kitcheners and other Cooking Stoves, made of iron, metal, tiles, price, from £6. Bath Boiler.

Thomas Lloyd. **No. 384.**

Ventilators.—For Ship's Cabin, made of brass, price £2 5s.

For Carriages, made of zinc, price 9s. 6d.

For Buildings, made of copper, price £2 5s.

For Buildings, made of zinc and glass, price £1 6s.

For Drains and Sewers, made of zinc, price 10s. 6d.

Ventilating Shaft (Model), made of zinc.

Longden and Co. **No. 428.**

Stove. Smoke Burning Apparatus.

Leeds' Patent 16-inch Floor Warming Stoves, burning anthracite coal, to heat room 10,000 cubic feet, iron and firebrick, price £9.

Leeds' Patent 13-inch Warming Stove, burning gas (Bunsen's principle), with asbestos lumps, price £5 10s.

Fire grate, with air tubes to assist combustion.

Walter Macfarlane and Co. **No. 251.**

Ventilators, Lamps, Pillars, and Brackets.

Musgrave and Co. **No. 412.**

Stoves.—Slow Combustion, made of iron and fire-brick linings, price from £1 10s.

Slow Combustion and Ventilating Stoves, price from £4.

Slow Combustion Ventilating Stoves, ornamental iron casings, price from £6 10s.

Slow Combustion Ventilating Stoves, enamelled tile exterior, price from £7 10s.

Heating Apparatus.—Slow Combustion and Ventilating Air Warmer, for placing in a brick chamber underground, price, from £12.

Stove Grate.—Slow combustion, smoke consuming, open fire, made of iron, brass, and fire-clay linings, price from £5.

Henry Newman. **No. 80.**

Plan shewing a Scheme for supplying London with Water, collected from a high level along each side of the Thames watershed.

John Reynard Pickard. **No. 315.**

Domestic Fire Grate.—Consuming smoke, and prevention of draught in chimney, and economising fuel, made with fire-brick, iron, and brass, price £3.

Charles Portway and Son. **No. 421.**

Stoves.—Tortoise Slow Combustion Heating Stoves, made of iron and fire-clay, from £1 1s.

Tortoise Slow Combustion Heating Stoves, with boiler for water pipes and coils, made of iron and fire-clay, from £3 10s.
Tortoise Slow Combustion Laundry Stoves (Patent), made of iron and fire-clay, price from £1.

Thomas Potter and Sons. **No. 420.**

Stoves.—Thermhydic Ventilating Hot Water Open Fire Grate.
Revolving Smoke Consuming Fire Grate.

Mrs. Priestley. **No. 353.**

Window Ventilator.

G. E. Pritchett, F.S.A., F.R.I.B.A. **No. 248.**

Ventilating and Heating Apparatus for passage, and changing of Air without draught or loss of temperature, made of metal, price, about 2s. per foot super.

Heating Apparatus, composed of metal, price from 2s. per ft. super.

Heating Apparatus, portable, for oil or gas, made of metal, price from £3 3s.

Quirk, Barton, and Co. **No. 372.**

Gas Pipe.—Composition of lead and tin, price 17s. 6d. per cwt.

Radiator Range Co. **No. 431.**

Cooking Range.—To roast one to three joints in front of the fire, to burn the smoke and ventilate the kitchen, has grill fire, and requires no building, made of metal, price from £2 10s.

Wm. Ramsey. **No. 352.**

Reflectors, made from wood and silvered glass.

Ventilator, made from glass, iron, and zinc. Lamps.

Ritchie and Co. **No. 382.**

The Lux Calor Gas Heating, Lighting, and Ventilating Apparatus, made of cast-iron, price from £3 3s.

Rosser and Russell. **No. 427.**

Range and Boiler Safeguard.
Stoves.

Ventilating Apparatus.
Warming Apparatus.

Russell and Erwin Manufacturing Co. **No. 394.**

Ventilators and Window Adjusters.

The Sanitary Engineering and Ventilation Co. **No. 286.**

Ventilators.—Imperial Vertical Tube, with air cleaning arrangements, made of zinc, iron, and wood, price from £1.

Imperial Ventilating Bracket. A concealed ventilator with air cleaning arrangements, made of zinc, papier-maché, price £1 5s.

Imperial Self-acting Exhausts, enamel painted, made of zinc and iron, price from 12s. 6d.

Silber Light Co. **No. 380.**

Lamps.

Lighting Apparatus.

C. H. Sharp and Co. **No. 327.**

Ventilators and Model of Building, showing system of ventilation.

Archd. Smith and Stevens. **No. 425.**

Grates, Self-feeding, to burn anthracite coal, made of iron, brass, and indiarubber, price £4.

Steel and Garland. **No. 346.**

Stove Grates and Chimney Pieces.—Wharncliffe Patent Warming and Ventilating Grate, admitting cold air from external walls, made of iron, brass, and fire brick, price £10 10s.

Talbert Hob Grate, designed by the late B. J. Talbert, Esq., made of iron, brass, and firebrick, and china tiles, price £6 15s.

Repose Brass and Engraved Fender Curb, and Tile Hearth, made of wrought and cast brass. Fender, price £9 15s.; rests, price £5 5s.; fire brasses, price £3 15s.

Square Brass Grate, with hand-painted placques representing fishing subjects, made of polished brass and B.B. iron and china tiles, price £37 10s.

Lion Fender Curb for the Tile Hearth, made of polished brass, price £15.

Fine Art Tile Grate, with moulded curtain tile front, made of iron and china, price £3.

Parsons' Slow Combustion Grate, fitted with Japanesque curtain and tiles, made of electro-bronze, and fire and china tiles, price £5 2s. 6d.

Chas. Richard Stevens. **No. 383.**

Models of Improvements in Outlets and Inlets for Ventilation, made of iron, zinc, and brass.

Steven Brothers and Co. **No. 250.**

Hot Water Apparatus.

Kitchen Ranges.

Stoves.

Coils for Hot Water.

Coil Cases.

Hot Air Stoves.

Register Stoves, slow combustion and others.

Lamposts and Lanterns.

Patent Hot Water Valves.

Kitchen Ranges, open and close fire.

Hot Water Boilers, Pipes and Fittings.

James Stiff and Sons. **No. 255.**

Ventilating Panels, Air Bricks, Cowls, and Chimney Tops.

Strode and Co. **No. 426.**

Strode and Co.'s Patent Sun Burners, with self-acting valve for preventing down draught, made of iron, brass, and mica.

Schonheyder's Sanitary Gas Stove.

Electric Lamp.

Bolton's Vortex Burner, for heating, made of iron and brass.

Gas Governor (Strode's Patent) in action, made of cast and wrought iron, brass, and mercury.

An Automatic Electrical Apparatus for lighting gas burners by electric spark, made of wood, iron, copper, and ebonite.

Various Gas Burners on a standard bar.

Heating Apparatus for Toilet Purposes, &c., made of iron and brass.

Two Cylindrical Warming and Ventilating Gas Stoves, made of Iron and brass.

The Sun Auto-Pneumatic Lighting and Heating Co. **No. 436.**
Lighting and Heating Apparatus.

The Thames Bank Iron Company. **No. 280.**

Gill Stove for Hot Air purposes, price £14.

Slow Combustion Stove for Hot Air purposes, price £2 17s. 6d.

Cast-iron spiral pattern Lamp Column, with cast-iron Lamp Spray and Lamp, glazed and painted, price £3 14s. 6d.

Cast-iron Street Lamp Post, with wrought iron frame, and Tin Lamp, glazed and painted, price £4 12s. 6d.

Hot Water Apparatus:—

Coil of 9 Ornamental Foot Water Pipes, price £5 17s.

Coil of 16 2-inch Hot Water Pipes, price £4 12s.

Round Coil Column of 19 2-inch pipes, price £6.

Cast-iron Ornamental Case for covering coils of pipes, price £3 17s.

Cast-iron Ornamental Case for covering coils of pipes, bronzed and decorated, and with marble top, price £6 12s.

Cast-iron Ornamental Case for round coil column, price £3 15s.

Wrought-iron Welded Hot Water Saddle Boiler, price £3s. 7s. 6d.

Wrought-iron Welded Saddle Boiler, with flue and terminal end, price £16 10s.

Wrought-iron Rivetted Saddle Boiler, price £6 18s.

Wrought-iron Independent Boiler for use without brickwork, price £5 2s. 6d.

Cast-iron Saddle Boiler, price £4 2s.

Cast-iron Tubular Boiler, price £5 15s.

Cast-iron Saddle Boiler, with waterway end, price £6 17s. 6d.

Cast-iron Conical Boiler, price £3 3s.

Cast-iron Dome-top Boiler, for use without brickwork, price £6 10s. 6d.

Independent Vertical Steam Boiler, 42in. by 24in., 15in., cross tube in fire-box, fitted with cast-iron stand, fire hole door, cleaning plugs, manhole, and cover, with bridges, and 1 complete set of brass mountings, made from best Staffordshire plates, price £24 10s.

Recessed Doors and Frames for boilers.
 Arched Doors and Frames for boilers.
 Hot Water Pipe, 6 feet long.
 Hot Water Coil, or Spigot Pipes.
 Flange Steam Pipe, 6 feet long.
 Underground Socket Pipe, 6 feet long.
 Two Pieces for hot water pipe.
 Elbow, for hot water pipe.
 Outside Elbow, for hot water pipe.
 Syphon Bends, for hot water pipe.
 Flange Sockets, for boiler connections.
 Flange Socket Elbows, for boiler connections.
 Hot Pipes, for boiler connections.
 Throttle Valves, for hot water pipe.
 Slide or Pressure Valves, for hot water pipe.
 Diaphragm, or Screw-down Valves, for hot water pipe.
 Improved Double Foot-door and Frame.

William Tonks and Sons. **No. 242.**

Architrave Ventilators, an adaptation of Currall's patent, designed by Mr. Mark H. Judge, for fixing over the architrave of doors and windows, for circulating the air in rooms without draught, made of metal, price 6s.
 Outlet Ventilators (Currall's patent) for fixing in chimneys and walls for removing vitiated air from rooms, made of metal, price 1s. 6d.
 Inlet Ventilators (Currall's patent) for fixing on doors and windows, for enabling fresh air to ascend to the top of the room, and to be diffused without draught, made of metal, price from 1s. 6d.

The Universal Ventilating, Sanitary, and Engineering Company, Limited. **No. 390.**

Ventilators. Chimney Tops.

Verity Bros. **No. 416.**

Gas Fires.—Fire Clay Burners, made of fire-clay and brass, price from £1 17s.
 Lighting Apparatus.—Ventilating sunlights, made of iron, price £5 5s.
 Do. do. shade-lights, made of brass, price £4 10s.
 Heating Apparatus.—“Osborne” combined Boiler and Coil, made of brass and copper, price from £6. Bath Boilers.
 Circulating Tubular Boilers, copper, price £4 10s.
 Warm Air Apparatus, made of copper and iron.
 Ventilating Apparatus.—Air Propeller, made of iron and copper, price £6 6s.

Fan and Screw Exhaust Cowl, made of tin and iron, price £1 8s.

Vertical Tubes, with regulating mouthpieces and air brick, complete, made of iron and zinc, price 17s. 6d.

Thos. Waller and Co. No. 249.

Patent Ventilators for admitting hot and cold air.

9 ft. 6 in. Cooking Stove, with ovens, steam and hot water boilers, price £80.

Chop Stove, fitted with tiles, price £110.

Patent Register Stove, with hot-air chamber, and movable cheek for enlarging or contracting the fire, price £8 10s.

Gas roaster, price from £10.

Patent Steam Chest, for cooking purposes, price £36.

Welded Steam Boiler, price from £56.

Hot Air Stove, with hot water boiler for warming and ventilating purposes, price from £20.

J. Weeks and Co. No. 414.

Hot Water Coil, to warm surrounding air only, made of iron, price from £6.

Patent Ventilator and Extractor in connection with hot water Apparatus made of iron, zinc, and copper, price from £2 10s.

Hydro-Caloric Coil, for fitting to any existing hot water apparatus, made of iron, zinc, and copper, price double from £9.

Do., single, from £7.

Economic Hot Water Boiler, "Duplex," made of iron, price from £4 10s.

Wilcock and Co. No. 279.

Fireplaces. Stoves.

The Wilson Engineering Company. No. 444.

Portable Ranges, made of Iron, price, No. 3, £2 10s.

do. " " 5, £4 15s.

do. " " 7, £7 7s.

do. " " 9, £9 9s.

do. " " 11, £13 13s.

No. 11, with hot water circulating boiler, price £16 16.

Enamelled Stoves, iron, price, from £2 7s. 6d.

R. W. Winfield and Co. No. 419.

Petroleum lamps.—Lamps with storage reservoirs for oil, made of brass, copper, and porcelain.

Domestic Furniture.—

Fire Screens and Spark Guards, made of brass and antique glass.

Brass Fenders, do.

Fire Dogs Brasses. do.

Chandeliers for Gas and other Gas Fittings.—Ventilating Lamp, hermetically sealed from contact with air of room in which used made of brass, terra cotta, copper, and glass.

Adjustable Gas Brackets for Medical Examination; Kitchener Bracket, for use of invalids, made of brass, porcelain, and iron.

Specimens of Ornamental Gas Chandeliers and Brackets, specially constructed for economical consumption of gas burners made under Sugg's Patents, made of brass, iron, and steatite.





SECTION XV.

Water Closets, Sinks, Baths, &c.—Sewage and Drainage.

NAMES OF EXHIBITORS ARRANGED ALPHABETICALLY.
NUMERICAL LIST OF THIS SECTION ON PAGE 137.

A. Torrington Angell. **No. 304.**

Air-tight Covers for Air Chambers and Inspection of Pipes (Angell's), made from cast iron, indiarubber, and compressed felt, price £1 17s. 6d.

The Antiseptic Apparatus Manufacturing Co. **No. 324.**

Apparatus for Neutralizing and Destroying Foul Gases, specially for water closets, made of copper and brass, price £1 16s.

Banner Bros. and Co. **No. 264.**

Sewer Traps. Water Closets.

Beard, Dent, and Hellyer. **No. 254.**

Baths.	Cast Lead Traps.	Gullies.	Lavatories.
Sinks.	Stoneware Traps.	Urinals.	Water Closets.
Water Waste Preventers.			

Benham and Sons. **No. 410.**

Disinfecting Oven, heated by steam.	Slop Sinks.
Disinfecting Oven, heated by gas.	Hospital Slop Sink.

Birmingham Sanitary Association. **No. 271.**

Sewer Traps.—Edinboro' Air-chambered trap (Pott's Patent), earthenware with metal grids for 9 in. drain, price £3 3s.; for 6 in. drain, price £2 10s.; for 4 in. drain, price £2 2s.; for single closet, price £1 1s.; for bath wastes, &c., price 15s.

John Bolding and Sons. **No. 247.**

Baths. Lavatories. Urinals.
Water Closets. Water-Waste Preventers.

Daniel T. Bostel. **No. 268.**

Sewer Traps. Urinals. Water Closets.
Flushing Cisterns.

Braithwaite and Co. **No. 347.**

Patent Syphon Water Waste Preventer, dispensing with valve in cistern, made of brass and copper.
Brithwaite's Wash-out Water Closet, made of earthenware.
Clanghton's Patent Oval and Round Stench Traps, made of cast lead.

The Briton Ferry Coal and Pottery Co., Limited. **No. 252.**

Invert Blocks. Sewer Traps. Sinks. Stoneware Gullies.
Stoneware Pipes. Urinals.

Edwd. Brooke and Sons. **No. 259.**

Gullies. Invert Blocks. Radiated Sewer Bricks.
Ribbed Pipes. Sewer Traps. Sewer Ventilators.
Sinks. Stoneware Pipes. Trough Closets.

Wm. Paton Buchan. **No. 261.**

Drain Pipe, with rest, and access, and opening lid (Buchan's Patent), made of fire clay.
Drain Trap, cascade action, ventilating trap for drains, soil pipes, waste pipes, &c. (Buchan's Patent), made from fire clay.
Water Closet, "Carmichael" washdown accessible, P trap style (Buchan's Patent), with patent adjustable metallic jet fan, made of earthenware, price £1 10s. 6d.

Candy and Co. **No. 301.**

Sanitary Pipes of salt glazed stoneware.
Yard Sink with Trap and Sill Bucket.—A new yard trap and gully, fitted with a large movable sill bucket, arranged for the drain to remain trapped when the bucket is removed for cleansing, the bucket to act as a strainer, and prevent floating substances entering the drain, made of glazed stoneware, price 7s. 6d.
The "Chudleigh" soil pipe trap, and sewer ventilator, for fixing at bottom of vertical soil pipes, fitted with inspection opening, and for ventilating the sewer and soil pipe, glazed stoneware, price 7s. 6d. each.
Mason's Trap.—A substitute for the old-fashioned brick and cement mason's trap, with access or inspection hole, and opening for ventilating the sewer, made of glazed stoneware, price 7s. 6d. each.

Sewer Gas Excluder and Drain Ventilator (Registered).—A double water seal, deeply trapped, with a flushing or cascade-like action to each seal. Air chamber for open sink. Outlet for sewer and soil pipe ventilation, made of glazed stoneware, price for 3 in. pipe, price 7s. 6d. each; for 4 in. pipe, price 10s. 6d. each; for 6 in. pipe, price 12s. 6d. each.

Capper, Son, and Co. **No. 332.**

Trapless "Twin Basin" Water Closet (Pearson's Patent), made of earthenware, metal, and indiarubber, price £4 4s.

Trapless Twin Basin Water Closet with Brian Jones's patent joint for connecting the closet with the soil pipe, made of earthenware, metal, and indiarubber, price £4 10.

F. W. Clarke. **No. 355.**

Machine for Filtering Sewage.

Joseph Cliff and Sons. **No. 270.**

Architectural Terra-cotta.

Glazed Bricks.

Chimney Tops.

Damp Proof Courses.

Majolica and Salt Glazed Ware.

Terra-cotta Steps.

Sinks.

Stoneware Pipes.

Stoneware Traps.

P. J. Davies. **No. 318.**

Sewer Traps.

Stoneware Pipes

Doulton and Co. **No. 253.**

Lavatories.—Earthenware, marble, metal, Doulton ware, and wood.

Tip-up basin, walnut enclosure ornamented with Doulton ware, price £30.

Angle Tip-up, with mahogany decorated enclosure, price £14 5s.

Oval Plug Cabinet Basin, with shampooing apparatus and oak decorated enclosure, price £14 10s.

Slop Sinks for Housemaids, made of plain and enamelled slate, earthenware, and metal, price, from £4.

Sinks for kitchens.

Urinals fitted for two persons, with patent treadle action, made of earthenware, marble, and metal, price £18 5s.

Urinals, unfitted, angles lipped, flat backed, &c., made of earthenware and stoneware.

Lambeth Valve Closet, with stoneware trap, and patent regulating valve, the whole to be fixed complete above the floor, made of earthenware, stoneware, metal, and indiarubber, price £4 3s. 6d.

Lambeth Trapless Closet, with water waste preventer, made of earthenware, metal, and india rubber, price £2 19s.

Lambeth Flush out Closet, with water waste preventer, made of earthenware and stoneware, price £1 1s.

Lambeth Flush out Closet, with patent seat action, valve $1\frac{1}{2}$ ins., made of stoneware, metal, and indiarubber, price £2 6s. 6d.

Ordinary Valve Closet, made of earthenware, metal, and india-rubber. Price £4 10s.

Common Hopper, with flushing rim, and 1-in. waste-preventing valve under the seat, made of stoneware, metal, and indiarubber, price £1 13s. 6d.

Bath Fittings.—Valves and locking apparatus attached to prevent waste of water, made of metal and indiarubber.

Water Waste Preventers, for use with valve and pan closets, metal and indiarubber, from 18s.

For use with Flush out and all Hopper closets. Patent vacuum, made of metal, from 18s.

For fixing to closets under the seat, in metal and indiarubber, £1 6s.

Grease Interceptor, easy cleansing and removal, stoneware.

Stoneware Drain Pipes, with patent joint for quick laying and perfect soundness. Doulton's Patent and Stanford's Patent.

“Kenon Air Chamber Floor” and Trap, for intercepting sewer gas, and the examination and cleansing of house drains, made of stoneware, £2.

Traps, made of Stoneware.

Sanitary Stoneware.—Series of traps and pipes.

Charles Drake and Co, Limited. **No. 361.**

Marble Bath.

C. W. Durham, of Chicago. **No. 351.**

Model of House, with Durham's patent system of drainage throughout, with water closets, sink, baths, and gullies. The whole connected with screw joints, as with gas and steam engineering.

A. Emanuel and Sons. **No. 331.**

Valve Water Closet, with arrangement for flushing trap and overflow, made of earthenware, metal, and indiarubber, price £7.

Ditto, to be used with a water waste-preventer cistern, price £5 10s.

Bellows Regulator, made of copper, leather, &c, price 10s. 6d.

Water-Waste Preventing Cistern, made of copper and glass. Price £2 10s.

Lift Pump, made of gun metal, iron and oak. Price £8 10s.

“Eureka” Concrete Co. **No. 363.**

Sewers, 4 ft by 2 ft. 8 in. Price 12s. 6d. per lineal foot.

Ditto, 20 ft. by 18 ft. Price 3s. per lineal foot.

Sinks.—Ordinary Sinks. Price from 1s. 8d. per superficial foot.

J. Finch and Co. **No. 302.**

Porcelain Bath, moulded and glazed, in one piece, made of fireclay, bisque glaze, price £8 17s. 6d.

Bath Fittings. Separate inlet and outlet, made of gun metal, brass, iron, and porcelain, price £6 15s.

Porcelain Sinks, made of fire clay, bisque glaze, price from £1.

Ventilating Drain Traps and Pipes.

Water Closet, self-acting, works from seat, earthenware case, made of earthenware, iron, and mahogany, price £6 10s.

W. J. Fraser and Co. No. 445.

Disinfecting Apparatus (Patent).—A portable apparatus for disinfecting, at a small cost, by heat, and destroying at same time all vapours given off, made of iron, price £120.

Gillow and Co. No. 381.

Lavatories, specially designed for a limited space, made of earthenware and walnut, price £15 each.

Hayward, Tyler, and Co. No. 329.

Hot and Cold Water Valves, for baths and lavatories, made of metal, price from 7s. 6d. each.

Urinals, with treadle and other arrangements, made of earthenware and metal.

Earthenware Side Outlet Closet, fitted with Howard's Patent Water Regulator.

Door-Action Pan Closet, with valve and regulator, made of earthenware and metal, price from £3 15s.

Hopper Closet and Trap, fitted with water regulator and Chandler's Patent Flushing Cistern, 2-gallon flush, made of earthenware and metal, price from £2 6s.

Flushing Cistern, or Water Waste Preventer, made of metal, price from 19s. each.

Pan Closet, fitted with 1-in. valve and brass regulator, made of earthenware and metal, price from £2 each.

Elastic Valve Closet, fitted with Howard's Patent Regulating Valve, flushing rim basin, made of earthenware and metal, price from £3 10s. each.

Elastic Valve Closet, fitted with brass and bellows air regulator, flushing rim basin, made of earthenware and metal, price from £2 10s. each.

Edward Howard. No. 306.

Automatic Flushing and Ventilating Arrangement for water closets, sinks, urinals, &c., made of wood, iron, &c., price from £5 each.

W. Ingham and Sons. No. 266.

Lever Traps and Stoneware Pipes.

George Jennings. No. 257.

Waste Water Preventers, connection to closet under seat, made of metal and indiarubber, price £1 5s. each.

Water Closets.—Valve closet and trap in one piece, branch valve closet, made of earthenware, metal, and indiarubber, price £3 10s. each.

Patent Trapless Valve Water Closet, made of earthenware, metal, and indiarubber, price £3 each.

Lavatories.—Patent trip-up basin, marble top, metal cap, mahogany enclosure, price £15 each.

Sinks.—Combined Sink and Wash Tub, made of galvanized iron and wood, price £5 each.

Slop Sinks, made of earthenware and enamelled slate, price £5 5s. each.

Urinal.—Concealed arrangement, made of earthenware, metal, marble, wood, price £12 each.

Journeymen Plumbers. **No. 344 to 339.** *See Appendix.*

Slip Socket Joints. Bends. Traps. Wiped Joints.
Specimen of jointing of pipes of different metals, and other plumber's work.

S. Leoni **No. 376.**

Bath Boiler (Patent Safety), made of zinc, copper, iron, price £10.

Washington Lyon. **No. 364.**

Model of Portable Disinfecter.

Walter Macfarlane and Co. **No. 251.**

Pipes and Gutters. Baths. Sinks. Urinals.
Wash-hand and Foot Basins. Dry Closets. Water Closets.

Maguire and Co. **No. 282.**

Dr. Scott's Disinfecting Chamber, heated by gas, made of timber, iron, and non conducting felt, brass, and copper, price £60.

Dr. Scott's Disinfecting Chamber, heated by coal or wood, price £56, exclusive of brickwork.

Dr. Scott's Portable Disinfecting Chest on Wheels, heated by gas or charcoal, price £25 for charcoal; price £30 for gas.

Non-conducting Door and Frame, specially for brick disinfecting chamber, made of timber, iron, brass, and non-conducting packing, price £10.

Patent Drain, joint doubled underneath, for free inspection of interior of drains.

Patent Drain Cradle for jointing under common drain pipes.

Patent Flushing Tanks, automatic, price, from £2.

Disconnecting Receivers, to disconnect wastes of baths and sinks from drain, price, from 7s.

Professor Barff's Patent Anti-Corrodo Tubes for Water and Drain Pipes.

Enamelled Iron Tubes supplied by the Rustless and General Iron Company, adapted for water pipes, soil pipes, and drain pipes.

W. S. Mitchell, M.A. No. 70.

Plans of Nice, Cannes, San Remo, and Mentone, showing the lines of the public egouts.

Moule's Patent Earth Closet Co. No. 317.

Earth Closet.—Pull up apparatus No. 5A, made of galvanised iron wood, and earthenware, price £2 16s. 6d. each.

Earth Closets.—Pull up apparatus No. 9, price £6.

Model of an Earth Closet.—Upstairs apparatus showing means of filling and emptying from below.

Model of an Earth Closet.—Out door closet, showing method of filling and emptying behind.

Receptacles of various sizes for earth closets, made of galvanised iron.

Pull-up Earth Commode, No. 6, made of galvanised iron, wood, and earthenware, price £5 1s.

Henry Owen. No. 330.

Water Closets and Water-Waste Preventers.

Valves. Urinals. Gullies and Sewer Traps.

John Parker. No. 313.

Dry Earth Closets.—Self-acting, made of mahogany, iron, and enamel, price £5.

Works earth or ashes, pull up handle and pail receptacle, trough under seat, separates liquid—this can be run to drain or pot in $\frac{1}{2}$ in. pipe—large hopper when fixed, made of deal and iron, price £1 18s.

Dry Earth Closet, self-acting, fits place 3 feet along sea, large earth hopper and grating inside, and liquid separator under seat; also tank on wheels for receptacle, made of deal, iron, and enamel, price £3 10s.

"Patentee." Care of King and Co. No. 283.

Earth Sewage Filters.—To filter sewage direct immediately on discharge from W.C.'s; made of galvanised iron, wood, or earthenware, price from £1 10s.

John Reynard Pickard. No. 315.

Ash Closet.—To separate the refuse and deodorise the excreta; made with bricks, stone, and timber, price £10.

Carbonizing Oven.—To carbonize all vegetable matter from public markets or ashpits, made of iron, fire-brick, and stone, price from £100.

Sewer Trap.—Ventilating Sewers of large towns, made of brick and iron.

Furnace for reducing and purifying town refuse, made of brick, stone and iron, price from £1000.

J. Purnell and Son. No. 342.

Water Waste Preventer.—"Purnell's" Syphon Water Waste Preventer, made of iron, brass, and lead, price £1 5s. each.

Manholes, Doors, and Frames, made of cast iron.

Light closed 18s. 6d.

Heavy ,, £1 5s. 6d.

,, Ventilating, £1 5s. 6d.

White Glazed Stone Ware Channels, straight, tapered, and curved, made of earthenware, price from 1s. 6d.

Flushing run Water Closet Basins, earthenware, from 6s. each.

William Ramsey. No. 352.

Lavatory (Miller's patent), made of wood, earthenware, and brass, price £7.

Jewell's Closets, made of iron, earthenware, and indiarubber, price £1 12s.

Sink, enamelled iron, price £1.

Traps.—Double Syphon Trap, iron and earthenware, price from £1 15s.

Sink Traps, iron and lead, price from 3s.

Stench Traps (Claughton's), lead, price from 2s.

Sewer Pipe Ventilator, made of zinc, price from 12s. 6d.

Syphon (patent), made of brass, price £1.

B. Scott and Read. No. 340.

Flushing Cistern (100-gallon), to act without working parts, and to start with small quantity of water, made of galvanized iron, price £8 each.

Flush Tank, to act as flush tank and fat trap combined (Field's Patent), made of iron and stoneware, price from £6 10s.

Annular Syphon for Flushing Sewers (Field's Patent), made of iron, price from £6 10s.

Henry Seward, F.C.S. No. 305.

Disinfecting Vaporizer, applied to drain gullies and ventilators in streets, made of iron, price £1 10s.

Ditto, applied to soil pipes, made of lead, price £1 10s.

Shanks and Co. No. 281.

Lavatories.—Range of cast iron lavatories for 2 persons, enamelled porcelain, for schools, institutions, &c., price £3 16s.

Sinks.—Slop hopper encased in iron, with flushing rim, made of iron and earthenware, price £1 1s.

Butler's Earthenware Sink, with hot and cold taps, and patent discharge arrangement, price £1 10s.

Water Closets.—Trapless closet, with "Safety" encased basin and supply valve, made of iron, brass, earthenware and indiarubber, price £2 5s.

Water-Waste Preventers.—Copper syphon supply cistern, price £1 10s.

Cast iron double valve supply cistern, with after flush box, price £1.

Cast iron single valve supply cistern, galvanized, price 18s.

Water Closets.—Bramah valve closet, with ventilated valve box, Shanks' patent safety basin, supply valve, and regulator, made of cast-iron, earthenware, brass, lead, and indiarubber, price £3.

Washout Closet (Shanks' Patent), Crown encased safety washout closet and trap, ventilated, with seat and pull-handle, made of earthenware, cast-iron, brass, and wood, price £2.

Baths.—Sitz Bath in copper, enamelled with bottom spray, back spray, and back wave, all fitted with Shanks' Patent supply arrangement, price £12.

Copper Bath with spray, shower, and Douche canopy, enamelled metallic, having Shanks' patent arrangement for supply and discharge, price £23 10s.

Cast-Iron Enamelled Bath (Shanks' patent), with fittings at end for hot, cold, and waste, price £6 15s.

Cast-Iron Bath, similar to above, with fittings at side, price £6 3s.

Lavatories.—Large white, with discharge arrangement, taps, &c. Shanks' Patent, made of earthenware, brass, walnut wood, and indiarubber, price from £12 10s.

Small, price from £3 2s. 6d.

Cast-iron enamelled porcelain, price £2 0s. 6d.

C. H. Sharp and Co. **No. 327.**

Water Closets. Sink Traps.

Henry Sharp, Jones, and Co. **No. 341.**

Stoneware Pipes, fitted with Stanford's joint, made of stoneware of Poole clays, joint of tar, sand, and sulphur.

Sewer Disconnector, made of stoneware.

Yard Gully, double trapped, made of stoneware.

Rock Concrete Tubes, for large sewers, made of Portland cement, concrete.

Alfred Shaw. **No. 316.**

Dry Closet.—Self contained mechanical closet, requiring no water flush, made of metal and earthenware, price £22.

The Shone Drainage, Sewerage, and Water Supply Co., Limited. **No. 284.**

Automatic House Drainage. Flushing Apparatus
Automatic Sewage Ejector.

Thos. Smith and Co. **No. 269.**

Gullies. Inverted Blocks. Sewer Traps. Sinks.
Stoneware Pipes. Urinals. Water Closets

Smith and Barnes. **No. 325.**

Cast Lead "D" Traps. Examples of Plumbers' Joints.

Peter Spence. **No. 106.**

Aluminoferric Cape (Patent) for disinfecting, clarifying, and decolorizing town sewage, and the waste waters of dye and print works, tanneries, and other manufactories; also turbid, clayey, or peaty water, for drinking and for manufacturing purposes.

Steven Brothers, and Co. **No. 250.**

Baths, enamelled iron, with patent fittings.	Urinals.
Water Closets. Dry Closets.	Lavatories. Kitchen Sinks.
Patent Drain Traps.	Gully Gratings. Manholes.

Chas. Richd. Stevens. **No. 383.**

Hot Water Apparatus.—Circulating Water Heater for supplying hot water to baths, hand basins, sinks, &c., made of iron, copper, and brass, with 30 gallon tank, price £10.

Combined Hot Air and Steam Apparatus for warming greenhouses, bedrooms, churches, and public buildings, made of iron, copper, and brass, price, from £2.

James Stiff and Sons. **No. 255.** See page 123.

Thomas Pridgin Teale, M.B., F.R.C.S. **No. 142a.**

Diagrams of Defective Sanitary Arrangements from illustration in "Dangers to Health."

The Thames Bank Iron Co. **No. 280.**

Cast-Iron Manhole Doors and Frames for sewers, 24 in., price £1 15s.

Sewer or Gully Grates and Frames for Roadways, 18 in. by 16 in., price 18s.

Grates and Frames for garden drains, 10 in., price 3s.; 8 in., price 1s. 10d.; 6 in., price 1s. 2d. each.

Swanneck or Off set for Noman Shaw's Water Closets.

J. Tylor and Sons. **No. 256.**

Baths.	Lavatories.	Closet Regulators.	Sinks.
Urinals.	Water Closets.	Water Waste-Preventers.	

Lavatory.—Marble top, flushing rim, back outlet basin, screw-down Z.V.-taps, spoke knobs, and quick waste valve, marble, earthenware, wood, and metal.

School or Hospital Lavatory.—Improved metal tip-up basin and receiver, self-closing tap, can be fixed in a row, marble, wood, and metal.

Hospital Slop Sink.—J. Tylor & Sons' patent regulator and "waste-not" tap, as fitted in St. Bartholomew's Hospital, iron (enamelled), earthenware, and metal.

- Surgery Sink.—Round basin, with draining top, earthenware.
- Housemaid's Sink.—Square, with overflow arm, earthenware.
- Valve Water Closets.—J. Tylor and Sons' Patent Regulator, ornamental basin, nickel plated, silvered glass valve plate, made of earthenware and metal.
- J. Tylor and Sons' Patent "Waste Not" Regulator, Air Vessel, clear way without overflow, made of earthenware and metal.
- J. Tylor and Son's Patent Regulator, side outlet valve, earthenware, brass, and Beoffed iron.
- J. Tylor and Son's Patent Regulator "Waste Not" Hopper Water Closet; earthenware trap, with connection for ventilating pipe.
- J. Tylor and Sons' Patent Model Cistern Valve (Waste Not), in glass cistern to show the action.
- Urinal.—Syphoning Trapped Basin, model "Waste Not" Supply Cistern.
- Bath.—Screw down valves and quick waste, made of copper, with mahogany top. Casing removed to show valves and pipes.
- Bath Valves.—A portion of bath to show supply and waste valves, with locking arrangements for the prevention of waste, made of metal and wood.
- Improved Traps, for disconnecting all soil and waste pipes of a house from the sewer or drains, made of earthenware and metal.
- A small Cistern (intermediate) to show how the closet supply may be cut off from the house cistern, made of metal.

F. G. Underhay. No. 326.

- Underhay's Patent Valve Water Closets, made of earthenware, metal, and indiarubber.
- Bramah Valve Water Closets, made of earthenware, metal, and indiarubber.
- Pan Water Closet, with valve and regulator, iron stool frame, with oval basin and trap.
- Pumps and Well Frames.—Lift and Force Pumps on Planks, made of metal, leather, and wood.
- Deep Well Pump and Well Frame, made of metal, leather, and wood.
- Sluice Cock, Ball Valves, and Cocks, made of metal and indiarubber.
- Double Cylinder Water Meter.
- Detector.
- Waste Preventer.

Verity Bros. No. 416.

- Bath Boiler.—Tubular Boiler, made of copper, brass, and iron, price £6 10s.

Alfred Walker. No. 362.

- Concrete Drain Pipes. Concrete Sinks

Thos. Waller and Co. **No. 249.**

Water Closets, with ventilating apparatus, made of wood and iron price, from £10.

Edward Warner. **No. 263.**

Syphon Disinfectors for Water Closets, Urinals, &c. (Patent) made of wood, glass, and metal, price, from £1 10s.

John Warner and Sons. **No. 333.**

Public Water Closet, with self-acting water-waste preventer, made of earthenware, iron, brass, indiarubber, and leather, price £3.

Valve Closets, with sealed overflows, made of earthenware, iron, brass, and indiarubber, price, from £4.

Pan Closets, with containers of earthenware, made of galvanized iron, brass, indiarubber, and earthenware, price, from £4.

Lavatories, made of earthenware.

Urinals, made of iron, brass, and earthenware.

Bath and Fittings, with facility of cleansing the overflow, made of cast-iron, brass, leather, and indiarubber, price £12.

Portable Water Closets, made of wood, zinc, brass, leather, iron, and earthenware, price £5 10s.

Robert Weare. **No. 311.**

Inodorous Carbon Closet Commodes and Slop Pails, made of wood, earthenware, and metal.

William White, F.S.A. **No. 262.**

Water Closet and Waste Preventer.—Flushing Basin, made of earthenware and metal, price, from £3 5s.

Wilcock and Co. **No. 279.**

Trough Closets.

James Wood. **No. 358.**

Disinfecting Apparatus.

James Woodward. **No. 323.**

Lavatories. Sinks. Stoneware Pipes and Stoneware Traps.
Urinals. Water Closets and Water Closet Basins.

The Wortley Fire Clay Co. **No. 365.**

Earthenware Pipes, fitted with Jackson's airtight, gastight, and watertight joint, suitable for either sewer or water pipes, made of fireclay.





SECTION XVI.

Water Supply and Filtration.

NAMES OF EXHIBITORS ARRANGED ALPHABETICALLY.
NUMERICAL LIST OF THIS SECTION ON PAGE 139.

Beard, Dent, and Hellyer. **No. 254.**
Valves.

John Bolding and Sons. **No. 247.**
Valves.

Henry Chapman, **No. 399.**
Filters.

J. Defries and Sons. **No. 433.**
Filters.

Doulton and Co. **No. 253.**
Filters.—Manganous Carbon (Dr. Bernay's Patent) Automatic Aerating, for fixing to stone cisterns (Bailey Denton's Patent), made of stoneware and carbon, price, from £2.
Ball Valves.—High and Low Pressure, to shut off with the pressure, and requiring only short lever and small ball, made of metal and indiarubber.
Supply Valves.—High and Low Pressure (Patent), made of metal and indiarubber.

A. Emanuel and Sons. **No. 331.**
Deep Well Pump, made of gun metal and iron, price £6.
Cocks and Valves.—
1½ in. Screw Down Stop Cock, made of gun metal, price £1 8s.
1 in. Screw Down Bib Cock, gun metal, price 10s. 6d.
1¼ in. Wheel Valve, gun metal, price 16s.
1¼ in. Gland Cock, gun metal, price £1 8s.
1 in. Boiler Cock, gun metal and ebony, price 16s.
1 in. Gland Bib Cock ditto price 18s.
1½ in. Ball Valve ditto price £1 10s.
¾ in. Ball Valve, gun metal and copper, price 7s.

E. and J. Gardner. **No. 398.**

Filters Filtering Materials.

Hayward, Tylor, and Co. **No. 329.**

Fire Hydrants and Test Pumps for Water Mains, with Fittings,
made of metal, price, from £2 2s. Valves.

Hooper and Co. **No. 432.**

Carbon Blocks.—To soften water and prevent incrustation in
boilers and kettles, price 6d. each.

Filters.—Compressed Vegetable Carbons, made of stoneware and
glass, price 1s. 9d.

W. W. Hopkinson. **No. 241.**

Libra Valves.—For filling kitchen boilers and filters; with Hop-
kinson's Patent Counterbalanced Float for regulating the supply
without overflowing, made of metal and vulcanised indiarubber,
price, from £1 1s.

George Jennings. **No. 257.**

Traps.—Patent Ball Trap, made of indiarubber.
Drawn Lead Traps, made of lead.

Walter Macfarlane and Co. **No. 251.**

Fountains and Cattle Troughs.

P. A. Maignen. **No. 401.**

Filters.—Maignen's Patent "Filtre Rapide," for purifying and
aerating water; made of earthenware, asbestos cloth, and patent
carbo-calcis, and other filtering media, price from £1 10s. each
upwards.

Maguire and Co. **No. 282.**

Maguire's Patent Renewable Animal Charcoal Filters for Domestic
Use, price from 12s. 6d. Valves.

Matheson and Gardner. **No. 403.**

Lead in cased block-tin pipes for water supply.

Quirk, Barton, and Co. **No. 372.**

Pipe (Patent).—Tin lined lead piping, made of lead and pure
block tin, price £1 12. cwt.

Water Pipe.—Lead water pipe, made of lead, price 16s. 6d. per cwt.

William Ramsey. **No. 352.**

Priestley Drinking Water Tank (Ramsey's Patent), made of wood,
glass, and tinned or plated fittings, glass ball.

Filters, glass and charcoal.

The Sanitary Engineering and Ventilation Company. **No. 286.**

Water Cisterns.—Self cleansing, fitted with flushing arrangements,
made of iron, price, 100 gallons, £4 3s. 4d.

Cistern Filters.—Imperial Self-cleansing Mineral Carbon Filters, with solid carbon ring, made of earthenware, galvanised iron, indiarubber, silicated carbon, price £5.

Portable Filters.—Imperial Aerating Mineral Carbon Filters, with all parts accessible for cleansing and renewal, made of earthenware, silicated carbon, price from £1 5s.

Table Filters.—Handle and valve, made of glass, silicated carbon, price 10s.

Diagrams of Cistern Filters, and Portable Filters.

Shanks and Co. No. 231.

Supply Taps.—Bath Taps combined and single.

Lavatory Taps, combined and single.

Ball Taps, in glass top case, made of brass.

**Bib Taps,
Pillar Taps.**

C. H. Sharp and Co. No. 327.

Filters.

The Silicated Carbon Filter Co. **No. 402.**

Filtering Medium.—Silicated Carbon, made of carbon, price £1 10s. per cwt.

Filters.—Domestic Filters, made of silicated carbon, earthenware, and metal, price from 10s. 6d.

Ascension Filters, made of asbestos, price from 18s.

Table Filters, made of glass and cork, price from 2s. 6d.

Pocket Travelling Filters, price from 2s. 6d.

Main and Constant supply Filters for placing under cistern or attaching to main, price from £3 3s.

Thos. Smith and Co. No. 269.

Filters.

The Spongy Iron Domestic Filter Company. **No. 400.**

Water Filters.—Domestic Spongy Iron Filters of different constitution, made of spongy (metallic) iron, prepared sand, and stoneware filter cases, price from 9s. 6d. each.

James Stiff and Sons. No. 255.

Water Filters in decorated Lambeth stoneware.

The Thames Bank Iron Company. **No. 230.**

3 Sluice Valves for water main. **1 Hydrant** for water fire mains.

J. Tylor and Sons. No. 256.

Valves and Taps.—An assortment for Water Supply, from 3in. to 12in. All sizes in stock, metal.

Patent Grooved Joints.—For making joints to lead pipe without solder. They will stand the highest pressure.

Water Main Pipe.—With hydrant, sluice valve, main stop valves, and ferrules, to show the mode of connecting the supply pipes to street mains, metal.

Water Meters.—An assortment of J. Tylor & Sons' patent meters, metal; one made of glass to show the working parts.

Automatic Meter.—An apparatus for registering the quantity of water that passes through a pipe in any given time, made of metal.

Pumps, Double and Treble Barrel for Deep Wells.

Water Post or Street Well, with J. Tylor and Son's Patent "Waste Not" Valve, as fixed for the Corporation in the courts and alleys of the City, under constant supply from the New River mains, made of metal.

Fire Valve, Hose, etc.—J. Tylor and Sons' Screw-down Valve Hose Unions, with old and new Brigade gauge, metal, and canvas hose.

Geo. T. Tonks. No. 213.

Cistern Supply Valves.—Frictionless Balanced Supply Valve (Meakin's Patent), made of brass, glass, and galvanised iron wire, price $\frac{1}{2}$ in., $\frac{5}{8}$ in., $\frac{3}{4}$ in. 4s.

E. C. Buchanan Tudor. No. 260a.

Stoneware Well Tubes.





SECTION XVII.

School Furniture, Window Blinds, Clothing, Books, &c.

NAMES OF EXHIBITORS ARRANGED ALPHABETICALLY.

NUMERICAL LIST OF THIS SECTION ON PAGE 139.

Robert Adams. No. 395.

Universal Venetian Blinds (Protected).—**Quadruple action.**

Antitropic Co. No. 107.

Refrigerator and Butter Box.

Baillière, Tindall, and Co. No. 146.

Books.—Medicine, Hygiene, General.

Sir Sherston Baker, Bart. No. 25c.

Books.—“Laws of Quarantine.”

“International Rules of Quarantine.”

Dr. Jean Baptiste Bastien. No. 90.

Drawings of Bathing and Gymnastic Apparatus.

William Benger and Sons. No. 131.

Woollen Underclothing.

Benham and Sons. No. 410.

Davey's Washing Machine.

Centrifugal Washer.

Peter Hinckes Bird, F.R.C.S. No. 378.

Glass Carburettor, made of metal, glass, and cotton wick.

Spirit Thermometer.

David Bogue. No. 150.

Books.—Medical and Scientific.

Diagrams.

Thomas Bradford **No. 441.**

Drying Closets. Washing Machines.

British Syphon Manufactory. **No. 197.**

Syphons and Seltzogenes for Aerated Waters.

John Bryden and Sons. **No. 303.**

Window Blinds.—Outside Spanish, made of wood, brass, iron, and tick cloth, price 2s. per square foot.

Roller Actions for Sun Blinds, made of brass and gun metal, 4s. per set.

Chorlton and Dugdale. **No. 411.**

Ship Appliance :—

“Excelsior” Spring Ship’s Berth, made of metal.

J. and A. Churchill. **No. 142.**

Books.—Medical, Hygienic, and General.

Medical Times and Gazette.

British Journal of Dental Science.

Pharmaceutical Journal.

Year Book of Pharmacy.

Coleman and Glendenning. **No. 235.**

School Desks.—“Adjustable Modern Desk” (Patent), adapted to any height with Dr. Roth’s chair, seat and desk to rise, made of walnut wood and iron, price £2 10s. each.

“Adjustable School Desk” (Patent), with Dr. Roth’s chair, a top seat only to rise, pitch pinewood and iron, price £1 5s.

“Modern Desk” (Patent), top movable, horizontal, with Dr. Roth’s chair, pitch pinewood and iron, price £1 5s.

Head Master’s Desk, the Widnes, made of pitch pinewood and brass, price £10.

Draper’s Seat.—“Automaton” (Patent) seat for draper’s assistants, made of iron and birchwood, price 7s. 6d. each.

Tables.—Science and Art Table, folding, for drawing, writing, and reading, made of pitch pinewood and iron, price 10s. 6d.; walnut wood, price 17s. 6d.

University Folding Table, made of oak, price 14s.

Queen’s Drawing Table, made of walnut wood, price £1 1s

J. R. Corsan. **No. 130.**

Sanitary Tablets.

John J. Croft. **No. 143.**

Books.—A complete set of the *Lancet* in volumes, from its commencement in 1823 to the end of 1880.

F. Darton and Co. **No. 36.**

Aneroid Barometers.

Albert E. Fradelle. **No. 93.**

Photographs of Medical Men.

- F. and C. Hancock. **No. 137.**
Bottles for Aerated Waters.
- Dr. Francis Hoeber. **No. 25d.**
Books, Medical and Scientific.
- Joy, Albert Bruce. **No. 74.**
Bust of the Harvey Memorial Statue.
- Ladies Sanitary Association. **No. 148.**
Books and Tracts on Sanitary and Domestic Subjects.
- Walter Macfarlane and Co. **No. 251.**
Seats and Chairs. Desk and Table Standards.
- Nineteenth Century Building Society. **No. 149.**
Books and Pamphlets.
- Professor Nycander. **No. 76.**
Drawing of a Gymnastic Apparatus.
- P. Pfeiderer. **No. 212.**
Kneading and Mixing Machines. Patent Sifting Machine.
- G. E. Pritchett, F.S.A., F.R.I.B.A. **No. 248.**
Barometers, with drawing charts, &c., price £5 5s.
- William Ramsey. **No. 352.**
Window Blinds. Fire Screens.
- Sanitary Assurance Association. **No. 141.**
Books and Pamphlets.
Sanitary Assurance Certificate.
- M. A. Shaw. **No. 369.**
Cinder Sifter—
“Dustless.”—The sifter enclosed in box with slide at bottom, made of wood and galvanised iron, price, from 10s. 6d.
- Smith, Elder, and Co. **No. 145.**
Books and Diagrams.—Medical, Hygienic.
The “Sanitary Record,” from its commencement.
- Smith and Turner. **No. 397.**
Clothes Washer.—Automatic (Hughes’ Patent), made of zinc, price, from 5s. each.
Door Holder, made of steel, brass, and stone, price, from 4s.
- Society for the Prevention of Blindness. **No. 117.**
Books and Diagrams.
Gymnastic Models.—Adapted for the Use of the Blind, made of papier mâché.

Léon Somzée. No. 110.

Hygienic Apparatus for Mines, and Lamps for Miners.
Diagrams of Life-Saving Apparatus.

Henry Tylor and Son. No. 238.

Ventilating Blinds.—Tylor's Patent Action, made of best pine-wood, with painted and varnished laths, price from 8d. per superficial foot.

Outside Louvre Blinds, made of pine-wood, tick, and ironwork, price from 1d. per superficial foot.

Outside "Universal" Blind, made of pine-wood, cloth, and ironwork, price from 1s. per superficial foot.

Case of Spring Roller Blinds, made of pine-wood, cloth, tick, and ironwork, price from 10d. per superficial foot.

Brass Flange Roller Blinds, made of pine-wood, cloth, and brass, price 10d. per superficial foot.

T. Pridgin Teale, M.B., F.R.C.S. No. 142a.

Books.—"Dangers to Health." Diagrams.

W. Tonks and Sons. No. 242.

Blind Furniture (Wethered's Patent) for automatically securing window blinds in any position by releasing the cord, made of metal, price 1s. 11d. per set.

Book Case Fittings (Patent) for permitting an easy re-arrangement of book shelves, made of metal, price, strips from 4d. per foot
plates „ 7d. per doz.

Allen's Registered Hat Holder, for fixing under pews and chairs, made of metal, price 10d. each.

Picture Line and Adjusting Fasteners (Hookham's Patent), for securely hanging pictures, and adjusting their height with facility, made of metal, price, picture line, 2s. 6d. per 100 feet, adjusting fasteners, from 2d. per doz.

Trübner and Co. No. 144.

Books.—Medical and Scientific.

Dr. F. Vallardi. No. 147.

Books.—Medical.

Edward Warner. No. 263.

Drawings, enlarged from text books for lecturing purposes.

William White, F.S.A. No. 262.

Book.—Domestic Plumbing, and Water Service.

R. W. Winfield and Co. No. 419.

Lacquer.—Spirit Varnish for the prevention of oxidation of metallic surfaces.



Appendix.

Description of Exhibits not included in previous parts of the Catalogue.

- Robert Adams. **No. 395.** Section XIV.
Ventilating Window and Apparatus.
- Arnold and Sons. **No. 6.** Section II.
Obstetric Instruments.
- H. Bell, Guildford-street, York-road, Lambeth. **No. 99b.**
(Transferred from **No. 126.**)
Section I.—Indiarubber Surgical Appliances.
Enema Apparatus. Truss Pads. Medical Gloves.
Hospital Bandage and General Surgical Appliances.
Section VI.—Appliances for the Sick Room.
- Bread Reform League, 17, St. Edmund's Terrace, Regent's
Park, N.W. **No. 140f.** Section VII.
Granular Wheat Meal Bread.—Fermented, process of Dr. Campbell
Morfit; Unfermented, aerated process of Dr. Daughlish.
- James Coxeter and Son. **No. 13.** Section II.
Obstetric Instruments.
- Cuxson and Co. **No. 25f.** Section VI.
Antiseptic Ganze.
- Joseph Cliff and Sons. **No. 270.** Section XIII.
Architectural Terra-Cotta. Damp Proof Courses. Glazed Bricks
Majolica and Salt Glazed Ware. Chimney Tops.
- Frederick Dyer. **No. 307.** Section XV.
Tidal Valve Trap.

E. Diver, M.D. **No. 180f.** Section XV.

Model of a Closet arranged to separate the solid from the fluid excreta.

The Enterprise Manufacturing Co., Philadelphia. (Care of Burroughs, Wellcome, and Co., 7, Snow Hill, E.C.) **No. 2b.** Section VII.

The Enterprise Drug Mills. The Enterprise Tincture Presses.

Ferguson and Co., 40 and 41, West Smithfield. **No. 99a.** Section I.

Surgical Instruments and Mechanical Appliances.

J. Finch and Co. **No. 302.** Section XVI.

Valve.

Robert W. Gardner, 170, William Street, New York, U.S.A. **No. 147c.** Section VII.

Pharmaceutical Preparation.—Permanent Syrup of Hydroidic Acid, composed of Hydroidic Acid, Sugar, and Water.

E. Edward Geflowski. **No. 99c.** Section XVII.

Bust of the late Dr. Edward Goodeve, Bengal Medical Service.

A. W. Gerrard, 153, Liverpool Road, N. **No. 240b.** Section X.

Medical Apparatus.

J. Gething, 140, Salisbury-court, Fleet-street, E.C. **No. 343.** Section XIII.

Simpson's System of Double Paned Sashes for the exclusion of dust and the non-conduction of heat and noise.

Dr. Grünfeld, Vienna. **No. 29f.** Section I.

Surgical Instruments.

J. L. Hancock, 13, Cothill-road, Dalston-Lane, E. **No. 138.** Section VII.

Machines for mixing Pharmaceutical Preparations.

John Hayes, C.E. **No. 87.** Section XV.

Plans for supplying London with Sea Water.

Thomas Hort, 4, Castle Bar Villas, Ealing. **No. 379.** Section VI.

Reclining Board and Chair combined, specially adapted for invalids suffering from spinal complaints, and so made that the invalid by stepping on to a footboard can swing himself to any angle either when lying or sitting, or suspend himself by the armpits.

Her Majesty's First Commissioner of Works. **No. 99.** Section
XIII.

Ordnance Survey Maps of the various Watering Places and other
health resorts of the United Kingdom. Scale, 6 inches to a mile.

Abercaeron	Fleetwood	Port Stewart
Abergelle	Folkestone	Queenstown
Aberystwith	Freshwater	Ramsgate
Aldborough (Eng.)	Glenarm	Ramsay
Aldborough (Wales)	Glengarriff	Redcar
Androssan	Grange	Rhyl
Barmouth	Guernsey	Rosstrever
Barnham	Harrowgate	Rothsay
Bath	Harwich	Ryde
Beaumaris	Hastings	St. Andrews
Blackpool	Hayling	St. Bees
Bognor	Herne Bay	St. Ives
Bootle	Hornsea	St. Leonards
Bournemouth	Hythe	Saltburn
Bray	Ilfracombe	Sandgate
Bridlington Quay	Inverallochy	Sandown
Brighton	Invergordon	Scarborough
Broadstairs	Jersey	Seaford
Buckston	Kilkee	Shanklin
Bude	Kingston	Shoreham
Budleigh Salterton	Largs	Sidmouth
Bundoran	Littlehampton	Silverdale
Burntisland	Llandudno	Southend
Charmouth	Llandulas	Southport
Cheltenham	Lowestoft	Southsea
Clacton-on-Sea	Lulworth	Stonehaven
Cluthorpe	Lyme Regis	Swanage
Colwyn	Lynmouth	Teignmouth
Cowes	Malvern	Tenby
Cromer	Margate	Torquay
Cullen	Minehead	Tunbridge Wells
Dawlish	Morecombe	Tynemouth
Deal	Mumbles	Undercliff
Douglas	Navin	Ventnor
Dover	Newcastle	Walton-on-the-Naze
Duncannon	Newhaven	Westgate
Dunmore	New Brighton	Weston-super-Mare
Eastbourne	Newquay	Westward Ho
Exmouth	North Berwick	Weymouth
Falmouth	Penzance	Whitby
Felixtown	Portrush	Worthing
Ferryside	Portobello	Yarmouth
Filey	Portishead	

HOSPITAL EXHIBITS (*Royal Albert Hall*). Section I.*(The numbers in small type refer to the separate lay-figures).*Hospital of Army Medical Department. **No. 465.**

- 1.—Temporary Arrangements for injuries in field practice.
Bayonet and Rifle Splints, with practical illustration of the uses of Esmarch's triangular bandage.

Charing Cross Hospital. **No. 460.**

1. Splint for extension in disease of the hip joint (Barwell). Extension by weight, showing method of fixing weight to any bed (Barwell). Splints employed after excision of the elbow.
2. Splints used after excision of knee, and Swing Cradle. Splints employed after resection of ankle.
3. Apparatus for swinging fractured thigh, after Hodgen (Bloxam). Splint for fractured leg, iron cradle.
Splint for excision of elbow, with Swinging Apparatus.
Plaster Splint used after excision of elbow.

Children's Hospital, Great Ormond Street. **No. 464.**

1. Back and Side Splints employed after double osteotomy, with a double-swing cradle.
2. After operation for harelip.—Splint for talipes.
3. Splint for Hip Disease, with apparatus for weight and extension.

Guy's Hospital. **No. 452.**

1. Ordinary Splints for fractured fore arm.
2. Rectangular Suspension for fractured thigh in a child.
3. Bryant's Double Splint for fractured thigh.
Leiter's Pliable Metal Tubes for applying heat or cold continuously to any part of the body. Leiter's Glass Irrigator for wounds.
4. Ordinary Back and Side Splints for fractured leg put up with strapping. Improved Cradle for swinging limb.
5. Back Splint and Apparatus for fractured patella. Ordinary Back and Side Splints for fractured leg, put up with webbing and strapping.
6. Gum and Chalk Splint (Bavarian) for fractured leg, intended to support the limb after the patient leaves the hospital. Splint in use after excision of the knee joint, with iron cradle.
7. Back and Side Splints for fractured leg. Swinging Apparatus and Cradle Splint (Hodgen's) for fractured thigh. Splint in use after excision of the elbow.
8. Golding Bird's Trachea Dilator.

King's College Hospital. **No. 458.**

1. Sandbag arrangement and weights for extension and keeping parts in position.
2. Apparatus to facilitate stump formation, after amputation, by lateral extension of the flaps. Long back splint.

The London Hospital. **No. 454.**

- 1.—Long Splint, with arrangement for extention in fractured thigh.
Back and Side Splints for broken leg, with swinging arrangement
Splints in common use for fractured arm.

Middlesex Hospital. **No. 456.**

1. Back and side splints, with swinging arrangements.
"Campbell de Morgan's" splint for fractured thigh or diseased
hip joint.
"Hammond Smith's" sling, employed after resection of
wrist, etc.
2. Apparatus for lifting helpless patient out and in from bed to
bath.

The Royal Free Hospital. **No. 463.**

- 1.—Splint used in excision of knee joint.
Long Splint, with extension apparatus.
Splints for fractured arm, and Pistol Splint for Colles' fracture.
A variety of other Splints.

St. Bartholomew's Hospital **No. 451.**

1. Splint employed after resection of knee with starched bandage.
Long splint for fractured thigh. Splint for fractured humerus.
2. Splint in use after resection of elbow, with suspension apparatus.
Extension splints after osteotomy of femur.
Arrangement for compressing femoral artery in aneurism.
Splint for Colles' fracture. Splint for fractured patella.
Splints and swinging arrangement for fractured leg.

St. George's Hospital. **No. 455.**

1. Box Splint for fractured Leg.
Splints for fractured humerus and fore-arm.
2. Long Splint for fractured thigh. Splint for fractured leg.
Double-Inclined Plane and Swinging Arrangement for limb.

St. Mary's Hospital. **No. 461.**

1. Back splint for fractured patella.
Splints for comminuted fracture of leg. Swing cradle.
2. Bent tin splint for disease of elbow joint.
Moulded leather splint for disease of knee joint.
Moulded leather collar for caries of cervical vertebræ.
"Queen Square" armlets for keeping child flat.
Extensive arrangement with weight for hip joint disease.

St. Thomas's Hospital. **No. 453.**

1. Lateral plaster splints, with muslin bandages, for fractured leg
Long outside splint, with extension and antero-lateral plaster
splint for fractured thigh. Splint for excision of knee.
Anterior plaster and posterior pistol splint for Colles' fracture.

Antiseptic dressing, with posterior "wooden dish" splint and anterior plaster splint, for compound fracture into elbow joint. Gutta percha splint for fractured jaw.
Splint for excision of hip.

University College Hospital. **No. 457.**

1. Arnold's Splints in Cradle. Carr's Splints for Colles' fracture. Splints for fracture of one or both bones of fore-arm. Gutta Percha Shoulder Cap (unlined). Long Splint, with Scott's sheet and Brown's extension. Thomas' Splint for diseased knee joint or fractured thigh, and for hip disease. Various other Splints.

Westminster Hospital. **No. 459.**

1. Splint for fractured leg. Swing Arrangement and Splint for fractured humerus.

HOSPITAL EXHIBITS (*Royal Albert Hall*), Section VI.

Charing Cross Hospital. **No. 460.**

Beds, bedding, lockers, table, crockery, &c.
Test glasses, medicine stand, &c.

Children's Hospital, Great Ormond Street. **No. 464.**

The Quiver and Charter House cots, with baby cot.
Screen. Basket. Bronchitis Kettle, &c.

Guy's Hospital. **No. 452.**

Hospital Bedsteads, with canvas sackings and flock beds.
Hospital Cots, two varieties, and new Tracheotomy Cot, lockers, crockery, bed tables, &c.
Movable Table for surgical dressings.
Post-mortem Weighing Table.
Apparatus for enabling a patient to lift himself (Dr. Hicks).
Earthenware Dishes adapted to the curved surfaces of the body.
Cushionless Chair for invalids. Basket for surgical dressings.
Sister and Nurse in their respective costumes.

Hospital of Army Medical Department. **No. 465.**

Bedstead and bedding. Invalid Chair. Table. Crockery.
Fife's Commode Chair, and miscellaneous articles in ordinary use in Barrack Hospitals.

King's College Hospital. **No. 458.**

Bed, bedding, and cot, Lockers. Test stand and glass.
Screen. Iron bed rest. Medicine stand.
Wedge-shaped elevation for foot. Basket for antiseptic dressings.
Tracheotomy tent and kettle. Bandage Roller.
Ice bag for knee.

The London Hospital. No. 454.

Bed and bedding, with mattress for helpless cases.
Ventilating locker, with glass top.

The Middlesex Hospital. No. 456.

Bed and Bedding, with ordinary locker.
Model for an improved locker.
Bath on Wheels, with bath lift for helpless patients.

Royal Free Hospital. No. 463.

Bed and Bedding. Locker, Crockery, &c. Chair.
Bed Table. Night Commode.

St. Bartholomew's Hospital. No. 451.

Bedstead and Bedding. Cot with tracheotomy tent and kettle.
Basket for dressings. China Dressing Dishes. Bed Table.
Indiarubber Blocks for raising bedsteads.

St. George's Hospital. No. 455.

Beds, bedding, wall brackets with crockery. Baskets.
Bed Table. Pillows for limb support.
Model of Operating Table.

St. Marylebone Infirmary. No. 462.

Bed, horse-hair and straw palliasse.
Infirmary Locker. Reclining Chair.
Convalescent fully equipped in hospital habiliments.

St. Mary's Hospital. No. 461.

Beds, bedding, and cot. Locker, crockery, &c.
Painted screen. Bed rest with straps.
Tracheotomy tent and kettle. Arm bath and bed table.

St. Thomas's Hospital. No. 453.

Bed and Cot with bedding. China and Metal Dressing Dishes.
Bed Pan with cover.

University College Hospital. No. 457.

Bedstead, bedding, locker, crockery, &c. Bed Table.
Ventilating Cupboard for bed pans.
Model of Bedstead with elevating apparatus.

Westminster Hospital. No. 459.

Bed, Bedding. Crockery and Stand.
Bed Rest and Book Stand.

Ihlee and Horn. **No. 328.** Section XIV.

Luminous Paints for Lighting Purposes.

JOURNEYMEN PLUMBERS. Section XV. Sub-Section A.

Buchan, David W.	... Bank Buildings, Cambuslang	... No. 334a
Court, George	... 41, Leipsic-road, Camberwell, S.E.	No. 334b
Cranston, Thomas	... ..	No. 334c
Davis, George	... 27, Ashley Houses, Bloomsbury	No. 335a
Dean, C.	... 11, Acton-street, Gray's Inn-road,	No. 335b
Deverell, J.	... Slough	No. 335c
Fairchild, S.	... ..	No. 335d
Fuller, John William.	32, Portobello-road, W....	No. 336a
Harrison, Thomas	... 14, Holland-street, Kensington	No. 336b
Hart, J. W.	... 91, Dorset-road, Clapham-road, London	No. 336c
Lyne, Edward	... 33, Treverton-street, Ladbroke Grove-road	No. 337a
McFarlane, James B.	12, New Cottages, South Darenth, Kent	No. 337b
Macfarlane, George	... 13, Bredon-road, Camberwell	No. 337c
Johnson, John	... ..	No. 337d
Otway, W. T.	... 101, Boyson-road, Camberwell	No. 338a
Sheppard, Thomas	... 32, Portobello-road, W....	No. 338b
Taylor, G.	... 7, Euston Grove, N.W.	No. 338c
Vallach, Harry	... ..	No. 338d
Vance, J.	... 55, Prince's-road, W.	No. 339a
Wood, James	... Newport, Monmouth	No. 339b
Wyse, John	... Guildford-street, Chertsey	No. 339c

Krohne and Seisemann. **No. 45.** Section II.

Obstetric Instruments.

M. Lawton, Boston, Mass. (Care of Burroughs, Wellcome,
and Co., 7, Snow Hill, E.C.) **No. 2c.** Section VII.

Absorbent Cotton.

Lanman and Kemp, New York. (Care of Burroughs, Well-
come, and Co., 7, Snow Hill, E.C.) **No. 2d.** Section VII.

Pharmaceutical Preparations.

Larmuth and Sidebotham, Unwin Street, Cross Lane, Salford.

No. 100d. Section XVII.

- Dual Desk for Board Schools, pattern "H. S.," with separate turn-up flaps for each scholar. Made in pitch pine, price 23s. 6d. each.
- Dual Desks for Board Schools, pattern "G. G.," in which the top is a fixture, and standing space is obtained by throwing back the seat. These fittings, by being placed end to end, may be used as long desks for examinations, &c. Made in pitch pine, complete, price 22s. each.
- Long Desks for Board Schools, pattern "O. M.," fitted with turn-up flap and "Gangway" seat, forming backed seats for the children, and affording ample ingress and egress without climbing over the seat. Made in pitch pine, complete; average price, 6s. per lineal foot.
- Convertible Desks, pattern "A. G. S.," to form also backed seats and level tables for tea meetings, &c. Fitted with the "Gangway" seat. Made in pitch pine, varnished, complete; average price, 5s. per lineal foot.
- Single Desks for Grammar Schools, fitted with tilt-up seat. Made in pitch pine, top in birch, price 25s. each.
- Single Desks for High Schools, on single standard, price, in pitch pine, 22s. 6d. each.
- Single Desks for Board Schools, in pitch pine on two iron standards, price 10s. 6d. each.
- Fractional Frame, for practically demonstrating the value of fractions. Folding Easel.

Robert J. Lee, M.D. **No. 38d.** Section VI.

Steam draught Inhaler.

R. Lehmann and Co., Fenchurch-street, E.C. **No. 100.**
Section VII.

Dietetic Articles.

London and North-Western Railway Company, Euston. **No. 79a.** Section XII.

Drawings of Invalid Saloon Carriages.

McKesson and Robbins, New York, U.S.A. (Care of Burroughs, Wellcome, and Co., 7, Snow Hill, E.C.) **No. 2a.** Section VII.

The "McK. and R." Capsuled Oroid Pills.

Matthews Brothers. **No. 37.** Section II.

Obstetric Instruments.

Dr. S. Newington, Ticehurst, Sussex. (S. Maw, Son, and Thompson, Agents.) **No. 4a.**

Section I.—An Apparatus for filling the Colon with oil, made of indiarubber, brass, and elastic gum.

Section VI.—Indiarubber Tube for holding Boiling Water, for the application of boiling water to the spine.

Section VII.—Specimens of Black Durham Mustard for mustard baths.

Section X.—An Apparatus for Checking Vibration in Railway Carriages, &c.

Section X.—The Original Aspirator. This was the first aspirator invented by Dr. S. Newington, and presented to Sir James Simpson, of Edinburgh, in the year 1860.

Henry Owen. **No. 330.** Section XVI.

Valves.

J. Battishill Parker, 6, Bradninch-place, Exeter. **No. 100b**
(transferred from **No. 209.**) Section VI.

Revolving Bed, price £5 5s.

Peyton and Peyton, Bordesley Works, Birmingham, and 25,
Wigmore-street, W. **No. 100c.** Section VI.

Hospital Bedstead.

Practical Hygienic Society of Paris, 20, Rue Richer; London,
21, Fopstone Road, S.W. **No. 407b.** Section VII.

Dietetic Articles.

Prof. Remington, Phila. College Pharmacy. (Care of Bur-
roughs, Wellcome, and Co., 7, Snow Hill, E.C.) **No. 147b.**
Section VII.

Pharmaceutical Still. Hygienic Toilet Water or Florida Water.

Messrs. Sampson Low and Co., 188, Fleet Street. **No. 240.**
Section XVII.

Books.—Medical and Scientific.

Sanitary Assurance Association, **No. 141.** Section XV.

Sanitary Assurance Certificate.

I. B. Seeley, 1347, Chestnut-street, Philadelphia, and Birming-
ham. **No. 100a.** Section I.

Hard Rubber Trusses.

Henry and Leigh Slater. **No. 206.** Section VI.

“Chartaline” Paper Blankets, price from 2s. each.

H. Saxon Snell, F.R.I.B.A., 22, Southampton Buildings, W.C.
No. 56. Section XVII.

Book.—“Charitable and Parochial Establishments.”

Chas. Richard Stevens. **No. 383.** Section XIV.

Bath Boiler.

James Stiff and Sons. **No. 255.** Section XV.

Large Street Gullies, with deep trap.

Invert Blocks, felspar glazed and lipped.

Large Hospital Sinks, in white glazed ware.

House Sinks, oblong and angular. Water Closet Pans and Traps.

"Weaver," "Weatherly," "Interceptor," "Disconnecter," "Eureka," and other Sewer-Air Traps.

"Weatherly" and "Bavin" Sink and Waste Water Traps for trapping and disconnecting.

"Redhill," "Garrett," "Woolwich," and other Drain Traps.

Yard Gullies.

Lovegrove's Patent Clearing and Inspection Shafts, and Overflow Chambered Drain Pipes.

Drain Pipes. Urinals.

Soper's Hospital Drain Disinfecter, as used at Stockwell Small-pox and Fever Hospitals

Soper's Portable Disinfecter.

Société Générale des Produits Raoul Bravais et des Eaux Minérales Naturelles, 26, Avenue de l'Opera, Paris; 21, Fopstone Road, Kensington, S.W. **No. 407a.** Section VII.

Pharmaceutical Preparations, &c.

Dr. Bernard Spitzer, Szabadka, Hungary. **No. 111a.** Section I. (Transferred from **No. 222.**)

Antiseptic Bandages, used in Hungarian Army, price £1.

The Technological, Industrial, and Sanitary Museum of New South Wales, Sydney. **No. 144a.** Section XVII.

Books and Pamphlets descriptive of the Museum which is now being formed in Sydney.

Mons. Tollet, **No. 91.** Section XIII.

Hospital Plans—Perspective view, with plans and sections of hospital at Montpellier, now in course of construction, with arrangements for 600 beds, capable of being enlarged to 750. Also a hospital for 320 beds, to be erected in the immediate neighbourhood of Paris, on the same system.

W. R. Warner and Co., Philadelphia. **No. 165a.** Section VII.

Pharmaceutical Preparations.

T. Westhorpe, West India Dock-road, E. **No. 100f.** Section VI.

Antiseptic Marine Lint (Patent) for Surgical Purposes.

William White, F.S.A., Architect. **No. 88a.** Section XIII.

Cottage Hospital Plans.

Wilcock and Co. **No. 279.** Section XIII.
Architectural Glazed Ware.

Messrs. William Wood and Co., New York. **No. 240a.**
Section XVII.

Books.—Medical and Scientific.

John Wyeth and Brother, Philadelphia. (Care of Burroughs,
Wellcome, and Co., 7, Snow Hill, E.C.) **No. 147a.** Section
VII.

Compressed Hypodermic Tablets. Dialysed Iron.
Compressed Tablets or Powders of Chlorate Potash, and also of
several other drugs.

HOSPITAL EXHIBITS FROM THE PARKES MUSEUM OF HYGIENE.

(*Royal Albert Hall.*)

Models of Ward Windows, the London Hospital, with clothes-press
attached. The Middlesex Hospital. St. Thomas's Hospital.
Guy's Hospital. St. George's Hospital.—Scullery Double
Window for continuous ventilation.

University College Hospital.—Cupboard for preserving the excreta.
Middlesex Hospital.—Model of Ambulance Carriage for hospital
use, employed at the Middlesex Hospital, suggested and pre-
sented by Sir Lionel Pilkington, Bart.

Light Screen.

Combined Coal Locker and Couch, and Carbolie Roller, as used at
Guy's Hospital.

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83.	W. Eassie, C.E.	„ XIV.
87.	J. Hayes, M. Inst. C.E.	„ XVI.
88.	Sanitary Appliance Company	„ XV.
258.	Robert Boyle and Son	„ XIV.
261.	W. P. Buchan	„ XV.
264.	Banner Bros. and Co.	„ XV.
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62	E. C. Robins, F.S.A., F.R.I.B.A., Archi- tect... ..	75	81	F. E. Jones	73
63	Yeovil Thomason F.R.I.B.A., Archi- tect... ..	77	82	H. H. Bridgman, A.R.I.B.A., Archi- tect	70
64	E. Turner, F.R.I.B.A., Architect	78	83	W. Eassie, C.E., trans- ferred to Sec. XV....	
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PARKES MUSEUM OF HYGIENE.

WHEN Dr. Parkes' lamented death occurred in the spring of 1876, it was strongly felt by his professional and personal friends, as well as by those who had known him officially, that some steps should be taken to perpetuate the memory of a man whose life had been of almost unparalleled utility to others. With this object a public meeting was held at University College, London, on June 18th, 1876, under the presidency of Sir William Jenner, Bart., when it was unanimously resolved to establish a Museum of Hygiene, to be called by his name.

"Hygiene," in the words of Dr. Parkes, "is the art of preserving health; that is, of obtaining the most perfect action of body and mind during as long a period as is consistent with the laws of life. . . Taking the word Hygiene in its larger sense, it signifies rules for perfect culture of mind and body. It is impossible to dissociate the two." A Museum of Hygiene, then, should contain whatever is of service to prevent disease or induce health.

The idea of establishing a Museum of Hygiene met with considerable favour, and an Executive Committee having been appointed, the subscriptions, headed by a donation of £50 from Her Majesty the Queen, soon exceeded £1000. This enabled the Executive Committee of the Museum to proceed with their work, but little could have been done had it not been for the liberality of the Council of University College, who, on February 7th, 1877, placed a large room at the disposal of the Committee in which to temporarily arrange the collection. From that time the Museum has grown rapidly, and at present it contains, in addition to a library of some 500 volumes having reference to sanitary science, a large collection of articles illustrative of (1.) Engineering and Local Hygiene. (2.) Architecture. (3.) Furnishing. (4.) Clothing. (5.) Food. (6.) Preservation and Relief.

The Museum was formally opened to the Public on June 28th, 1879, by Sir R. A. Cross, G.C.B., then Secretary of State for the Home Department, and from that date it has been open *gratuitously* to the Public on every Tuesday, Thursday, and Saturday. From January 1st to July 27th, 1880, the number of visitors amounted to 2166, and from August 1st, 1880, to July 1st, 1881, it has amounted to 2540. Since the Spring of 1876, £1525 has been subscribed. Of this sum £600 has been invested, which yields an income of something less than £24 per annum; £851 has been expended in Museum fittings, salaries, and other unavoidable expenditure. The work of the Executive Committee has been entirely gratuitous. No charge has been made to visitors at any time, neither has any charge been made for space, suitability being the only conditions for the acceptance of any article.

The moderate amount of funds at the disposal of the Committee has not deterred them from making the greatest possible use of the Museum. A number of demonstrations and lectures have been given, and these have been very well attended. The first series in the Winter of 1879-80 was given for the benefit of the Working Men's Club and Institute Union, and comprised the subjects of House Drainage, Ventilation, Lighting and Warming, Food, and the Management of the Sick Room. The second series was given to members of the Institution of Builders' Foremen and Clerks of Works, and comprised the subjects of Ventilation and House Drainage. During the past Winter, 1880-81, in response to a suggestion made to the Executive Committee by the "Nineteenth Century Building Society," a course of five lectures was delivered to members of Metropolitan Building Societies. These, which comprised the same subjects as the lectures of the previous year, were attended by numbers so large that the Museum was found barely adequate for their accommodation.

This experience having conclusively shown that the Museum has supplied an existing want, the Executive Committee feel bound to impress this upon the Public, and to ask for that pecuniary assistance which will alone enable them to continue and extend a work so important to the future well-being of the country. While pointing out the great utility of diffusing a knowledge of the laws of health among the classes upon whose education in such matters

the health of the Public so largely depends, the Committee would submit that no really adequate provision for achieving this object will have been made until a suitable building, in an accessible position, has been provided for the Museum. They, therefore, earnestly appeal to all those who recognize the great public advantage that must result from a dissemination of a practical knowledge of the laws of health to aid them in their endeavours to maintain the Museum in a state of efficiency, to continue the lectures and demonstrations which have found so much favour with the public and proved so serviceable to the industrial classes, and finally, in order that the collection and library may be made thoroughly available for teaching and research, to permanently establish the Museum in a building of its own in a central situation.

It is estimated that a sum of £30,000 would suffice to establish the Parkes Museum as a permanent National Institution, and enable the public to enjoy for ever all the advantages which it is capable of affording; and when it is stated that the temporary accommodation hitherto so generously accorded by the Council of University College will not be much longer available, were it even sufficient, and that a new home for the Museum is most urgently needed, the Executive Committee have every confidence that their appeal will meet with a liberal response, and that the means will not long be withheld for raising a memorial building which shall be worthy both of the nation and of the great man whose name the Museum bears.

The Executive Committee invite subscriptions from all classes of the community, which may be forwarded direct to the Treasurer of the Parkes Museum, Professor Berkeley Hill, 55, Wimpole-street, London, W. (Cheques and Postal Orders to be crossed "Union Bank.") During the Exhibition boxes will be placed at the entrances for the Donations of visitors.

THE EXECUTIVE COMMITTEE OF

THE PARKES MUSEUM OF HYGIENE.

July, 1881.

Parkes Museum of Hygiene

(Temporarily Located in University College, Gower Street, London),

FOR THE

Diffusion of a Practical Knowledge of Sanitary Science.

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H.R.H THE DUKE OF EDINBURGH.

THEIR ROYAL HIGHNESSES

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Curator, MARK H. JUDGE, M.R.S.L., 8, Park Place Villas, W.

THE MUSEUM IS OPEN FREE

On Tuesdays, Thursdays, and Saturdays, from 10 to 2.

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INTERNATIONAL
MEDICAL and SANITARY EXHIBITION,
1881.

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President :—

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INTERNATIONAL MEDICAL AND SANITARY EXHIBITION, 1881.

REGULATIONS FOR EXHIBITORS.

1.—The charges to Exhibitors will be as follows:—For Floor Space, One Pound per foot frontage with an average depth of six feet. For Wall Space, from Five to Ten Shillings per square yard. Single articles from one Exhibitor will be received at a minimum rate of Five Shillings each, according to size. Portfolios, containing Diagrams, Plans, &c., will be hung against the walls, and may be open to the extent of nine inches; the charge will be according to the wall space occupied, and ten per cent. in addition.

2.—Exhibitors will be required to pay for space on allotment. Except under special circumstances, no allotment of floor space of less than three feet frontage, or more than 20 feet frontage, will be made to any Exhibitor; and not less than one square yard, or more than nine square yards, of wall space.

3.—Applications for space must be made on the Official Form, and be addressed to the Secretary of the Exhibition Committee, Parkes Museum of Hygiene, University College, London, and will not be received later than Thursday, March 31, 1881. From India, the Colonies, and America applications will be received up to Saturday, April 16, 1881.

4.—All applications for space must include a description in writing of the articles proposed to be exhibited, and may be accompanied by printed prospectuses, &c.

5.—All space allotted will be strictly for the exhibition of the articles specified in the application form. The Committee reserve to themselves the right to refuse any article not considered by them as suitable.

6.—The Committee will not be responsible for insurance against fire, or in any way for the safety of any of the articles exhibited; and the cost of conveying goods to and from the Exhibition must be paid by the Exhibitors. Exhibitors or their Agents must at their own cost unpack their exhibits, place them in the place allotted, and repack and remove them at the close of the Exhibition. In default, the articles will be removed and warehoused at the cost of the Exhibitor.

7.—Under the supervision of the Secretary, Exhibitors may erect stands or cases for displaying their Exhibits, but they will be responsible for the removal of these at the close of the Exhibition, and must make good to the satisfaction of the Secretary any damage caused thereby. For machinery in motion, Exhibitors will have to provide gas engines, and the gas will be supplied at a fixed rate of charge.

8.—Every article exhibited shall bear a descriptive label, containing detailed information respecting its constitution or construction, and use. No secret preparations will, under any circumstances, be exhibited.

9.—Exhibitors will be permitted to employ persons to explain their Exhibits, and during the last week of the Exhibition articles may be sold to visitors, but shall not be removed from the Exhibition before the closing day, except when replaced by duplicates. (*The privilege to sell will only be enjoyed by those Exhibitors who have taken floor space.*)

10.—A Catalogue will be published by the Committee. Exhibitors will have the privilege of advertising in this Catalogue on the following terms:—Whole page, £4; half page, £2 10s.; quarter page, £1 10s.

11.—Articles for exhibition will be received at the Exhibition Buildings, South Kensington, from Friday July 1, 1881, to Saturday, July 9, 1881, inclusive, and all articles must be removed from the building by Saturday, August 20, 1881.

12.—The Exhibition will be opened on Saturday, July 16, 1881, and will remain open to Saturday, August 13, 1881, inclusive.

13.—Certificates of Merit will be awarded by specially appointed Judges, whose decision will be final.

14.—The List of Awards will be published, and will also be recorded in the Annual Report of the Parkes Museum of Hygiene.

15.—In order that New Inventions may be protected, the Board of Trade have granted to the Exhibition the privileges of the Protection of Inventions Act, 1870.

By Order,

JOHN ERIC ERICHSEN, F.R.S.,

President of the Royal College of Surgeons, *Chairman.*

MARK H. JUDGE,

Curator of the Parkes Museum of Hygiene, *Secretary.*

February 9th, 1881.

List of Judges.

- AITCHISON, GEORGE, A.R.A.,
 F.R.I.B.A.
 ANDERSON, Mrs. GARRETT, M.D.
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 CARPENTER, W. B., C.B., F.R.S.
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 F.R.S.E.
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 M.D., F.R.S.
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 FOSTER, Prof. G. CAREY, F.R.S.
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 GARROD, A. B., M.D., F.R.S.
 GEE, SAMUEL J., M.D.
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 F.R.C.S.
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 HILLS, THOS. HYDE.
 HIGGENS, CHAS., F.R.C.S.
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 POWER, HENRY, F.R.C.S.
 PRESTWICH, Prof., F.R.S.
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 SANDERSON, Prof. J. S. BURDEN,
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 B.Sc.
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Certificate of the Board of Trade.

“BOARD OF TRADE,

“ (RAILWAY DEPARTMENT),

“ LONDON, S.W., 21st June, 1881.

“ MARK H. JUDGE, *Esq.*,

“ (*Secretary of International Medical & Sanitary Exhibition*),

“ *Parkes Museum of Hygiene,*

“ *University College,*

“ *Gower Street, W.C.*

“ SIR,

“ I am directed by the Board of Trade to acknowledge the receipt of your letter of the 18th instant, and, in reply, to enclose, herewith, their Certificate, under the provisions of the Protection of Inventions' Act, 1870, in respect to the INTERNATIONAL MEDICAL AND SANITARY EXHIBITION proposed to be held at South Kensington from the 16th of July to the 13th of August next.

“ I am, Sir,

“ Your obedient Servant,

“ HENRY G. CALCRAFT.”

“ THE Board of Trade, by virtue and in exercise of the powers conferred upon them by The Protection of Inventions' Act, 1870, do hereby certify that the INTERNATIONAL MEDICAL AND SANITARY EXHIBITION which it is proposed shall be held from the 16th day of July to the 13th day of August, 1881, both days inclusive, at South Kensington, in certain rooms, buildings, and galleries at the Royal Horticultural Society's Gardens, and at the Royal Albert Hall, South Kensington, London, in the county of Middlesex, is in their Judgment calculated to promote British Industry, and to prove beneficial to the industrious classes of Her Majesty's subjects.

“ Signed by order of the Board of Trade this twenty-first day of June, 1881.

“ HENRY G. CALCRAFT,

“ *An Assistant Secretary to the Board of Trade.*”

EXHIBITION GUARANTEE FUND.

The sums in the second column have been advanced for preliminary expenses.

EXECUTIVE COUNCIL OF THE INTERNATIONAL MEDICAL CONGRESS—£50.

	£	s.	d.	£	s.	d.
Atwool, J.	10	10	0	2	2	0
Angell, A. /	1	1	0	1	1	0
Barron, Squire, & Co.	50	0	0			
Burroughs, Wellcome, & Co.	30	0	0	10	0	0
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Benham & Sons	20	0	0	10	0	0
Bolding, John, & Sons	20	0	0	10	0	0
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Barry, John G.	10	0	0	2	2	0
Beck, Marcus, F.R.C.S.... ..	5	0	0			
Bostel, Daniel Thomas (Brighton)	3	0	0	1	0	0
Bullivant, R. Tagliaferro & Co.	2	2	0	2	2	0
Buchan, William Paton (Glasgow)	1	1	0			
Corfield, Prof. W. H., M.D.	25	0	1			
Calvert, F. G. & Co.	10	0	0			
Carter, John	5	5	0	5	5	0
Cantlie, J., F.R.C.S.	5	0	0	2	0	0
Chorlton & Dugdale (Manchester)	5	0	0	2	0	0
Chadwick, Edwin, C.B.,... ..	5	0	0			
Coffin, Walter H.	2	0	0			
Doulton & Co.	35	0	0			
Davies, Hugh	1	1	0	0	10	6
Eassie, William, C.E.	25	0	0	10	0	0
Erichsen, J. Eric, F.R.S.	10	10	0			
Field, Rogers, M. Inst. C.E.	20	0	0			
Fradelle, A. E.	1	1	0			
Galton, Capt. Douglas, C.B.	20	0	0			
Godwin, Geo., F.R.S.	20	0	0			
Glendenning, John	5	0	0			
Hardwicke, Dr. Wm. (the late)	5	0	0			
Hayward, Tyler, and Co.,	5	0	0			
Holt, Henry P. (Leeds)... ..	5	0	0			
Hayes, John, C.E.	1	1	0			
Johnson, Edmund	10	10	0			
Judge, Mark H.	5	0	0	1	0	0
Kopp's Extract of Meat Co.	2	2	0	2	2	0
Leon. Geo. Isaac... ..	25	0	0	5	0	0

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Meredith, W. A., M.B.	5	0	0	2	0	0
Mayer & Meltzer... ..	5	0	0			
Maignen. P. A.	5	0	0			
Martindale, Wm.	2	0	0	1	0	0
Noble, John (Henley-on-Thames)	50	0	0			
Nicholls, G. B., C.E.	1	1	0			
Poore, Dr. G. V.... ..	25	0	0	10	10	0
Paget, Sir James, Bart., F.R.S.	10	0	0			
Peggs, J. Wallace, M. Inst. C.E.	5	5	0	1	1	0
Pillischer, M.	5	0	0	2	0	0
"Plumber and Decorator," Editor of... ..	5	0	0			
Pye-Smith, R. J.	1	0	0	1	0	0
Rawlinson, Robert, C.B.	25	0	0	5	0	0
Robins, Edward C., F.S.A.	20	0	0			
Rimmel, Eugene... ..	1	1	0			
Sanitary Assurance Association	25	0	0			
Sanitary Paint Co., Limited	25	0	0	5	0	0
Sanitary Engineering Co.	5	0	0			
Snell, H. Saxon, F.R.I.B.A.	25	0	0	5	0	0
Savory and Moore	25	0	0			
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Parke's Museum of Hygiene.

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Those marked with an asterisk are Annual Subscriptions.

Her Majesty the Queen	£50	0	0
H.R.H. Prince Leopold	20	0	0
H.R.H. the Duke of Cambridge	10	0	0
The Baroness Burdett-Coutts	50	0	0
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Ellison, James Edward, Victoria-square, Leeds...	...	1	1 0
Du Pasquier, Claudius F., F.R.C.S., 62, Pall-mall, S.W.	...	1	1 0
Erichsen, J. Eric, F.R.S., 6, Cavendish-place, W.	...	10	10 0
Fairbairn, Sir Thomas, 42, Wilton-crescent, S.W.	...	3	3 0
Falconer, Randle W., M.D., 22, Bennett-street, Bath	...	2	2 0
Farquharson, General G. W. W.,	...	1	1 0
Farr, William, M.D., General Register Office, Somerset House, W.C.	...	2	2 0
Farthing, W., and Co.	...	0	10 6
Fearnside, Henry, F.R.C.P., 9, Ribblesdale-place, Preston, Lancashire.	...	1	1 0
Ferris, O. A.	...	1	0 0
Field, Rogers, M. Inst., C.E., 5, Cannon-row, Westminster, S.W.	...	5	5 0
Fortescue, Earl, 20, Charles-street, Mayfair, W.	...	10	0 0
Foster, Michael, Cambridge	...	3	3 0
Fowler, John, C.E.	...	10	10 0
Fox, Tilbury, M.D. (Deceased), 14, Harley-street, W.	...	3	3 0
Fox, Wilson, M.D., 67, Grosvenor-street, W.	...	10	10 0
Frank, Philip, M.D., Grosvenor House	...	10	0 0
Freeman and Hildyard, Dover-road, Borough, S.E.	...	3	3 0
Gennadius, Mons. J. (Minister for Greece), 64, Pall-mall, S.W....	...	5	0 0
Glendenning, John, Vernon-villa, Norwich	...	1	1 0
Glover, J. G., M.D., 33, Compton-terrace, Highbury, N.	...	2	2 0
Godwin, Geo., F.R.S., 6, Cromwell-place, S.W.	...	5	5 0
Godwin, Geo., F.R.S., 6, Cromwell-place, S.W.	...	5	0 0
Goldsmid, Sir F., Bart (Deceased)	...	10	10 0
Gooden, J. C., Tavistock-square, W.C.	...	2	2 0
Gordon, Surgeon-General Dr. C. A., 70, Cambridge-gardens, W.	...	1	1 0
Gowers, W. R., M.D., 50, Queen Anne-street, W.	...	2	2 0
Granville, Earl, K.G., 18, Carlton House-terrace, S.W....	...	10	10 0
Greenfield, W. S., M.D., 15, Palace-road, Albert Embankment, S.E.	...	1	1 0
Griffiths, T. D., M.D., Hearne Lodge, Swansea	...	2	2 0
Gull, Sir W., Bart., 74, Brook-street, S.W.	...	10	10 0
Gunn, Wm., M.D., 2, Upper Nile-terrace, Rochester	...	1	1 0
Guy, W. A., M.B., 12, Gordon-street, Gordon-square, W.C.	...	2	2 0
H. V.	...	21	0 0
Hare, C. J., M.D., 57, Brook-street, W.	...	10	10 0
Harris, J. P., 5, Rodney-street, Liverpool	...	2	0 0
Harrison, J. E.	...	10	10 0
Hayhoe, H. P., and Co., Stowmarket	...	1	1 0
Heath, Christopher, F.R.C.S., 36, Cavendish-square, W.	...	3	3 0
Hewett, Prescott, F.R.C.S., 1, Chesterfield-street, W.	...	10	10 0
Hewitt, Graily, M.D., 36, Berkeley-square, W.	...	3	3 0
Hickman, William, M.B., 1, Dorset-square, N.W.	...	2	2 0
Hill, Berkeley, F.R.C.S., 55, Wimpole-street, W.	...	3	3 0
Hill, Julian, 52, Princes-square, Bayswater	...	1	1 0
*Hill, Lewin, Bruce Grove, Tottenham	...	0	10 6
Hill, Lewin, Secretary's Office, General Post Office, E.C.	...	0	10 0
Hill, Miss Davenport, Manor-lodge, Frognall, Hampstead	...	1	1 0
Hill, Miss Davenport, 25, Belsize-avenue, N.W.	...	1	1 0
Hill, Miss F. Davenport	...	1	1 0
*Hill, Miss F. Davenport, 25, Belsize-avenue, N.W.	...	1	1 0
Hooker, Sir Joseph, K.C.S.I., Royal Gardens, Kew	...	5	5 0
Horton, W. F. and Mrs., 57a, Wimpole-street, W.	...	3	3 0
Howorth, James, M.S.A., Manchester...	...	2	2 0
Hughes, H. S., M.R.C.S., Bromley, Kent	...	1	1 0
Humphrey, Professor, Cambridge	...	2	2 0
Huxley, Thos. H., F.R.S., 4, Marlborough-place, N.W.	...	2	2 0
Ibbetson, G. A., F.R.C.S., 19a, Hanover-square, W.	...	3	3 0
Inglis, Dr. Cornelius, 1, Albert Mansions, Victoria-street, S.W. ...	...	5	0 0

	£	s.	d.
"In Memoriam," E. A. Parkes,	25	0	0
Jenkin, Prof. Fleeming	2	2	0
Jenkins, T. W., Mayor of Aberavon	2	2	0
Jenner, Sir Wm., Bart., 63, Brook-street, W.	21	0	0
Jenner, Sir Wm., Bart., 63, Brook-street, W.	10	10	0
Johns, Mrs. Ellen	1	0	0
Jones, Dr. Talfourd	2	2	0
*Jones, Lieut.-Col., Wrexham	1	1	0
Judge, Mark H., and Mrs., 8, Park-place Villas, W.	1	1	0
Keeling, J. H., M.D., 267, Glossop-road, Sheffield	2	2	0
Kiallmark, H. W., M.R.C.S., 66, Princes-square, W.	1	1	0
Laurence, Edwin, Kensington Palace-gardens,	10	10	0
Leach, Harry, M.D. (Deceased), 12, Albert Mansions, Victoria-st. S.W.	1	1	0
Leachman, A. W., M.D., Petersfield, Hants	1	1	0
Leggatt, Alfred, F.R.C.S., 13, William-street, Lowndes-square, S.W.	2	2	0
Lewis, Dr., Lanely	1	1	0
Lewis, Hayter, F.R.I.B.A., 12, Kensington Gardens-square, W.	5	5	0
Lewis, Dr. T. R., India	5	0	0
Liddle, John	5	5	0
Lond, Miss	1	0	0
Longstaff, Colonel, Ridgeland, Wimbledon	10	10	0
Lowe, Thomas, 1, Shrewsbury-road, W.	1	1	0
Lyon, Washington, C. C., 85, Asylum-road, Peckham, S.E.	1	1	0
M. H. B.	25	0	0
McConnell, Dr.	5	0	0
Marriott, C. H. Leicester	1	1	0
Marshall, John, F.R.S., 10, Saville-row, W.	5	5	0
*Martin, J. H. 15, Argyle-square, W.C.	1	1	0
Martin, W. M., F.R.C.S., The Limes, Walkden, Bolton-le-Moors	2	2	0
Mason, Philip, Burton-on-Trent	2	2	0
Merchant Taylors' Company, The, 30, Threadneedle-street, E.C.	10	10	0
Miller, Dr.	2	2	0
Milner, Edward, M.R.C.S., 32, New Cavendish-street, W.	1	1	0
Mocatta, F. D., 9, Connaught-place, W.	5	5	0
Molyneux, Hon. Roger G., 13, Ebury-street, S.W.	1	1	0
Mouat, F., M.D., V.C., 12, Durham Villas, Kensington	5	0	0
Mouat, Surgeon-Gen. J., C.B., V.C., 108, Palace Gardens-terrace, W.	2	2	0
Moseley, H. M., University of London, Burlington-gardens	2	2	0
Myers, A. B. R., L.F.P.S., 30, Euston-square, N.W.	1	1	0
Mylne, J. A. University College, Gower-street, W.C.	2	2	0
Nankivell, A. W., L.R.C.P., St. Bartholomew's Hospital, Chatham	1	1	0
Nesfield, Stephen, M.D., 1, Richmond-place, Stretford-road, Manchester	1	1	0
Nineteenth Century Building Society, Adelaide-place, London Bridge, E.C.	1	1	0
Nightingale, Miss Florence, 10, South-street, Grosvenor-square, W.	5	0	0
Northumberland, Duke of, 2, Grosvenor-place, S.W.	10	0	0
Odell and Ives, 18, Princes-street, Cavendish-square	1	1	0
Osborne, John, M.D.	5	5	0
Paget, A. W. B.	10	10	0
Paget, Sir J., Bart., 1, Harewood-place, Hanover-square, W.	10	10	0
Paget, Mrs. William	25	0	0
Palmer, H. A.	5	5	0
Parker, Ruston, M.B., 69, Rodney-street, Liverpool	1	1	0
Parkes, Charles H., Netherfield, Weybridge	105	0	0
Parkes, The Misses	10	0	0
Parkes, Miss A.	5	0	0
Peake, Francis, The Waldrons, Croydon	1	1	0
Poore, Captain, Marchwood Barracks, Southampton	1	1	0
Poore, G. V., M.D., 30, Wimpole-street, W.	2	2	0
Poore, Mrs. Andover	1	1	0
Potts, Wm., F.R.C.S., 12, North Audley-street, W.	2	2	0
Quain, R., M.D., F.R.S., 67, Harley-street, W.	21	0	0
Quain, R., F.R.S., 32, Cavendish-square, W.	10	10	0
Ramsay, Captain, R.E.	2	0	0
Ramsbotham, J. M., M.D., 15, Amwell-street, E.C.	1	1	0
Ransom, W. H., M.D., The Pavement, Nottingham	5	5	0
Rathbone, William, M.P., 18, Princes-gardens, S.W.	5	0	0
Reid, Dr. Wm., Union-road, Tuffnell-park, N.W.	5	5	0

	£	s.	d.
Reynolds, Russell, M.D., 38, Grosvenor-street, W.	10	10	0
Rickards, Mrs. John, Trafalgar Villa, Clifton, Bristol	2	2	0
Rickards, Walter, M.D., 8, Cavendish-place, W.	5	5	0
Ringer, Sydney, M.D., 13, Cavendish-place, W.	5	5	0
Ripon, The Marquis of, 1, Carlton-garden, S.W.	10	10	0
Roberts, Frederick T., M.D., 53, Harley-street, W.	2	2	0
Rolleston, Prof., Oxford	2	2	0
Roy, Dr. G. Chunder Roy	1	1	0
Royle, Arnold, Buckingham Palace	5	0	0
Rutherford, H., Tovil House, Ealing	0	10	6
Sanderson J. Burdon, M.D., F.R.S., 26, Gordon-square, W.C.	5	5	0
*Sandys, W. Hastings, 20, Bury-street, St. James's, S.W.	0	10	0
Sanitary Engineering and Ventilating Company, The, 115, Victoria-street, E.C.	2	2	0
Sankey, W. H. O., M.B., Sandywell-park, Andoversford, Cheltenham	10	10	0
Saul, William, M.D., 4, Charlotte-street, Fitzroy-square, W.	2	2	0
Scott, Robson J., 6, Whitefriars-street, E.C.	1	1	0
Semple, Charles E. A., M.B., 8, Torrington-square, W.C.	2	0	0
Sharpey, Prof., University College, Gower-street, W.C.	5	5	0
Shattock, R. S.	2	2	0
Sherbrooke, Viscount, 34, Lowndes-square, S.W.	5	5	0
Shone, Isaac, C.E., Mayor of Wrexham	2	2	0
Sibson, Dr. (Deceased)	5	5	0
Sieveking, Edward H., M.D., 17, Manchester-square, W.	5	5	0
Silicated Carbon Filter Company, Church-road, Battersea, S.W.	1	1	0
*Simpson, Mrs. Jane H., 1, Hargwyne-street, Stockwell, S.W.	0	2	6
Siordet, Dr. J. L., 1, Dunster-court, E.C.	5	0	0
Smart, R. B., M.R.C.S., 176, Waterloo-place, Oxford-road, Manchester	5	5	0
Snell, H. Saxon, Architect, 3, Greville-place, Kilburn, N.W.	5	5	0
Snow, William Vickary, M.D., Richmond-gardens, Bournemouth	2	2	0
Southwell, E. J.	1	1	0
Squire, T. P., Burleigh-street, Strand, W.C.	1	1	0
Stanbury, A. H., Lower Hurst-street, Birmingham	1	1	0
Steele, Dr. J. C., Guy's Hospital	5	0	0
Stiff, James, and Sons, London Potteries, Lambeth, S.E.	2	2	0
Swinburne, C. W.	5	5	0
Symes, E. W., M.D., 1, Ward's-end, Halifax, Yorkshire	1	1	0
Symonds, Frederick, F.R.C.S., 35, Beaumont-street, Oxford	10	10	0
Thane, George D., M.R.C.S., 15, Montague-street, W.C.	2	2	0
Thompson, H., M.D., 53, Queen Anne-street, W.	1	1	0
Thompson, Sir Henry, M.B., 35, Wimpole-street, W.	10	10	0
Thomson, Spencer, M.D., Ashton, Torquay.	1	1	0
Thorne, R. Thorne, M.D. 45, Inverness-terrace, Hyde-park, W.	1	1	0
Thorowgood, John C., M.D., 61, Welbeck-street, W.	1	1	0
*Tonks, Messrs. William, & Sons, Birmingham	1	1	0
Topham, John, M.D., 19, Collingwood-street, N.W.	1	1	0
Turtle, J., M.D., Cloisters, Westminster, S.W.	3	3	0
Tweed, J. J., F.R.C.S., 14, Upper Brook-street, W.	1	1	0
Twining, Thomas, Penrhyn House, Twickenham	20	0	0
Twining, Thomas, Penrhyn House, Twickenham	10	0	0
Tyndall, Professor John, Royal Institution	3	3	0
Tyndall, Professor John, Royal Institution	5	0	0
Tyte, Edward C., M.D., Woodside, Cambridge-park, Twickenham	3	3	0
Vacher, F., F.R.C.S., 36, Hamilton-square, Birkenhead	2	2	0
Van-Abbott, G., 5, Princes-street, Cavendish-square	1	1	0
Voelker, Dr. A., 39, Argyll-road, Kensington, W.	3	3	0
Waggett, John, M.D., 40, Ladbroke-grove, W.	1	1	0
Watson Sir Thomas Bart., 16, Henrietta-street, Cavendish-square, W.	10	10	0
Wayte, Professor, University College, Gower-street, W.C.	3	3	0
Weber, Hermann, M.D. 10, Grosvenor-street, W.	10	10	0
Westminster, the Duke of, 33, Upper Grosvenor-street, W.	20	0	0
White, Leedham, 44, Onslow-gardens, S.W.	2	2	0
Wilks, Samuel, M.D., 77, Grosvenor-street, W.	1	1	0
Williams, John, M.D., 28, Harley-street, W.	2	2	0
Wilson, Erasmus, F.R.C.S., 17, Henrietta-street, Cavendish-square, W.	10	10	0
Wood, William, M.D., 99, Harley-street, W.	10	10	0
Wooldridge, E.	2	2	0
Worsley, Mr. and Mrs. S.	5	5	0



Parkes Museum International Exhibition, 1881.

Opening Ceremony.

THE International Medical and Sanitary Exhibition, which the Executive Committee of Parkes Museum have been busily organising since the beginning of the year, was formally opened on Saturday, July 16th, by the Right Hon. Earl Spencer, K.G., in the presence of a large and brilliant assembly. The opening ceremony took place in the Royal Albert Hall, and upwards of 4300 persons were present, quite half of that number being ladies. Previous to the speeches, selections of music were given by the Hungarian Band.

The meeting commenced punctually at half-past four, when the President, Earl Spencer, took the chair, and was supported by Earl Granville, Earl Fortescue, Lord Ilchester, Lord Alfred Churchill, M.P., Sir Wilfred Lawson, Bart., M.P., Sir Thomas Chambers, Q.C., M.P., Sir Matthew Wilson, M.P., Colonel Gourley, M.P., Mr. M. Brooks, M.P., Dr. Farquharson, M.P., Colonel Makins, M.P., Mr. Illingworth, M.P., Mr. Alex. Crum, M.P., Mr. Thomason, M.P., Sir James Paget, Sir James R. Bennett, Sir Sherston Baker, Lieut.-Col. Sir W. Palliser, C.B., Sir John Bennett, Surgeon-Gen. Shelton, Surgeon-Gen. Massey, and the Director General of the Army Medical Department, Mr. Barlow, R.A., Mr. Davis, R.A., Mr. Millais, R.A., Mr. John Eric Erichsen, F.R.S., Mr. George Godwin, F.R.S., Mr. Waterhouse, A.R.A., Mr. Freake, Professor F. de Chaumont, Professor Corfield, Professor Frankland, Professor Schafer, Professor Berkeley Hill, Professor Thane, Professor Flower, Professor Buchanan Baxter, Professor Wilson Fox, Professor John Marshall, Dr. Poore, Mr. G. Aitchison, A.R.A., Professor Kerr, Mr. E. C. Robins, Mr. Arthur Cates, Mr. Mark Judge, Mr. Saxon Snell, Mr. H. H. Collins, Mr. Ernest Turner, Mr. Rogers Field, Mr. Eassie, Dr. W. B. Carpenter, C.B., Mr. MacCormac, Dr. Steele, Dr. Sieveking, Dr. Matthews Duncan, Dr. Playfair, Dr. Mouat, Dr. Danford Thomas, Mr. Ibbetson, Mr. Netten Radcliffe, Mr. Mocatta, Mr. Peter Squire, Mr. Golding Bird, Mr. Ernest Hart, Mr. J. Cantlie, Professor Hayter Lewis, Professor T. Roger Smith, Dr. Thorne Thorne, Captain Douglas

Galton, C.B., Mr. R. B. Grantham, Dr. Klein, Professor Prestwich, Mr. Meredith, Mr. Edmund Owen, Dr. Ludwig, Dr. Bristowe, Mr. Gordon Smith, &c., &c.

Earl SPENCER said: I owe the honour which I have of presiding over this meeting, firstly, to the fact that the illustrious patron of this exhibition, H.R.H. the Duke of Edinburgh, is away with one of Her Majesty's fleets in the Baltic; and secondly, in all probability to the fact that I am now at the head of a department of the Government which granted some of the galleries in which the Exhibition is arranged. I belong to that department of Her Majesty's Government to which is referred any large questions touching education in this country, and I have lately felt the great responsibility of my position by having had assigned to me the difficult task of appointing a Commission to consider a subject of great medical importance to this country—a commission which I hope will lead to changes in the law with regard to medical education which must be greatly conducive to the welfare of the community. I shall not detain this meeting long by the few remarks I have thought it my duty to offer on this occasion. I cannot help referring to the great improvements which have been made during the last fifty years in sanitary matters—improvements which have tended so greatly to improve the health of the community. Such improvements have been a necessary condition of the development of the resources and wealth of the country. The health of vast masses of population have been beneficially affected by public works of reclamation which are now to be seen in all parts of the world. Marshes from which used to spring fatal agues and malarias are now to be seen converted into fruitful and wholesome fields and farms. Such improvements as those to which I refer have removed one of the great impediments in the way of health—and therefore of the wealth—of the community. Other public works that have been carried out, such as the drainage, lighting, and water supply of our towns and villages all over the kingdom, and last, though not least, the improvement of the dwelling places of the people, have been no less beneficial in their results. All the improvements I have mentioned have, I venture to think, exercised a vast influence on the health of the community, and those who are engaged in the legislation of the country are, from time to time, brought into contact with facts which show that to be the case. Again, very many of those who are connected with the work of local government, or with the management of private property, have largely given attention to the work of sanitary improvement in the directions I have indicated. But, while referring to what public men, people connected with local government, and managers of private property have done and may do for the good of the health of the community, I must not forget to make special allusion to the energy, ability, and activity of the members of the great medical and surgical professions. I venture to think that during the last fifty years

the greatest possible improvements have been made in the way in which the members of these distinguished professions carry out their work. They have availed themselves of the appliances of modern science, which they use for the alleviation of pain and for the promotion of the health of the community. I am glad to be able to refer to one proof that such efforts have not been wanting in success in achieving the desired ends, at any rate, in this country. It was only the other day that a colleague of mine, in presenting to Parliament the preliminary abstract of the census just taken of the population of the United Kingdom, referred to a fact upon which I think we may all congratulate ourselves very much, viz., that the death-rate of the Kingdom during the last ten years has most notably decreased—to such an extent, indeed, that during the last ten years 300,000 lives have been saved which would have been lost had the death-rate of the preceding decade continued. Without doubt, the diminution in the death-rate is largely due to improved sanitary conditions. I believe that the Exhibition which we have met to open will be of great value by bringing together the experience of the medical men, architects, and sanitary engineers, not only of this country but of every part of the world. That, I think, will be a great advantage to the health and prosperity of the people. I believe, also, that the value of the Exhibition will be greatly enhanced by the international congress of medical men which is shortly to be opened.

The Exhibition, I may tell you, is divided into two classes or departments—the Medical and the Sanitary. Those who are specially interested in or identified with the medical profession will find in the Medical Department all the newest surgical inventions and appliances, and other matters which will conduce to the well-being of those who have to undergo painful operations, or who have to endure sickness of any kind. There are also exhibited almost every drink recommended by the faculty, from Apollinaris water to decoctions of the bitterest drugs known in medicine. The visitor to the Sanitary Department of the exhibition will, I am sure, be struck by the infinite scope and breadth of this part of the display. There will be found not only all the best methods of house drainage, both internal and external, but illustrations of all the best systems and appliances which have been devised for the drainage of towns and villages. There will also be found almost every conceivable appliance, from the best means of warming and ventilating a house to the best kitchen stoves and utensils. There will also be found the best and most wholesome means of house decoration in lieu of poisonous wall papers. In short, every conceivable sanitary material and appliance is to be found in the Exhibition; and everybody who is building or furnishing a house, whether a mansion or a cottage, will be able to see how very much the appliances and fittings of a house contribute to the health or illness of its occupants. To neglect the teachings of sanitary science is

to encourage sickness and ill-health. On the other hand, adherence to the soundest and wisest principles of sanitation in the fittings and arrangement of a house cannot but conduce to the health of those who live there. I most heartily wish the Exhibition every possible success. I wish it success, not only at the present time and during the time it continues open, but I wish it a more permanent success; and I sincerely trust that it will enable those who have the management of that admirable institution, the Parkes Museum of Hygiene, to place that museum on a permanent basis. The museum bears the name of a distinguished man, a leader in the work of hygienic reform, and I trust that the efforts which are being made to give it a more permanent home worthy of it will be crowned with success. Without saying anything further at this moment, I will call upon Dr. Poore, the honorary secretary of the Parkes Museum, for a report explanatory of the origin of the Exhibition.

Dr. G. V. POORE, said: My Lord, As the Honorary Secretary of the Parkes Museum of Hygiene, the duty devolves upon me of stating briefly the origin of the International Medical and Sanitary Exhibition, which is inaugurated to-day. The Parkes Museum, which was formally opened on June, 28th, 1879, by Sir R. A. Cross, G.C.B., has clearly met a great public want. It has been opened gratuitously to the public on three days in each week, and the number of visitors, which amounted to 2166 in the first year of its existence, increased to 2540 in the year which has just closed. The practical lectures, which have been delivered to artizans, workmen, and others have been attended by numbers which have steadily and progressively increased, so that latterly they have been in excess of the accommodation which the Museum in its present situation is capable of affording. Thus encouraged the Executive Committee thought that a successful attempt might be made to organise an exhibition of sanitary appliances on the occasion of the assembling in London of the International Medical Congress. This idea was received with approval on the part of the officers of the Congress, and in order that the exhibition might have an additional interest for our medical guests, it was resolved to make it representative of medicine as well as hygiene, and it was finally decided to include in it anything which might reasonably be considered of use in the prevention, detection, cure, or alleviation of disease. A Sub-Committee of the Executive Committee of the Parkes Museum was appointed, with power to add to its number any persons likely to forward the interests of the exhibition, and the Exhibition Committee, as finally constituted, consisted of Mr. Erichsen (the late President of the College of Surgeons), as Chairman, the President of the Pharmaceutical Society, a Professor of Hygiene, two Physicians, three Surgeons, three Architects, and two Engineers, with a Surveyor, and Mr. Judge, as Secretary. The labours of this Committee have been considerable, but they have

been much lightened by the sympathetic co-operation met with on all sides. To the Royal Commissioners for the Exhibition of 1851, to the Council of the Royal Horticultural Society, to the Science and Art Department, to the Director of the South Kensington Museum, and to the President and Officers of the International Congress their thanks are especially due. The Exhibition Committee are proud to be able to state that His Royal Highness the Duke of Edinburgh has graciously consented to become the Patron, and that the Lord President of the Council has courteously accepted the office of President of the Exhibition. The Executive Committee of the Parkes Museum, while they have every reason to feel satisfied with the work which they have accomplished, are not without anxieties for the future. The present home of the museum is daily becoming more inadequate, and the funds at their disposal are barely sufficient to pay the very small current expenses. Their ambition is to permanently establish the Parkes Museum in a building of its own, and they are not without hope that the International Medical and Sanitary Exhibition may be the means of directing public attention to the needs of the parent institution. Should this exhibition prove financially successful, the profits will be handed to the Treasurer of the Parkes Museum, and it is hoped that the knowledge that one of the ultimate aims of the exhibition is to assist in the permanent establishment of the Parkes Museum, will prove an additional incentive to the public to visit the International Medical and Sanitary Exhibition.

Earl SPENCER: I will now call upon Mr. Mark Judge, the Secretary of the Exhibition, to make a statement.

Mr. MARK JUDGE said: My Lord President, my Lords, Ladies and Gentlemen,—The brief statement I have the honour to make to you on behalf of the Exhibition Committee must, I think, gratify both the exhibitors and the public generally, since it clearly shows that the interest taken in this, the first international exhibition of its kind, has been of an eminently practical character. It was natural that the Committee should count upon receiving the co-operation of their own countrymen in an undertaking which could not fail to benefit this country, but they could hardly have expected the large amount of support that has come from the people of other countries. The exhibits are divided into seventeen sections, and they represent almost every industry connected with medicine, architecture, and sanitary engineering. One feature specially worthy of mention is that the work of artizans is exhibited by themselves. Besides the exhibits which have been contributed by London, Dublin, Edinburgh, Glasgow, Liverpool, Manchester, Birmingham, and other large towns in the United Kingdom, the following countries have sent contributions, viz:—France, Germany, Austria and Hungary, Italy, Switzerland, Turkey, Holland, Belgium, Norway

and Sweden, Bohemia, Bavaria, also India and America. Thanks to the heartiness with which the exhibitors have fallen in with the arrangements made by the Committee, the exhibition that you have been invited to inspect to-day is not in an unfinished condition, but is full and complete. It was at first intended that the Judges of the different sections should make their awards to the exhibitors on the opening day, but the extent of the exhibition has made it necessary for them to prolong the time for their examinations, and therefore the awards will not be made until next week. The public spirit shown by the subscribers to the Guarantee Fund should not be overlooked, as without this the Committee could not have ventured on an undertaking of such magnitude. With such an inaugural meeting as the present, there can be little doubt that this exhibition will be the means of providing a considerable sum for the Parkes Museum, and at any rate it is sure to stimulate invention and improvement in all that relates to health.

The Right Hon. Earl GRANVILLE, K.G., said : At a time such as this, when London is so full of business and of pleasure, the presence of so many ladies and gentlemen as I see before me is a very clear indication of the interest which is excited by the objects of the Exhibition—objects so very wide that, as Lord Spencer has described them, they include house drainage, architecture, engineering, furniture, food, clothing, and the prevention of disease. I must admit that when I received my card of invitation to attend the meeting, and found insidiously inserted on the back of it that I was expected to deliver an address, and that I was to be followed by Sir James Paget, my heart sank within me ; but I have been somewhat relieved by the fact that the two excellent reports which have been read, and the singularly clear and lucid statement of Lord Spencer leaves me very little to say. Perhaps the Committee in inviting me are desirous of imitating the practice that now obtains in some of our theatres. The managers of those establishments, desirous of meeting the requirements of those who come early and like a quantity for their money, and of those, on the other hand, who like to dine comfortably before the evening's amusement, advertise the great piece of the evening to begin at 8 o'clock, and in smaller letters on the bills they announce that some trifling play will be enacted before it, so as to amuse the early comers, and to whet their appetite for the chief performance of the evening. In the same way, I suppose I have been invited to speak in order to whet the appetite of the audience for the address of Sir James Paget. I think it was Dr. Parkes himself who defined hygiene as the art of preserving health, in other words, the art of giving the most complete action to mind and body for as long a period as was consistent with the laws of life. All people, sometimes voluntarily, sometimes involuntarily, think and talk of health ; and I venture to say that if anybody is rash enough to admit in company that he has some indisposition,

he will find the majority of those present eager to prescribe for his diet and for his regimen, everybody having some favourite pills to recommend. I remember some years ago having a severe attack of gout while in Rome. As soon as the news spread I was immediately inundated with prescriptions, not only in English, but in Italian, French, German, and even Russian. The Cardinal Secretary of State was good enough to tender me some advice based on his own personal experience; another foreign minister gave me exactly contrary advice; and such was the happy result of the combination of prescriptions that I did not get well until I had left the grand old city behind me. In Easter of the present year, it being a dull season with the newspapers, the report was published that I had a serious attack of gout. It was a subject very unworthy of attention, and luckily for me, the report was entirely without foundation; but, nevertheless, I have been most deeply touched since that announcement by the receipt, almost daily and even hourly, of letters of advice upon that, to me, interesting topic. I have been advised to drink whiskey; I have been advised to drink claret; I have been advised to adhere to the most rigid teetotalism; have been advised to live generously; and I have been advised almost to starve myself; while one gentleman, whom I had no reason to suspect of being a dentist, advised me to provide myself with a complete apparatus of artificial back teeth. The moral I gathered from all that is, that even for maintaining the health of a single individual, study alone, or experience alone, is not sufficient. I believe that it requires science, art, and experience combined to be sure in such matters. Now, if that is the case with regard to the health of an individual, how much more is it so with regard to the health of large communities. Lord Spencer has referred to some very satisfactory statistics gleaned from the recent census. That census shows how the population of this country is increasing. With regard to the metropolis alone, the numbers very nearly approach the enormous total of four millions. Many of those present will remember the observations of Archbishop Whateley with regard to the great problem of affording food to such agglomerations of human beings occupying a comparatively small area. How easily the work of providing such vast masses of men, women, and children had been done by their fellow-beings, prompted by self-interest, and how impossible would it be for the Government to do such work efficiently and without enormous waste. But, besides air and food, there is water, which is a prime necessary of life, whether for drink, for purposes of cleanliness, or for its use in antagonism to fire. That is a thing which could not be in all cases effectually provided by private enterprise. If it is to be provided, either by the Imperial Government or local authorities, it ought to be on the best possible principles, both as to quality and as to quantity of the supply. I consider that in this great city of London we are most imperfectly provided with water. The question is one beset by difficulties, and is one, among others, in which specialists can do

much by the dissemination of sound principles to develop a healthy public opinion. I believe that exactly the kind of sanitary information which is desired will be furnished by the Exhibition about to be opened—an exhibition which is the outcome of the Parkes Museum of Hygiene. Her Majesty's Government is perfectly alive to the importance of sanitary questions. The meeting is aware of the causes which have made the present session so barren of legislation on questions of this kind. I am happy to say, however, that there is one measure with regard to the flooding of rivers—a matter which bears most essentially upon the health of many towns and villages—which has been got to such a stage that the Government have a very strong hope of being able to pass it into a law this session. I know that the path of the sanitary reformer is not always a smooth one. The subject itself in some of its details is of a disagreeable character. There are many obstacles to the progress of sanitation, as such veteran reformers as Mr. Chadwick can testify, including vested interests, or fancied interests, in many forms. Of one thing I am quite sure, namely, that the friends and fellow-labourers of the late Dr. Parkes will feel that their reward will be ample if, through creating the Parkes Museum as a memorial and in commemoration and perpetuation of his untiring devotion and great services as a sanitary reformer since the time of the Crimean War, the Exhibition, which is the outcome of the Museum, shall be the means (as it is likely to be) of greatly increasing the interest of the public in sanitary matters. It is a happy idea to have held the Exhibition during the visit of medical men from all parts of the world. The International Medical Congress will be attended by some of the most eminent medical men in the world, and I have not the least doubt that the result of their deliberations and of the teachings of the Exhibition will be the dissemination of much useful information as to the laws of health, and that such information will be immensely conducive to the health, not only of the bodies, but of the minds and characters of their fellow-creatures all over the world.

Sir JAMES PAGET said: I should not have ventured to address this meeting, which is essentially a meeting for the opening of the Exhibition, but for the relation which has been mentioned as subsisting between the Exhibition and the International Medical Congress. It was in the first instance suggested that the organization of such an exhibition would be a proper part of the duties of the Executive Committee of the International Medical Congress, but for various reasons it was decided that the work of organizing an exhibition should not form part of the duties of the Congress Committee, who felt that they would have enough to do without undertaking the great amount of labour that the organization of such an exhibition involved. What has been achieved by the Exhibition Committee is enough to prove that the course taken was right one. The results shown by the Exhibition Committee, in the

number and variety of the appliances and materials exhibited, are beyond what the most sanguine promoters could have dreamt of. It is an Exhibition of which, I believe, the country may well be proud, and one which will be fraught with instruction and pleasure to the distinguished foreigners who will visit it in connection with the Congress, and who will find much in it not only to criticize and to advise upon but to admire and learn from. Although we in this country might justly be dissatisfied with the present hygienic state of England—and I may add we are proud of our dissatisfaction, for there is no ignorance so dangerous as that which is supported and perpetuated by self-satisfaction—yet we have very much to show for the results of the teaching of sanitary science in this country during the last few years, thanks to the intelligence and industry of a comparatively small band of sanitary reformers. Lord Granville has mentioned with commendation the name of Mr. Edwin Chadwick, but I might add to that a long list of names, beginning with that of Mr. Simon. I might also refer to the great mass of knowledge of sanitary matters now in possession of the Local Government Board—knowledge collected by its army of medical and engineering inspectors—knowledge not to be surpassed in extent or value by that gained in any country in Europe. The difficulty is in applying all that knowledge—in doing exactly the right thing under ever-varying circumstances. I think it is a good omen for the success of the Exhibition and Congress that the Lord President of the Council is in the chair on the present occasion, because he best expresses that which I believe will be the best work that the Exhibition can do, viz., the work of educating the public in sanitary matters. Presiding, as his lordship does, not only over medical education but over every branch of education in the kingdom, he does well to recognize that one of the prime objects of the Exhibition, and of the Parkes Museum of Hygiene, is the education of the public in sanitary matters. I can myself be no efficient judge of the comparative merits of the different preventive appliances that are exhibited, because my life has been spent in trying to mitigate the miseries that result from the want of the prevention of disease. No doubt the work of preventing disease is a much happier task than that of trying to cure it. The medical man has very much to be thankful for in the advance of sanitary science. It is a great assistance to him to know that owing to advances in sanitation, he need not, under proper precautions, fear the spread of infection from one patient to another; that he need not fear that his skill will be thrown away owing to the foulness of a hospital drain; but that, aided by the art and science of nursing and recognition of sanitary laws, his patients now have everything in their favour and that the curative means he employs will have fair play. Such exhibitions as the one we are assembled to open must do much to promote a knowledge of sanitation. Amongst the exhibitors themselves a wholesome rivalry in the attainment of what is as near perfection as possible is set up. Mutual criticism of each other's appliances is likely to bring out the weak and strong points

in such things, and perhaps the exhibitors look at each other's goods with keener eyes for defects or improvements than are possessed by the eminent judges of the awards. A spirit of emulation is set up, and the public, in the long run, will be the gainers. Another important feature of such exhibitions is their educational effect on the masses of the people. People who visit the Exhibition will learn something about the principles of sanitation, and can exert an influence in favour of sanitation amongst their friends and neighbours, and more especially amongst the poorer classes. I wish it could but be once strongly impressed upon the people by some strong and lucid speaker, how very completely the wealth of the country is dependant upon the health of the population. The wealth of a country such as England depends in only a very secondary degree upon its climate and its soil, its mines and its industries. Its agriculture and its industries depend far more upon the will and power of its people to work, and such power depends upon strong minds and strong limbs, and these, in their turn, are dependent upon and could not exist without health. In this country, therefore, health is pre-eminently wealth; and he who does not do all he can to promote his own health forfeits his right to wealth, and is guilty of the basest want of patriotism. There is one thing quite certain and fully recognised in medicine, viz., the relation between constitutional and local disease. Nothing is more clear than that local diseases sooner or later affect the whole body. In the same way, one unhealthy neighbourhood — one plague spot — often affects a whole district, and one district infects another, until the whole tone of life all over the country is sensibly lowered. Knowing this, then, I wish most cordially success to the Exhibition. If I have one other reason why I wish it success, it is that I reverence the memory of Edmund Parkes, and I therefore hope that the success of the Exhibition will be such as to help in placing the Parkes Museum of Hygiene on a more permanent footing, seeing that that institution seeks to perpetuate the work to which Parkes devoted the best years of his life.

Earl SPENCER: I have to explain that the Right Hon. J. G. Dodson, M.P., who had promised to be present, has been prevented from attending owing to important official duties.

Earl SPENCER: It is now my pleasing duty to declare the International Medical and Sanitary Exhibition open.

Mr. GEORGE GODWIN, F.R.S., said: A resolution has been put into my hands which needs no commendation or argument on my part, and I might have ventured to make a few observations on the general subject before speaking to the resolution itself, were I not afraid that I should weaken the effect of the very eloquent and admirable address which you have just heard from Sir James Paget. Nevertheless, as representing

the Executive Committee of the Parkes Museum of Hygiene and the Exhibition Committee, I will venture to add a few more words, as earnest as I can command, to introduce to the attention of the meeting, and to urge upon it the claims—I had almost said paramount claims—of the Parkes Museum of Hygiene. That museum has great claims upon the public and the press. A very considerable advance has taken place in public opinion on the subject of sanitation since, many years ago, a few earnest men began the work of sanitary reform, but I am afraid that at the present time there exists scarcely so agreeable a state of things as might be supposed from the tone of the speeches which have been delivered. Sanitary reform is a matter which still fails to excite a due amount of interest—one which is still too much neglected. It should be remembered by all that it is not a question of rose-water, or of strains from Hungarian bands, pleasant as such things may be. It is a question of health and happiness, a question of life and death; and a question on which every man—aye, and every woman too—has it in his or her hands to exercise an influence for good or evil. The object of the Parkes Museum has been, and continues to be, to disseminate generally truths of sanitary science, and also to show—what the Exhibition just declared open shows on a larger scale—the best appliances that can be had for practically applying those truths or principles. It would have given me very much pleasure to have commented upon some of the points suggested by the Exhibition, but time does not permit, though there is one matter to which I would direct attention as illustrating its value in relation to some statistics which have recently reached me. The statistics to which I refer are of especial value in connection with the plans which are exhibited for the arrangement of hospitals and other institutions of the kind. It appears to be a well-ascertained fact that the French soldiers who were wounded in the Crimean war and who were subjected to surgical treatment, died at the rate of 75 per cent. In the American civil war, on the other hand, the soldiers, who sustained quite as severe and as dangerous wounds, and who were treated with certainly no greater surgical skill, only died at the rate of 34 per cent. What was the reason of the mortality amongst the American soldiers being less than half that amongst the French soldiers? Simply because the French soldiers under surgical treatment were placed in old-fashioned and badly contrived hospitals, without any proper arrangements for ventilation and drainage; whereas the American soldiers were placed in single detached and very rudely constructed hospitals, in which air had free circulation. In some of our own hospitals there are surgical wards which are simply places for dying in. The state of things existing in the houses of the very poor in London and other large towns of the Kingdom is still deplorable. It is true that many great improvements, materially lessening the death-rate, have been effected, but still the story of sanitary neglect even in the present day is appalling, and calls for the paramount attention of every man deeming

himself a statesman. I do most sincerely hope that when present difficulties are overcome, Her Majesty's Government will evince a great and proper interest in the vital subject of sanitary reform, and that they will press forward necessary legislation on the subject. If the people of this country, especially women, will only make themselves acquainted with the good that flows from the observance of sanitary laws, and insist upon their observance, the amount of benefit that would be effected would be greater than can be imagined. I am sure that the meeting is very much pleased with having Lord Spencer and Lord Granville present on this occasion, and it is my most pleasing duty to propose that the best thanks of the meeting be given to the Right Hon. Earl Spencer for presiding and for advocating so eloquently the objects of the Exhibition.

Mr. JOHN ERIC ERICHSEN, F.R.S., said: As Chairman of the Exhibition Committee, it gives me very great pleasure to second the vote of thanks to Earl Spencer. The Exhibition is the joint offspring, as it were, of the Parkes Museum of Hygiene and the International Medical Congress, which is to hold its first meeting in about a fortnight from this time. Thus the Exhibition, by some law which is unknown to natural science, has come into the world before the birth of one of its parents. It has, however, inherited the good qualities of both of them; for on one side it represents in its full integrity all the wealth of hygienic appliances to be found in the Parkes Museum, and, on the other hand, everything that can minister to the relief of suffering and the cure of disease, and to promote the alleviation of deformity and infirmity as it affects men. I can truly say that it is a great Exhibition, for it is the greatest of the kind that has ever been got together. It is the natural outcome of the advance of hygienic science which has characterised modern life; for if there is one characteristic of modern life more than another, it is the great attention paid, at any rate by the educated classes, to the study of the laws of hygiene. The civilised man differs from the savage, and the educated man from the uninformed man, in nothing more than in the scrupulous attention paid by them to cleanliness in all that relates to the health of the body and to the surroundings of home. The civilised and educated man is impelled by his culture to be clean, and it has become an instinct with him to be so. His knowledge tells him that disease is largely preventible by the observation of cleanliness, and that if preventible and not prevented, it is truly self-inflicted. Disease that is self-inflicted is not always of the major kind. Not merely typhoid and small-pox, but the lassitude, the languor, and nervous depression which are so prevalent, are frequently found to have their source in faulty hygienic conditions. The law of hygiene is like the moral law: just as an infraction of the moral law leads to the pricking of conscience, so a breach of hygienic law leads to illness. I was very glad to hear Mr. Godwin allude to the great influence which may be exerted

by women in connection with hygienic reform, because it is to women we must look for the exerting of home influence. Women should be our great hygienists. It is to the wife, not to the husband—to the mother, not to the father—that we must look for the preservation of hygiene in the home. It is to the mother, not to the father, that we look for the prevention of disease among the children, and for the adoption of those hygienic measures which will lead the children to grow up in vigour and health, strength and beauty, and fitted in body and mind for the duties of after life. I second the resolution with much pleasure.

The resolution, on being put to the meeting, was carried with acclamation.

Earl SPENCER, in reply, said : I thank you for the very hearty way in which you have received and accorded to me a vote of thanks. My services on this occasion have been very slight, but I feel it to be a very great honour and pleasure to have assisted at this meeting, and I wish most cordial success to an Exhibition which is calculated to have so very material an influence on the health of this country.

The audience then passed from the Albert Hall into the Exhibition galleries, where the Hungarian Band played selections of music till dusk.



Alphabetical List of Late Exhibitors.

- Bread Reform League, 17, St. Edmund's-terrace, N.W. **No. 140f.**
 Buchan, David, W., Bank-buildings, Cambuslang. **No. 334a.**
 Court, George, 41, Liepsic-road, Camberwell, S.E. **No. 334b.**
 Cranston, Thomas. **No. 334c.**
 Cuxson and Co. **No. 25f.**
 Davis, George, 24, Ashley-houses, Bloomsbury. **No. 335a.**
 Dean, C., 11, Acton-street, Gray's-inn-road. **No. 335b.**
 Deverell, J., Slough. **No. 335c.**
 Enterprise Manufacturing Co., The, Philadelphia. **No. 2b.**
 Fairchild, S. **No. 335d.**
 Ferguson and Co., 40 and 41, West Smithfield. **No. 99a.**
 Fuller, John William, 32, Portobello-road, W. **No. 336a.**
 Gardner, Robert W., New York, U.S.A. **No. 147c.**
 Geflowski, E. Edward. **No. 99c.**

- Gerard, A. W., 154, Liverpool-road, N. **No. 240b.**
 Gething, J., 140, Salisbury-court, Fleet-street, E.C. **No. 343.**
 Grünfeld, Dr., Vienna. **No. 29f.**
 Hancock, J. L., 13, Cothill-road, Dalston-lane, E. **No. 138.**
 Harrison, Thomas, 14, Holland-street, Kensington. **No. 336b.**
 Hart, J. W., 91, Dorset-road, Clapham-road, London. **No. 336c.**
 Hort, Thomas, 4, Castle Bar-villas, Ealing. **No. 397.**
 Johnson, John. **No. 337d.**
 Lawton, M., Boston, Mass. **No. 2c.**
 Lanman and Kemp, New York. **No. 2d.**
 Lehman, R., and Co., Fenchurch-street, EC. **No. 100.**
 London and North-Western Railway Company, Euston. **No. 79a.**
 Lyne, Edward, 33, Treverton-st, Ladbroke Grove-road. **No. 337a.**
 McFarlane, James B., 12, South Darenth, Kent. **No. 337b.**
 McFarlane, George, 13, Bredon-road, Camberwell. **No. 337c.**
 McKesson and Robins, New York, U.S.A. **No. 2a.**
 Newington, Dr. S., Ticehurst, Sussex. **No. 4a.**
 Nickels, A. J. **No. 339d.**
 Otway, W. T. 101, Boyston-road, Camberwell. **No. 338a.**
 Peyton and Peyton, Bordesley-works, Birmingham, and 25, Wigmore-street, W. **No. 100c.**
 Practical Hygienic Society of Paris, 20, Rue Richer; London, 21, Fopstone-road, S.W. **No. 407b.**
 Remington, Prof., Phila. College Pharmacy. **No. 147b.**
 Sampson Low and Co., Messrs., 188, Fleet-street. **No. 240.**
 Seeley, I. B., 1347, Chestnut-street, Philadelphia. **No. 100a.**
 Sheppard, Thomas, 32, Portobello-road, W. **No. 338b.**
 Société Générale des Produits Raoul Bravais et des Eaux Minérales Naturelles, 26, Avenue de l'Opera, Paris; 21, Fopstone-road, Kensington, S.W. **No. 407a.**
 Taylor, G., 7, Euston-grove, N.W. **No. 338c.**
 Technological, Industrial, and Sanitary Museum, The, of New South Wales, Sydney. **No. 144a.**
 Tollet, Mons., Paris. **No. 91.**
 Vallach, Harry, **No. 338d.**
 Vance, J., 55, Princes-road, W. **No. 339a.**
 Warner, W. R., and Co., Philadelphia. **No. 165a.**
 Westhorpe, T., West India Dock-road, E. **No. 100f.**
 Wood, William, and Co., New York. **No. 240a.**
 Wood, James, Newport, Monmouth. **No. 339b.**
 Wyeth, John, and Brother, Philadelphia. **No. 147a.**
 Wyse, John, Guildford-street, Chertsey. **No. 339c.**



List of Awards.

SECTION I.—Surgical Instruments and Apparatus.

Judges.

THOMAS BRYANT, F.R.C.S.
CHRISTOPHER HEATH, F.R.C.S.
THOMAS SMITH, F.R.C.S.
JOHN WOOD, F.R.S., F.R.C.S.

Awards of the First Class.

- J. T. COCKING. **No. 469.** For Poro-plastic Felt for Spinal Jackets, Splints, &c.
- KROHNE & SESEMANN. **No. 45.** For the Use of Aluminium in Splints, Leiter's Irrigator and Metallic Tubes, and for General Excellence of Workmanship.
- MATTHEWS BROS. **No. 37.** For Tracheotomy Tubes with Guards, and Steam Spray Producer.
- MAYER & MELTZER. **No. 46.** For Excellence of Workmanship.
- John WEISS & SON. **No. 53.** For Vulcanite Piston for Syringes, and for Excellence of Workmanship.

Awards of Merit.

- James ALLEN & SON. **No. 219.** For Steam Spray Producers and Stands.
- ARNOLD & SONS. **No. 6.** For General Excellence.
- W. H. BAILEY & SON. **No. 201.** For Elastic Surgical Appliances.
- H. BELL. **No. 99b.** For Quality of Indiarubber-work.
- P. BOURJEAURD. **No. 231.** For Spiral Ribbon, Elastic Stockings and Indiarubber Urinals.
- James COXETER & SON. **No. 13.** For Excellence of Workmanship.
- EDWARDS & BRADLEY. **No. 207.** For Ingenious Adaptation of Indiarubber.
- EVANS & WORMULL. **No. 33.** For Instruments for the Treatment of Hernia.
- FERGUSON & Co. **No. 99a.** For General Excellence.
- W. B. HILLIARD & SONS. **No. 237.** For Splints for Talipes, and for an "Artificial Larynx."
- David MARR. **No. 40.** For Spray Producers, Antiseptic Dressings and Appliances.
- S. MAW, SON, & THOMPSON. **No. 4.** For General Excellence, with moderate cost, especially in Indiarubber Goods, Elastic Bougies, and Laminaria Tents.
- MILLIKIN & DOWN. **No. 5.** For Good Quality of Work.
- ROBINSON & SONS. **No. 204.** For Bandages and Cotton Wools.
- William RUSSELL. **No. 20.** For Elastic Bandages and Stockings.
- K. B. SCHRAMM. **No. 170.** For Elastic Gum Bougies.
- I. B. SEELEY. **No. 100a.** For Truss covered with Vulcanite.
- SOUTHALL BROS. & BARCLAY. **No. 225.** For "Sanitary Towelling" and Antiseptic Pads.
- R. J. WINTER & Co. **No. 228.** For Bandages, Lint, and Cotton Wool.
- C. WRIGHT & Co. **No. 9.** For Portable Spray Producer.



SECTION II.—Obstetric Instruments.

Judges.

MATTHEWS DUNCAN, M.D., F.R.S.E.

WILLIAM S. PLAYFAIR, M.D.

JOHN WILLIAMS, M.D.

Awards of the First Class.

- ARNOLD & SONS. No. 6. For General Excellence.
- W. B. HILLIARD & SONS. No. 237. For General Excellence.
- MAYER & MELTZER. No. 46. For General Excellence.
- John WEISS & SON. No. 53. For General Excellence.
- C. WRIGHT & Co. No. 9. For General Excellence.

Awards of Merit.

- James COXETER & SON. No. 13. For General Excellence.
- KROHNE & SESEMANN. No. 45. For General Excellence.
- MATTHEWS BROS. No. 37. For General Excellence.





SECTION III.—Ophthalmic Instruments.

Judges.

GEORGE CRITCHETT, F.R.C.S.
PROFESSOR G. CAREY FOSTER, F.R.S.
CHARLES HIGGENS, F.R.C.S.
HENRY POWER, F.R.C.S.

Awards of the First Class.

Tempest ANDERSON, M.D. **No. 29a** For Ophthalmometer.
MARRATT & ELLIS. **No. 97.** For Artificial Eyes.
M. NACHET. **No. 21.** For Test Glasses used by Oculists.
PICKARD & CURRY **No. 41.** For Trial Cases of
Lenses, and Ophthalmoscopes of Various Construction.
John WEISS & SON. **No. 53.** For Different Kinds of
Ophthalmic Instruments, especially Knives, Scissors,
and Forceps.

Awards of Merit.

W. B. HILLIARD & SONS **No. 237.** For Ophthalmoscope.
S. MAW, SON, & THOMPSON. **No. 4.** For Ophthalmic
Instruments.
MAYER & MELTZER **No. 46.** For Ophthalmic
Instruments.



SECTION IV.—Dental Instruments, &c.

Judges.

GEORGE IBBETSON, F.R.C.S.
EDWIN SAUNDERS, F.R.C.S.
CHARLES S. TOMES, F.R.S.

Awards of the First Class.

Claudius ASH & SONS. **No. 52.** For General Excellence.
The DENTAL MANUFACTURING Co. **No. 49.** For
General Excellence.
Samuel S. WHITE. **No. 51.** For General Excellence.

Awards of Merit.

ARNOLD & SONS. **No. 56.** For Forceps.
W. & J. JAMIESON. **No. 50.** For General Excellence.
S. MAW, SON, & THOMPSON. **No. 4.** For Forceps
and Pluggers.
MILLIKIN & DOWN. **No. 5.** For Forceps.
MAYER & MELTZER. **No. 46.** For Forceps.
G. W. RUTTERFORD. **No. 47.** For General Excellence.
SMALE BROTHERS. **No. 48.** For General Excellence.
John WEISS & SON. **No. 53.** For Forceps.
C. WRIGHT & Co. **No. 9.** For Forceps.



SECTION V.

Aural Instruments.

Judges.

W. B. DALBY, F.R.C.S.
WM. LAIDLAW PURVES, M.D.

Awards of the First Class.

John WEISS & SON. No. 53. For General Excellence.
C. WRIGHT & Co. No. 9. For General Excellence.

Awards of Merit.

James COXETER & SON. No. 13. For General Excellence.
MILLIKIN & DOWN. No. 5. For General Excellence.





SECTION VI.—Appliances for the Ward and Sick
Room.

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Judges.

ISAAC DOBREE CHEPMELL, M.D.
PROFESSOR JOHN MARSHALL, F.R.S.
A. O. MCKELLAR, F.R.C.S.
J. C. STEELE, M.D.
MRS. WARDROPER.

—
Awards of the First Class.

- James ALLEN & SON. No. 219. For Portable Baths and Appliances for Generating Moisture.
John CARTER. No. 151. For Invalid Furniture.
CHORLTON & DUGDALE. No. 411. For "Excel sior" Spring Mattress for Beds, Couches, and Chairs
HOOPER & Co. No. 178. For Quality of Indiarubber Air Beds and Cushions.
S. MAW, SON, & THOMPSON. No. 4. For General Excellence.
POCOCK BROS. No. 156. For Tubular Air and Water Beds.
T. W. STIDOLPH. No. 155. For Hospital Bed with Elastic Cloth Sacking.

Awards of Merit.

- Thomas ALLEN. No. 161. For Bedsteads and Invalid Tables.
E. J. ALMENT. No. 211. For General Excellence.
BENHAM & SONS. No. 410. For General Excellence.
COLEMAN & GLENDENNING. No. 235. For Sick Room Furniture.

- E. OVERMAN DAY. No. 125. For Feeding Bottle.
 ELLIS & Co. No. 234. For Cabinet Turkish Baths.
- W. HAMILTON. No. 154. For Invalid Couches.
- E. HILTON. No. 227. For Meat and Butter Coolers.
- Thomas HORT. No. 379. For Combined Reclining Board and Chair.
- Robert J. LEE, M.D. No. 38d. For Steam Draught Inhaler.
- W. H. LLOYD. No. 233. For Foot Warmers and Baths.
- Thomas MARSHALL. No. 124. For Feeding Bottle.
- Wm. MARTINDALE. No. 171. For "Poor Man's Inhaler."
 MAYER & MELTZER. No. 46. For Surgical Cradle.
- Thomas McILROY. No. 162. For Self-propelling Chair and Commode.
- W. MONK & Co. No. 153. For Invalid Furniture.
- Newton H. NIXON. No. 140e. For Bed Rest and for Cabinet to keep Excreta outside the Hospital.
- PRICE'S PATENT CANDLE Co. No. 119. For Night Lights and Food Warmers.
- H. & Leigh SLATER. No. 206. For "Chartaline" Paper Blankets.
- Thos. TAPLING & Co. No. 409. For Invalid Bedstead.
- Thomas TWINING. No. 96. For Mesopodium and Crutches.
- Henry TYLER & SON. No. 238. For Hospital Bedsteads and Cots.
- John WARD. No. 152. For Invalid's Mechanical Bed.
- George WELLS. No. 210. For Feeding Bottle.
- R. W. WINFIELD & Co. No. 419. For Mechanical Bedsteads and Cots.





SECTION VII.—Drugs, Disinfectants, Dietetic
Articles, and Mineral Waters.

Judges.

E. BUCHANAN BAXTER, M.D.
DR. ROBERT FARQUHARSON, M.P.
THOMAS GREENISH (Pres. Pharm. Soc.)
THOMAS HYDE HILLS.
PROFESSOR T. REDWOOD.
PETER SQUIRE.

Awards of the First Class.

- ALLEN & HANBURYS. No. 164. For Drugs and
Dietetic Articles.
- BATTLE & WATTS. No. 101. For Pharmaceutical
Preparations.
- BRAND & CO. No. 104. For Dietetic Articles.
- W. J. BUSH & CO. No. 239. For Essential Oils.
- F. C. CALVERT & CO. No. 229. For Carbolic Acid, and
Preparations of it.
- The CHESEBOROUGH MANUFACTURING CO. No. 129.
For Vaseline.
- CORBUN STACY & CO. No. 173. For Drugs and
Dietetic Articles.
- FOSTER & GREGORY. No. 220. For Hypophos-
phites and other Pharmaceutical Preparations.
- H. & T. KIRBY & CO. No. 166. For Drugs and Dietetic
Articles.
- J. F. MACFARLAN & CO. No. 177. For Preparations of
Morphia and other Alkaloids.
- Wm. MARTINDALE. No. 171. For Pharmaceutical Pre-
parations.

- MOTTERSHEAD & CO. **No. 24.** For Medical Dietetic Articles.
- E. MERCK. **No. 213.** For Medicinal Preparations.
- T. MORSON & SON. **No. 216.** For Chemical and Pharmaceutical Preparations.
- PRICE'S PATENT CANDLE Co. **No. 119.** For Glycerine.
- SAVORY & MOORE. **No. 3.** For Drugs and Dietetic Articles.
- T. & H. SMITH & CO. **No. 168.** Opium Products and Pharmaceutical Preparations.
- A. & M. ZIMMERMAN. **No. 175.** For Schering's (Berlin) Chemicals for Medical Use.
- A & M. ZIMMERMAN. **No. 175.** For Goedecke's (Leipsic) Chemicals for Medical Use.
- A & M. ZIMMERMAN. **No. 175.** For Brunswick Quinine Company's Salts of Quinine.

Awards of Merit.

- G. VAN ABBOTT. **No. 215.** For Gluten Bread and Biscuits.
- The AESCULAP BITTER WATER CO. **No. 192.** For Natural Mineral Waters.
- The APPOLINARIS CO. **No. 179.** For Hunyadi Janos Water.
- The ARSENICAL WATER CO. OF COURT ST. ETIENNE. **No. 194.** For Arsenical Mineral Waters.
- The AYLESBURY DAIRY CO., LIMITED. **No. 112.** For Koumiss and Peptonised Milk.
- BLAKE, SANDFORD & BLAKE. **No. 196.** For Medicinal Mineral Waters.
- J. BONTHRON. **No. 113.** For Gluten Bread and Biscuits.
- BURGOYNE, BURBIDGE & CO. **No. 167.** For Pharmaceutical Preparations,
- CANZUCH BROS. **No. 182.** For Pharmaceutical Preparations.
- CONDY'S FLUID CO. **No. 116.** For Disinfectants.
- J. R. CORSAN. **No. 130.** For Method of Marking Glass by Sand Blast.
- W. F. W. ECKELL. **No. 114.** For Medical Dietetic Articles.

- EVANS, LESCHER & WEBB. **No. 181.** For Pharmaceutical Preparations.
- FLETCHER & FLETCHER. **No. 208.** For Pharmaceutical Preparations.
- GALE & CO. **No. 172.** For Pharmaceutical Preparations.
- E. GALLAIS. **No. 195.** For Rakoczy Aperient Water.
- M. & Leopold HOFF. **No. 190.** For Malt Extract and Preparations of it.
- T. T. HURST & CO. **No. 189.** For Purton Natural Mineral Water.
- JEYES' SANITARY COMPOUNDS CO. **No. 105.** For Disinfectants.
- KOPFS' EXTRACT OF MEAT Co. **No. 115.** For Dietetic Articles.
- J. Paul LIEBE. **No. 176.** For Medical Dietetic Articles.
- E. LOEFLUND. **No. 127.** For Malt Extracts.
- MACKEY, MACKEY & CO. **No. 232.** For Pharmaceutical Preparations.
- The MALTINE MANUFACTURING Co. **No. 200.** For Maltine.
- S. NEWMAN. **No. 136.** For Malt Extracts.
- John RICHARDSON & CO. **No. 163.** For Pharmaceutical Preparations,
- SANITAS Co. **No. 108.** For Sanitas, and Preparations of it.
- W. H. SCHIEFFELIN & CO. **No. 169.** For Coated Pills and Granules.
- SOCIETE GENERALE DES PRODUITS RAOUL BRAVAIS. **No. 407a.** For Pharmaceutical Preparations.
- SOUTHALL, BROS. & BARCLAY. **No. 225.** For Pharmaceutical Preparations.
- H. K. STEVENS. **No. 405.** For Flitwick Natural Mineral Water.
- Anton ULBRICH. **No. 218.** For Pulna Natural Mineral Water.
- Mann S. VALENTINE. **No. 175.** For Dietetic Articles.
- WARNER & CO. **No. 165.** For Pharmaceutica Preparations.
- John WYETH & BRO. **No. 147a.** For Pharmaceutical Preparations.



SECTION VIII.—Electrical Instruments and
Appliances.

Judges.

C. H. GOLDING-BIRD, F.R.C.S.
PROFESSOR G. V. POORE, M.D.
PROFESSOR A. W. REINOLD, M.A.
A. DE WATTEVILLE, M.R.C.S., B.Sc.

Awards of the First Class.

- James COXETER & SON. **No. 13.** For Improved Manganese Cell and other Galvanic Apparatus.
J. B. THISTLETON. **No. 11.** For Special Excellence in every kind of Electrical Apparatus.

Awards of Merit.

- The INDIARUBBER, GUTTA PERCHA, & TELEGRAPH WORKS Co. **No. 17.** For Leclanche's Medical Battery, with Conglomerate Manganese Plates.
KROHNE & SESEMANN. **No. 45.** For Stöhrer's, (Dresden) Medical Battery.
KROHNE & SESEMANN. **No. 45.** For Leiter's (Vienna) Galvano-Cautery and Electrical Polyscope.
MAYER & MELTZER. **No. 46.** For Galvanic Apparatus and Cautery.
John WEISS & SON. **No. 53.** For Galvanic Batteries.



SECTION IX.—Microscopes and Optical Apparatus.

Judges.

LIONEL BEALE, F.R.S.
W. B. CARPENTER, C.B., M.D., F.R.S.
E. KLEIN, M.D., F.R.S.
PROFESSOR E. RAY LANKESTER, F.R.S.
E. A. SCHAFER, F.R.S.

Award of the First Class.

Dr. G. LAURA. **No. 230.** For an Excellent Series of
Microscopical Sections.
M. NÂCHET. **No. 59.** For Excellence of Microscopes
for special research, and Excellence and Cheapness
of Medical Microscopes.

Awards of Merit.

Henry CROUCH. **No. 59.** For Excellence and Cheapness
of Medical Microscopes.
M. PILLISCHER. **No. 59.** For Excellence and Cheapness
of Medical Microscopes.
ROSS & Co. **No. 7.** For Student's Microscopes.
James SWIFT & SON. **No. 60.** For Excellence and
Cheapness of Medical Microscopes.



SECTION X.—Appliances used in Teaching Medicine, and other Medical Apparatus.

Judges.

J. S. BRISTOWE, M.D.

SAMUEL J. GEE, M.D.

J. WARRINGTON HAWARD, F.R.C.S.

EDMUND OWEN, F.R.C.S.

Award of the First Class.

MAYER & MELTZER. No. 46. For New Form of Clinical Thermometer.

Awards of Merit.

ARNOLD & SONS. No. 6. For Apparatus used in the Investigation of Disease.

HORN & SON. No. 22b. For Regulating Digitorum.

H. KAPPELLER, Jun. No. 14. For Clinical Thermometers.

KROHNE & SESEMANN. No. 45. For Appliances used in Teaching Medicine.

S. MAW, SON, & THOMPSON. No. 4. For General Excellence.

MOTTERSHEAD & Co. No. 24. For Glass Chemical Apparatus.

Thomas McILROY. No. 162. For Post-Mortem Table.

TOWNSON & MERCER. No. 19. For Chemical Apparatus.



SECTION XI.

Physiological Instruments.

Judges.

MICHAEL FOSTER, M.D., F.R.S.

F. A. MAHOMED, M.D.

PROF. J. S. BURDON SANDERSON, M.D., F.R.S.

PROF. GERALD F. YEO, M.D.

Awards of the First Class.

Dr. ELLIS DUDGEON. No. 38a. For Pocket Sphygmograph.

J. B. THISTLETON. No. 11. For Physiological Instruments.

H. WINDLER (of Berlin). No. 12. For Myographion.





SECTION XII.—Street Ambulances and other Appliances used for the Treatment of Sick and Wounded.

Judges.

JAMES CANTLIE, F.R.C.S.

MAJOR DUNCAN, R.A.

SURGEON GEN. LONGMORE, C.B., F.R.C.S.

E. H. SIEVEKING, M.D.

Awards of the First Class.

- IHLEE & HORN. No. 328. For Luminous Life Buoys.
- The ORDER OF ST. JOHN OF JERUSALEM. No. 157. For Wheeled Litter.
- SAVORY & MOORE. No. 3. For Medical Field Panniers.
- The ST. JOHN AMBULANCE ASSOCIATION. No. 159. For Furley's Knapsack containing Articles for First Aid to the Injured.

Awards of Merit.

- John FURLEY. No. 158. For Two-wheeled Ambulance Litter and "Support Elastique" to form bed for stretcher.
- SAVORY & MOORE. No. 3. For Surgical Haversack, with Water-bottle, for the First Dressing of Wounds.
- The ST. JOHN AMBULANCE ASSOCIATION. No. 159. For Furley's Folding Stretcher.
- Thomas McILROY. No. 162. For Portable Invalid Carrying Chair.



SECTION XIII.—Domestic & Hospital Architecture.

Planning, Construction, Decorative Materials.

Judges.

SIR JOSEPH FAYRER, K.C.S.I., M.D., F.R.S.

GEORGE AITCHISON, A.R.A.

FRED. J. MOUAT, M.D., F.R.C.S.

EDWARD C. ROBINS, F.S.A., F.R.I.B.A.

P. GORDON SMITH, F.R.I.B.A.

PROFESSOR THOMAS ROGER SMITH, F.R.I.B.A.

HENRY SAXON SNELL, F.R.I.B.A.

ALFRED WATERHOUSE, A.R.A.

Awards of the First Class.

- Robert ADAMS. **No. 395.** For Reversible Windows and Adjustable Door Springs.
- Henry DOULTON & Co. **No. 253.** For Art Stoneware.
- Charles DRAKE & Co. **No. 361.** For Marble Concrete.
- Capt. D. GALTON, C.B., F.R.S. **No. 84.** For Hospital Plans.
- HOWARD & SONS. **No. 442.** For Parquet Flooring.
- IHLEE & HORN. **No. 328.** For Balmain's Luminous Paint.
- The RUSSELL & ERWIN MANUFACTURING Co. **No. 394.** For Locks and Lock Furniture.
- Mons. TOLLET. **No. 91.** For Hospital Plans.
- WILCOCK & Co. **No. 279.** For Architectural Glazed Ware.
- T. WORTHINGTON, F.R.I.B.A. **No. 54.** For Hospital Plans.

Awards of Merit.

- The ALBISSIMA PAINT Co. **No. 300.** For White Paint.
- The ARTIZANS', LABOURERS', & GENERAL DWELLINGS Co., LIMITED (Rowland Plumbe, Architect). **No. 60.** For Plans of Dwellings for Artizans and Labourers.
- Lawrence BOOTH, F.R.I.B.A. **No. 65.** For Plans for Dwellings.
- M. BORDIAN. **No. 89.** For Plans for Warming and Ventilation of Public Buildings.
- BRYDEN & SONS. **No. 303.** For Bell-Hanging Apparatus.
- CANDY & Co. **No. 301.** For Damp-proof Bricks for Building and Paving.
- COE & ROBINSON, Architects. **No. 67.** For Hospital Plans.
- J. FINCH & Co. **No. 302.** For Bisque Glazed Bricks and other Building Materials.
- GRANTHAM JUN., & DENTON JUN. **No. 92.** For Designs for Abattoirs.
- HOBBS, HART, & Co. **No. 422.** For Locks and Safes.
- MAGUIRE & Co. **No. 282.** For Oxidized Iron. (Barff's Process).
- G. E. PRITCHETT, F.S.A. **No. 248.** For Corrugated Ventilating Pipes, and System of Construction.
- The SILICATE PAINT Co. **No. 287.** For Washable Distemper.
- Archibald SMITH & TURNER. **No. 397.** For Door Springs, Water Bars and Bolts.
- A. SMITH & STEVENS. **No. 425.** For Sill Bars and Casement Bolts, Spring Hinges, Door Knobs, and Locks.
- SPENCE'S METAL MANUFACTURING Co. **No. 354.** For Spence's Metal.
- James STIFF & SONS. **No. 255.** For Art Stoneware Vases, &c.
- W. TONKS & SONS. **No. 242.** For Sash and Fanlight Fasteners and Openers, Steel Sash Lines, Bolts, Chains, and other Door Furniture, and Wedge Casement Stays.

- E. TURNER, F.R.I.B.A. **No. 64.** For Hospital Plans.
- Frederick WALTON & Co. **No. 288.** For Wall Decorations
(Lincrusta Walton).
- Alfred WALKER. **No. 362.** For Concrete Flooring.
- The WORTLEY FIRE CLAY Co. **No. 365.** For Glazed
Bricks and other Building Materials.
- W. WOOLLAMS & Co. **No. 439.** For Non-Arsenical
Wall and Ceiling Papers.

The following Exhibits in this Section were not considered in competition for awards, the Exhibitors being Judges, or otherwise officially connected with the Exhibition :—

- Mark H. JUDGE, Architect. **No. 61.** Plans of Three-room
Dwellings for Artizans and Labourers. Drawing for
Fireplace Trimmer.
- Dr. G. V. POORE & A. WATERHOUSE, A.R.A. **No. 59.**
Plan for the Re-construction of University College
Hospital.
- Edward C. ROBINS, F.S.A., F.R.I.B.A. **No. 62.** Designs for
Hospitals and Schools.
- Prof. T. R. SMITH, F.R.I.B.A. **No. 55.** Designs for Hospitals.
- H. Saxon SNELL, F.R.I.B.A. **No. 56.** Designs for Charitable
and Parochial Establishments.





SECTION XIV.—Ventilating, Lighting, and Warming.

Judges.

H. H. COLLINS, F.R.I.B.A.
CAPTAIN DOUGLAS GALTON, C.B., F.R.S.
GEORGE GODWIN, F.R.S., F.S.A.
ERNEST HART, M.R.C.S.
PROFESSOR KERR, F.R.I.B.A.
J. P. SEDDON, F.R.I.B.A.

Awards of the First Class.

BENHAM & SONS. No. 410. For General Excellence.
Robert BOYLE & SON. No. 258. For General Excellence.
CHORLTON & DUGDALE. No. 411. For "The Sunlight" Stove.
T. J. CONSTANTINE. No. 366. For "Cooking Range."
CROSSLEY BROS. No. 357. For "The Otto Silent Gas Engine."
Frederick DYER. No. 307. For Hot Water Apparatus.
R. Renton GIBBS. No. 415. For General Excellence.
Robert H. GRIFFIN. No. 375. For Improved Register Stove.
W. W. HOPKINSON. No. 241. For "Libra Lamp and Valve."
S. LEONI & Co. No. 376. For General Excellence.
LONGDEN & Co. No. 428. For "The Leeds Stove."
MUSGRAVE & Co. No. 412. For General Excellence.
T. POTTER & SONS. No. 420. For "The Thermhydric" Grate.
G. E. PRITCHETT, F.S.A., Architect. No. 248. For Heating and Ventilating Apparatus.
RADIATOR RANGE Co. No. 431. For "Radiator" Cooking Range."
ROSSER & RUSSELL. No. 427. For General Excellence.
C. R. STEVENS. No. 383. For Hot Water Apparatus.

- STRODE & Co. **No. 426.** For General Excellence.
 VERITY BROS. **No. 416.** For "Air Propeller"
 and for General Excellence.
 T. WALLER & Co. **No. 249.** For General Excellence.
 J. WEEKS & Co. **No. 414.** For General Excellence.
 The WILSON ENGINEERING Co. **No. 444.** For
 Cooking Ranges.

Awards of Merit.

- Robert ADAMS. **No. 395.** For Ventilating Window Apparatus.
 J. L. BACON & Co. **No. 423.** For General Excellence.
 P. Hinckes BIRD, F.R.C.S. **No. 378.** For Ventilators.
 Frank W. CLARK. **No. 355.** For Gas Machine.
 COMYN, CHING, & Co. **No. 391.** For General
 Excellence.
 Joseph CONSTANTINE. **No. 374.** For Warming Apparatus.
 John DRYSDALE, M.D., & J. W. HAYWARD. **No. 387.**
 For System of Ventilation.
 Fredk. EDWARDS & SON. **No. 417.** For General Excellence.
 J. E. ELLISON. **No. 278.** For Conical Ventilators.
 FARADAY & SON. **No. 377.** For Gas Appliances.
 J. F. FARWIG. **No. 418.** For Calorigen.
 GILMORE & CLARK. **No. 385.** For Ventilators.
 William HELLIER. **No. 367.** For Water Heaters.
 Harry HUNT. **No. 429.** For "Crown Jewel" Stove.
 C. KITE & Co. **No. 389.** For Chimney Top.
 Charles PORTWAY & SON. **No. 421.** For "Tortoise"
 Stove.
 Mrs. PRIESTLEY. **No. 353.** For Window Ventilator.
 RITCHE & Co. **No. 382.** For "Lux Calor"
 Apparatus.
 The SANITARY ENGINEERING & VENTILATION Co.
No. 286. For General Excellence.
 STEEL & GARLAND. **No. 346.** For General
 Excellence.
 STEVEN BROS. & Co. **No. 250.** For General
 Excellence.
 The THAMES BANK IRON Co. **No. 280.** For General
 Excellence.
 Wm. TONKS & SON. **No. 242.** For Currall's Ventilators
 and the Architrave Ventilator.



SECTION XV.—Water Closets, Sinks, Baths, &c.
Sewerage and Drains.

Judges.

PROFESSOR W. H. CORFIELD, M.D.

WILLIAM EASSIE, C.E.

ROGERS FIELD, M. INST. C.E.

R. THORNE THORNE, M.B.

ERNEST TURNER, F.R.I.B.A.

Awards of the First Class.

BEARD, DENT, & HELLYER. No. 254. For
“Artisan” Water Closet, with flushing rim and im-
proved joint between basin and trap.

BEARD, DENT, & HELLYER. No. 254. For Valve
Closet, with flushing rim and ventilation to valve box.

BEARD, DENT, & HELLYER. No. 254. For Cast
Lead S. & P. Traps.

The BIRMINGHAM SANITARY ASSOCIATION. No. 271.
For Potts’s Edinburgh Air-chambered Disconnecting Trap.

John BOLDING & SONS. No. 247. For Simplex Valve
Closet, with flushing rim and water supply to overflow.

John BOLDING & SONS. No. 247. For Bath, with quick
waste and air vessel.

H. BRAITHWAITE & Co. No. 347. For Syphon Action
Water-waste Preventer.

W. P. BUCHAN. No. 261. For Buchan’s Disconnecting
Drain Trap.

Joseph CLIFF & SONS. No. 270. For Enamelled Porcelain
Sinks and Baths.

Henry DOULTON & Co. No. 253. For Stanford’s Joint
for Drain Pipes.

Henry DOULTON & Co. No. 253. For “Kenon” Air-
chamber Floor, and Trap.

Henry DOULTON & Co. No. 253. For Locking Water-
waste Preventing Bath Fittings.

F. DYER. No. 307. For Tidal Valve Trap.

A. EMANUEL & SONS. No. 331. For Syphon Action
Water-waste Preventer, with after flush.

- J. FINCH & Co. **No. 302.** For Buchan's Disconnecting Drain Trap.
- J. FINCH & Co. **No. 302.** For "Royal" Porcelain Bath.
- HAYWARD, TYLER & Co. **No. 329.** For Hopper Closet, with flushing rim and trap, fitted with regulator and Chandler's Waste-preventing Cistern.
- INGHAM & SONS. **No. 266.** For Stanford's Joint for Drain Pipes.
- George JENNINGS. **No. 257.** For Automatic Flushing Jar.
- George JENNINGS. **No. 257.** For "Dubois" Drawn Lead Traps.
- Walter MACFARLANE & Co. **No. 25.** For Excellence of Ironwork.
- MOULE'S PATENT EARTH CLOSET Co. **No. 317.** For Moule's Earth Closet, No. 9.
- J. PARKER. **No. 313.** For self-acting Dry Earth Closet without separator.
- J. PURNELL & SON. **No. 342.** For Hopper Closet with flushing rim.
- SHANKS & Co. **No. 281.** For Spray and Douche Baths.
- H. SHARP, JONES & Co. **No. 341.** For Stanford's Joint for Drain Pipes.
- Thomas SMITH & Co. **No. 269.** For Herbert Jones's Drain Pipe.
- J. TYLOR & SONS. **No. 256.** For Valve Closet, with Flushing Rim, and without overflow connected with valve box.
- J. TYLOR & SONS. **No. 256.** For Flushing Urinal trapped in Basin.
- J. TYLOR & SONS. **No. 256.** For Waste-not Closet Valve.
- J. TYLOR & SONS. **No. 256.** For Locking Water-waste Preventing Bath Fittings.
- F. G. UNDERHAY. **No. 326.** For Regulator for Valve Closets.

Awards of Merit.

- A. T. ANGELL. **No. 304.** For Air Tight Covers for Air Chambers and Inspection Shafts.
- BEARD, DENT & HELLYER. **No. 254.** For Disconnecting Trap for Soil Pipes.
- BEARD, DENT & HELLYER. **No. 254.** For Disconnecting Gully Trap, with side inlets for rain water pipes and sink wastes.

- BEARD, DENT & HELLYER. No. 254. For Syphon Action Flushing Cistern.
- BEARD, DENT & HELLYER. No. 224. For "Artisan" Water Closet and slop sink, combined.
- BEARD, DENT & HELLYER. No. 254. For Square Enamelled Iron Slop Sink.
- BEARD, DENT & HELLYER. No. 254. For Lavatory Basin, with quick waste.
- John BOLDING & SONS. No. 247. For "National" Wash-out Closet, with flushing rim.
- John BOLDING & SONS. No. 247. For Syphon-action Water-waste Preventer.
- John BOLDING & SONS. No. 247. For "Champion" Trap.
- H. BRAITHWAITE & Co. No. 347. For Wash-out Closet, with flushing rim.
- H. BRAITHWAITE & Co. No. 347. For Claughton's Trap.
- Edward BROOKE & SONS. No. 259. For Stoneware Ribbed Pipes for Sewers.
- W. P. BUCHAN. No. 261. For Drain Pipes, with rest and access lid.
- CAPPER, SON & Co. No. 332. For Brian Jones's Patent Joint.
- Henry DOULTON & Co. No. 253. For Doulton's Joint for Drain Pipes.
- Henry DOULTON & Co. No. 253. For Stoneware Grease Trap.
- Henry DOULTON & Co. No. 253. For Latham's Balance Valve Drain Flap.
- Henry DOULTON & Co. No. 253. For Disconnecting Gully Trap, with reversible top and side inlets.
- Henry DOULTON & Co. No. 253. For Lambeth Flush-out Closet, with flushing rim.
- Henry DOULTON & Co. No. 253. For Lipped Urinal, with constant flow.
- Henry DOULTON & Co. No. 253. For "Vacuum" Water-waste Preventer.
- C. W. DURHAM. No. 351. For Rigid construction of House Drainage.
- A. EMANUEL & SONS. No. 331. For Chain Action Water-waste Preventer, with after-flush.

- The EUREKA CONCRETE Co. **No. 633.** For Concrete Sewers in Segments.
- J. FINCH & Co. **No. 302.** For Porcelain Sinks for Butlers.
- GILLOW & Co. **No. 381.** For Lavatories for limited space.
- HAYWARD, TYLER & Co. **No. 329.** For Urinals, with treadle action.
- HAYWARD, TYLER & Co. **No. 329.** For Chandler's Water-waste Preventer.
- HAYWARD, TYLER & Co. **No. 329.** For Shower and Douche Bath Valves.
- Edward HOWARD. **No. 306.** For Saxon Snell's Automatic Flushing and Ventilating arrangement for Water Closets, &c.
- INGHAM & SONS. **No. 266.** For Balance Valve Flap.
- INGHAM & SONS. **No. 266.** For Brown's Accessible Disconnecting Trap.
- George JENNINGS. **No. 257.** For Lipped Urinals.
- George JENNINGS. **No. 257.** For Anti-percussion Bath Valves.
- George JENNINGS. **No. 257.** For Shampooing Apparatus.
- Washington LYON. **No. 364.** For Model of Fixed Disinfecter, by steam.
- MAGUIRE & Co. **No. 282.** For Method of Jointing Drain Pipes.
- MAGUIRE & Co. **No. 282.** For Clean Water Flush Tank.
- MAGUIRE & Co. **No. 282.** For Disconnecting Trap.
- MAGUIRE & Co. **No. 282.** For Dr. Scott's Disinfecting Stove.
- Henry OWEN. **No. 330.** For Water-waste Preventer.
- J. PURNELL & SON. **No. 342.** For White Stoneware Channels.
- J. PURNELL & SON. **No. 342.** For Woodward's Wash-out Closet, with flushing rim.
- J. PURNELL & SON. **No. 342.** For Syphon Action Water-waste Preventer.
- William RAMSEY. **No. 352.** For Claughton's Trap.
- The SANITARY ENGINEERING Co. **No. 286.** For Weaver's Drain Disconnecting Trap.

- SHANKS & Co. **No. 281.** For Bramah Valve Closet, with ventilation to valve box.
- SHANKS & Co. **No. 281.** For Wash-out closet with flushing rim.
- SHANKS & Co. **No. 281.** For Cast Iron Enamelled Bath.
- SHANKS & Co. **No. 281.** For Bath Fittings.
- C. H. SHARP & Co. **No. 327.** For Water Closet for Ships.
- C. H. SHARP & Co. **No. 327.** For Earth Closet.
- H. SHARP, JONES & Co. **No. 341.** For Rock Concrete Tubes.
- The SHONE DRAINAGE, SEWERAGE, AND WATER SUPPLY Co. **No. 284.** For Pneumatic Sewage Ejector.
- STEVEN BROTHERS & Co. **No. 250.** For Cast Iron Enamelled Bath.
- James STIFF & SONS. **No. 255.** For Weaver's Drain Disconnecting Trap.
- James STIFF & SONS. **No. 255.** For Weatherly Single Dip Disconnecting Trap for Sinks and Waste Water.
- T. PRIDGIN TEALE. **No. 142a.** For Diagrams of Defective Sanitary Arrangements.
- J. TYLOR & SONS. **No. 256.** For Slop Sink, with galvanized top and regulator valve.
- John WARNER & SONS. **No. 333.** For Valve Closet, with flushing rim and moveable valve seating.
- Robert WEARE. **No. 311.** For Inodorous Carbon Closet Commode.
- WILCOCK & Co. **No. 279.** For Disconnecting Gully.
- WILCOCK & Co. **No. 279.** For Trough Closet.
- James WOODWARD. **No. 323.** For Wash-out Closet Basin, with flushing rim, and trap.
- James WOODWARD. **No. 323.** For Hopper Closet Basin with flushing rim, and trap.
- James WOODWARD. **No. 323.** For Porcelain Sinks for Refreshment Bars.

The following Exhibits were not considered in Competition, being invented by one of the Judges:—

- Bowes SCOTT & READ. **No. 340.** Field's Flush Tank.
Field's Annular Syphon for Flushing Sewers.

SECTION XV.—SUB-SECTION A.

Exhibits of Journeymen Plumbers.

Judges.

JOHN T. BOLDING.

W. PATON BUCHAN.

A. A. COMMON.

S. STEVENS HELLYER.

Awards of the First Class.

- George DAVIS. No. 335a. For Special Excellence of Workmanship.
- John Wm. FULLER. No. 336a. For Excellence of Workmanship.
- J. W. HART. No. 336c. For Special Excellence of Workmanship.
- George MACFARLANE. No. 337c. For Special Excellence of Workmanship.
- W. T. OTWAY. No. 338a. For Excellence of Workmanship.
- Thomas SHEPPARD. No. 338b. For Excellence of Workmanship.
- G. TAYLOR. No. 338c. For Special Excellence of Workmanship.
- J. VANCE. No. 339d. For Excellence of Workmanship.

Awards of Merit.

- David W. BUCHAN. No. 334a. For Fair Workmanship.
- Thomas CRANSTON. No. 334c. For Fair Workmanship.
- Thomas HARRISON. No. 336b. For Fair Workmanship.
- Edward LYNE. No. 337a. For Fair Workmanship.
- James B. McFARLANE. No. 337b. For Fair Workmanship.
- James WOOD. No. 339b. For Fair Workmanship.
- John WYSE. No. 339c. For Fair Workmanship.
- A. J. NICKELS. No. 339d. For Fair Workmanship.



SECTION XVI.

Water Supply and Filtration.

Judges.

LIEUT.-COL. FRANK BOLTON.

PROF. FRANCOIS DE CHAUMONT, M.D., F.R.S.

R. B. GRANTHAM, M. INST. C.E.

PROFESSOR PRESTWICH, F.R.S.

Awards of the First Class.

E. & J. GARDNER. **No. 398.** For Various forms of Filters on Major Crease's (now Lieut.-Col. Crease, C.B.) patterns. Also "Carferal" Filtering material.

The SILICATED CARBON FILTER Co. **No. 402.** For Filtering Medium and Filters, with asbestos strainer.

The SPONGY IRON DOMESTIC FILTER Co. **No. 400.** For Water Filters. Spongy Iron and Prepared Sand. Earthenware Filter Cases with late improvements.

J. TYLOR & SONS. **No. 256.** For Waste-not Valve applied in various forms for cisterns, courts and alleys.

Awards of Merit.

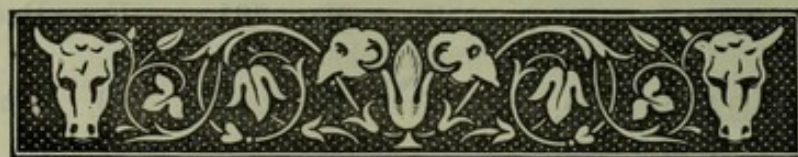
John BOLDING & SONS. **No. 247.** For Workmanship of Cocks and Valves. Specimens of Workmanship in Lead Pipes made by Graham and Fleming.

DEFRIES & CO. **No. 433.** For Blocks of Pumice and Granulated Carbon.

Henry DOULTON & Co. **No. 253.** For Manganous Carbon Filter (Bernay's Patent). Automatic Aërating Cistern Filter (Bailey Denton's).

- A. EMANUEL & SONS. No. 331. For Deep Well Pumps, Valves and Cocks.
- HAYWARD, TYLER & Co. No. 329. For Valves and Cocks.
- George JENNINGS. No. 257. For Drawn Lead Pipes by Dubois.
- P. A. MAIGNEN. No. 401. For "Filtre Rapide," with asbestos cloth, &c.
- MAGUIRE & Co. No. 282. For Patent Renewable Filter.
- QUIRK, BARTON & Co. No. 372. For Tin-lined Lead Pipes.
- The SANITARY ENGINEERING & VENTILATION Co. No. 286. For Cistern Filters, Portable Filters, and Table Filters.
- G. T. TONKS. No. 243. For Glass Balls for Ball Valves and Frictionless Balance Supply Valve.





SECTION XVII.—School Furniture, Window Blinds,
Clothing, Books, &c.

Judges.

MRS. GARRETT ANDERSON, M.D.

J. C. BUCKMASTER.

E. NORTH BUXTON (Chairman of the School Board for London).

ALFRED CARPENTER, M.D.

DR. J. H. GLADSTONE, F.R.S.

W. A. MEREDITH, M.B.

Awards of the First Class.

Thomas BRADFORD. No. 441. For Washing Machines.

COLEMAN & GLENDENNING. No. 235. For
School Furniture and Appliances.

Awards of Merit.

Robert ADAMS. No. 395. For Universal Venetian Blinds.

BRYDEN & SONS. No. 303. For Window Blinds
and Roller Actions for Sun Blinds.

LARMUTH & SIDEBOTHAM. No. 100d. For
School Furniture and Appliances.

William TONKS & SON. No. 242. For Patent Book-case
Fittings.

William TONKS & SON. No. 242. For Hookham's Patent
Picture Line and Adjusting Fasteners.

William TONKS & SON. No. 242. For Allen's Regis-
tered Hat Holder.

Henry TYLOR & SON. No. 238. For Appliances con-
nected with Window Blinds.

MARK H. JUDGE, *Secretary.*

AUGUST 11th, 1881.

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MEDICAL SECTION.

ADVERTISEMENTS.

No. in Catalogue, 215

Van Abbott's Preparations for Diabetes, &c.

VAN ABBOTT'S GLUTEN BREAD.

Van Abbott's Gluten Biscottes.

Van Abbott's BRAN GLUTEN Biscottes.

"Very excellent Gluten Bread may be procured of Mr. VAN ABBOTT. It is an invaluable, and even an indispensable article in the treatment of 'diabetes.' He has also had Gluten combined with cocoa, than which there is no beverage better suited for the diabetic."

"This Bread is superior to any other form hitherto produced for the use of Diabetics."—*The Lancet.*

Extract from "The LANCET."

"VAN ABBOTT'S Real Turtle and Mock Turtle, and Ox-tail Soups.—Free from starch, and as free as possible from fat and seasoning; excellent in quality and flavour."

"VAN ABBOTT'S Extract of Vegetables, for flavouring Extract of Meat, Soups, Gravies, Hashes, &c.—A wonderfully well-flavoured and powerful essence. A few drops give quite an appetising taste to beef-tea, broth, &c."

Van Abbott's Glycerine Jujubes.

Containing upwards of 60 per cent. Pure Glycerine, and quite free from sugar.

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For Delicate Children, especially those suffering from Deficiency of Bone, Weak Joints or Debility.

Each Biscuit contains Five grains of the Hypophosphite of Lime.

One Biscuit three times a day, directly after meals.

"They are quite free from disagreeable taste, and are taken willingly by Children. Our analysis proves the accuracy of the printed description on the labels of the boxes." . . . The biscuits were suggested by Mr. W. Adams, of the Orthopædic and Great Northern Hospitals."—*The Lancet.*

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PERFECTED COD LIVER OIL.—Presents this invaluable remedy of the highest excellence, whilst devoid of nauseous flavour and the usual tendency to cause repulsive after-taste.

TONGA.—A specific for Neuralgia. "Invaluable in Facial Neuralgia." *Medical Press*, Dec. 29, 1880. See also papers in the *Lancet*, March 6 and 20, and May 29, 1880, &c.

MEDICATED PASTILLES.—Manufactured in accordance with the original suggestion of Dr. PROSSER JAMES. These Pastilles are introduced as an improvement on the ordinary hard rough and angular lozenges, fragments of which often irritate the mouth when in an inflamed or ulcerated condition. Having as their basis *Pâte de Jujube*, they are in themselves soft and demulcent, whilst their rounded form and, in most instances, agreeable flavour render them valuable substitutes for the lozenges now in common use.

PATE DE JUJUBE.—Voice, Glycerine, and all other varieties in Pastilles or cut pieces, manufactured by an improved patent process.

MALTED FARINACEOUS FOOD (Patent).—Is produced by a practical application of the principles recommended by Liebig. It is prepared entirely at A. and H.'s own laboratory from carefully selected Cereal Grain combined with the active constituents of Malt in a soluble form. For infants and young children it is invaluable, possessing highly nutritive and restorative powers in a concentrated form, and will often suit when other foods disagree.

CHRISMA.—An inoxidizable basis for Ointments, derived from Petroleum, free from smell and taste, and not more expensive than the best Lard.

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The inhalation of the vapour of Cresolene gives extraordinary relief in Whooping Cough, and commonly puts an end to the disorder in a few days. It is also of great value in Asthma, Catarrh, Croup, Diphtheria, Hay Fever, &c., and for Disinfecting Purposes. The use of the Vaporizer and Cresolene is now very extensive in the United States.

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CAN BE USED FOR HOT AIR ONLY, HOT AIR AND
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Price One Shilling per Syphon, equal to the contents of a Cham-
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Carefully prepared without Acid.

PEPTONIZED MILK,

According to the formula of Dr. W. ROBERTS, F.R.C.P., F.R.S., &c.,
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ARTIFICIAL HUMAN MILK,

Most carefully prepared as regards proportion of Fat, Casein, and
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Establishment Electro-Balmeo-Therapeutique, Systeme Barda,

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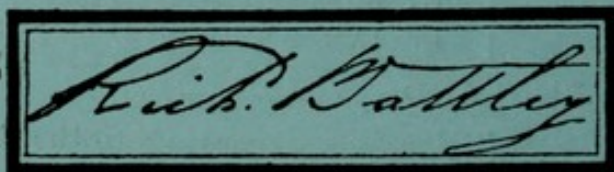
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Cinchon. Pallid., et Liquor Secalis Cornuti.

Messrs. BATTLE AND WATTS

(Successors to the late RICHARD BATTLE, and the only makers of his Liquors).

TRADE
MARK.



Caution the public against
using any Preparation under
the above name, unless the
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(our trade mark) is over each
Cork and on the Label

attached to each Bottle, without which none is genuine. The above are only
prepared at the Laboratory, Cripplegate, London, by BATTLE AND WATTS.

LIQUOR CINCHONÆ CORDIFOLIÆ.—One fluid drachm
is equal to one ounce of best Calisaya Bark, or one pint of
Infusion, or five fluid ounces of the Tincture of Cinchonæ. B.P.,
1867.

LIQUOR ERGOTÆ.—One fluid drachm is equal to one drachm
of freshly powdered Ergot of Rye, or half a fluid ounce Tincture
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32, Lower Whitecross Street, Cripplegate,
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*Microscopes for Sanitary and Physiological
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THE ORIGINAL MAKERS OF
Lithia Water, P.B. Potash Water, P.B.
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MINERAL ACID WATER,

(A very refreshing Tonic and hepatic stimulent)

Confidently submit their Aërated Waters, according to the subjoined list, to the Medical Profession, as being of definite strength and most carefully prepared :—

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Aërated Distilled Water.	15 Potash.
Soda, 15 grs. in each bottle.	Lithia Ammonia, 5 grs. Lithia,
Potash, 15 grs.	10 Phosphate of Ammonia.
Citrate of Potash, 30 grs.	Seltzer.
Ammonia, 10 grs. carbonate.	Mineral Acid.
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The above are all more fully described in a Pamphlet to be had on Application.

BLAKE, SANDFORD, & BLAKE, Pharmaceutical Chemists, 47, PICCADILLY.

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Bonthron's Diabetic Biscuits and Bread.

J. BONTHRON believes that these Biscuits and Bread are the best ever introduced for the use of the Diabetic. They are palatable, very nutritious, and digestible; and while they are free, on the one hand, from the dryness and bitterness inseparable from bran food, however well prepared, they are also free, on the other hand, from the insipid and indiarubber-like characteristics of the gluten bread hitherto made. After years of use, these articles continue to give the most unqualified satisfaction and delight to numbers of patients, satisfying the appetite without feeding the disease, and are strongly recommended by the Profession. Biscuits 3/6 per lb. Loaves 9d. each.

The Loaves can be sent through the Post, 1s. each.

Dr. PAVY, in his recent work on "Diabetes," p. 245, says:—

Mr. Bonthron, of 106, Regent Street, has recently succeeded in producing some Gluten Biscuits and Bread, which are more eatable than anything of the kind I have ever yet met with. The Biscuits present somewhat the character of a cracknel; they eat short and crisp, and are readily reducible in the mouth, have no unpleasant taste, and, consumed with other food, possess the power of cleansing the palate. The Bread is moist, and will not keep good for more than about ten days.

The Medical Times & Gazette, under the head of New Inventions, says:

To obtain a bread at once palatable and nutritious, and at the same time sufficiently free from starchy material to render it suitable for Diabetic patients, has long been much to be desired. But although almond biscuits, gluten bread and biscuits, and bran biscuits have been introduced, the desired end has not hitherto been attained. In Mr. Bonthron's biscuits we have probably a nearer approach to perfect success than in any other we have seen, for although they are not absolutely free from starch—that, indeed, being hardly attainable with such materials as gluten and bran—still the percentage is very small—in fact, practically unimportant. Bran bread and biscuits are prepared from carefully powdered and bolted bran, but it is almost impossible to separate the starchy material in its entirety from these constituents, and the bread itself is heavy, and we might say disagreeable. With gluten the same objection applies, only in another way. It is next to impossible to get it thoroughly freed from starch, and the bread formed from it is tasteless and insipid. In Mr. Bonthron's biscuits we have a combination of the two along with a proportion of albumen and a small quantity of butter, which gives a biscuit sufficiently free from starch to be used by a Diabetic patient with impunity.

The Lancet, under the head of Analytical Records, says:—

We have received from the above well-known maker no less than six different samples of Biscuits, etc., intended for dietetic treatment. No. 1 is called the "Diabetic Biscuit," and contains much gluten and very little starch. No. 2 is the "Regent Biscuit," made from gluten and prepared brany. No. 3 is an "Almond Biscuit," and the rest are modifications of the first two. They are excellent preparations; and though, of course, they are not so palatable as if they contained the normal quantity of starch, they can be eaten without difficulty or repulsion. Indeed, it is not easy to see how they could be improved.

The Bread is made fresh every day, and, as has been already noticed, will keep good for ten days; a week's supply can thus be forwarded to any part of the kingdom. The Biscuits will keep good for almost any length of time, and on this account are well adapted for exportation. J. BONTHRON has also prepared a **DIABETIC POWDER**, which, as it has been already thoroughly cooked, can be applied at once to the thickening of gravies, soups, or other food.

The Biscuits are 3s 6d per lb., and can be packed in tins or cases and forwarded to any part of the world.

BRAN BISCUITS, made from the inner bran of Wheat, consequently more nutritious, and free from the bitterness of the bran hitherto in use. Bran Biscuits 1s. 6d. per lb., Bran 1s. per lb.

GLUTEN FLOUR or **FARINA**, 2s. 6d. per lb.

JOHN BONTHRON, 106, Regent Street, London.

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Elastic Spiral Appliances,
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Fig 1. Elastic Band of 1, $\frac{1}{4}$ and $\frac{1}{8}$ inch.



Forming the basis of Mr. Bourjeaurd's
Spiral Appliances.

1. Spiral Stockings, Knee Caps, and Thigh Pieces.
2. Spiral Abdominal Supporters.
3. Spiral Elastic Belts, and Air Pad for Inguinal Hernia, with regulating Spring.
4. Spiral Elastic Belts with Air Pad for Prolapsus Uteri or Ani.
5. Spiral Elastic Belts and Thigh Pieces for Crural Hernia.
6. Spiral Elastic Belt and Umbelical Air Pad, with regulating Spring.
7. Umbelical Band and Air Pad with regulating Spring, free from steel band.
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BRAND & CO.'S
SPECIALTIES FOR INVALIDS.

ESSENCE OF BEEF. (Similar preparations are also made from MUTTON,
from VEAL, and from CHICKEN.)

This essence consists solely of the juice of the finest meat, extracted by a gentle heat, without the addition of water or of any other substance whatever. It contains, therefore, the most stimulating and exhilarating properties of the meat, calculated to invigorate the heart and brain *immediately*, without any fatty elements which require solution in the stomach. It has been introduced into medical practice as a stimulant, after loss of blood from any cause, and in cases of nervous exhaustion and enfeebled digestion. It is liquid in warm weather, but in cold weather, or when iced, it takes a jelly form, in which state it is usually preferred.

DIRECTIONS.—It is best taken cold, and should be kept, previous to use, in a cool place—if possible ON ICE. In cases of extreme exhaustion or urgent danger a teaspoonful may be administered as often as the patient can take it; in less urgent cases it may be taken as required, with a small piece of bread and a little wine. When once opened, it will only keep good about two days.

CONCENTRATED BEEF TEA.

This article contains all the soluble ingredients of the best beef, and may be taken by the most delicate stomach with perfect safety. BRAND & Co. have the honour to state that, for many years past, the most eminent of the Medical Profession have constantly prescribed their BEEF TEA and other preparations as peculiarly adapted for invalids. It will keep in any climate.

DIRECTIONS FOR USE.—Cut in small pieces an ounce (more or less as circumstances require), and dissolve in half-a-pint of boiling water, with a little salt according to taste; reboiling adds to its flavour. The Beef Tea in skin should not be shut up, but allowed to remain exposed to the air.

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Prepared by BRAND & Co. "expressly for invalids," will be found very delicate in flavour and highly nutritious.

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5 GRS. EACH.

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5 GRS. EACH.

Useful in all Cases where an antacid is indicated.

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Each pill contains the active principles of 30 grains Ergot of Rye, or 30 minims of the Liquid or Fluid Extract.

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(Blue Mass).
 Hydrarg., Coloc. et Hyoscy.
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Representing the tonic properties of Hydrastis Canadensis.

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(See Salicylic Acid, Comp.)

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 SALICYLIC ACID. 2 & 5 gr.
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 Saponis Comp., B.P. 5 gr
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We use great care to insure exact quantity in each.

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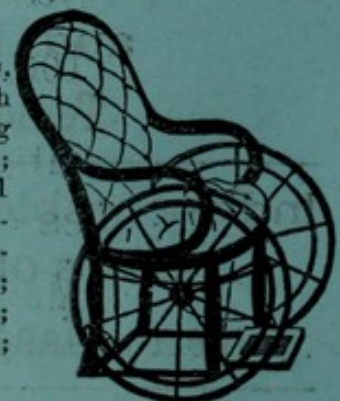
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HELD AT THE

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WITH SPEECHES BY

THE LORD MAYOR, EARL FORTESCUE, THE PRESIDENT OF THE ROYAL COLLEGE OF SURGEONS,
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SIR WILLIAM JENNER, Bart., M.D., K.C.B., F.R.S., MR. GEORGE GODWIN, F.R.S., and
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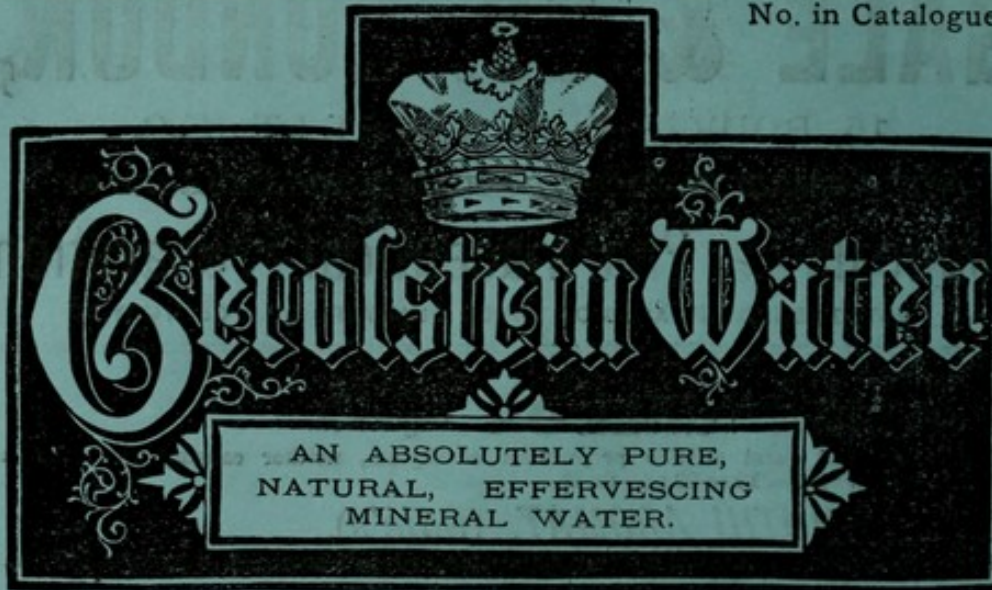
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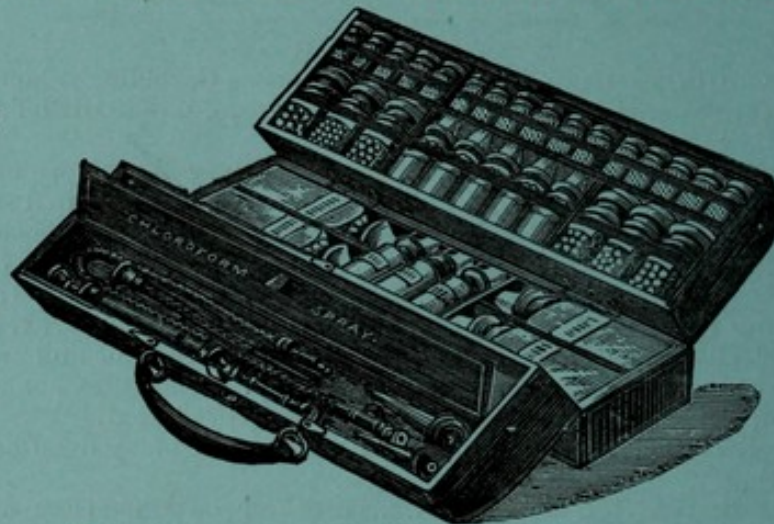
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Advertisers who have so signally shown their appreciation of the facilities offered by the LANCET during the last year have been furnished with a special Index of classified Advertisements, which has proved of great value both to those who announce their wares and wants and to those who seek the information advertisements supply. In the past year the size of particular numbers of the Journal has increased as occasion required. For example, on the 8th of May and the 11th of September were issued numbers comprising ONE HUNDRED AND FOUR PAGES each.

The price of the LANCET is 7d. Weekly; or stamped for Post, 7½d. Published every Saturday.

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Advertisements (to ensure insertion the same week) should be delivered at the office not later than Wednesday, accompanied by a remittance.

Answers are now received at this Office, by special arrangements, to Advertisements appearing in the LANCET.

Advertisements are now received at all Messrs. W. H. Smith & Son's Railway Bookstalls throughout the United Kingdom.

Tables of Contents with the Index of Advertisements for each Number, can be had on application to the Publisher.

A First Issue is made each week at seven o'clock on Friday morning, for the Wholesale Houses only.

A large Colonial Edition is also published for despatch the same day.

LLOYD'S "UNIVERSAL" FOOD

(Patent Cooked Malted Farinaceous),

THE NEW FOOD

FOR INFANTS, CHILDREN, AND ADULTS, BOTH
IN HEALTH AND SICKNESS,

REQUIRES NEITHER BOILING NOR STRAINING,

And contains the Greatest Amount of Nutriment in Smallest
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Malted on improved scientific principles with pure fresh Malt Meal, as originally suggested by Liebig, thereby preserving all the most valuable portions of the Grain, and securing the resulting important advantages.

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DELICIOUS as Baked Pudding.
NOURISHING as Custard
With Stewed Fruit of all kinds.

INFANTS thrive Splendidly on it.
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*Analytical Report by PROFESSOR ATTFIELD, F.R.S., &c., Professor of Practical
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From the “British Medical Journal,” June 25, 1881.

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SPARKLING ROZO,

CONTAINING

➤ GLYCERO-PHOSPHORIC ACID, ◀

Which, to an overworked constitution, is a renovator of  
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For those who prefer a simple non-alcoholic Beverage,
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SPARKLING EUPOTUS,

A trial of which is only necessary to give it equal
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Thirty-five beds are constantly occupied, but double the number are required to meet the many urgent cases which fail, after waiting many weeks, to obtain admission.

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The manufacture of officinal and other ready-made Pills for Physicians' Prescriptions has been on our part confined to those coated with sugar, because an experience of a quarter of a century serves to convince us that sugar is the only proper material with which to coat a pill,

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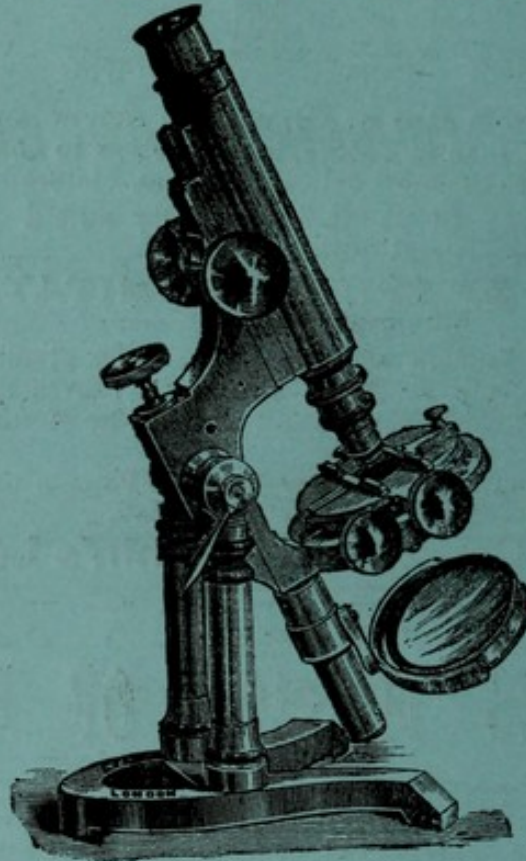
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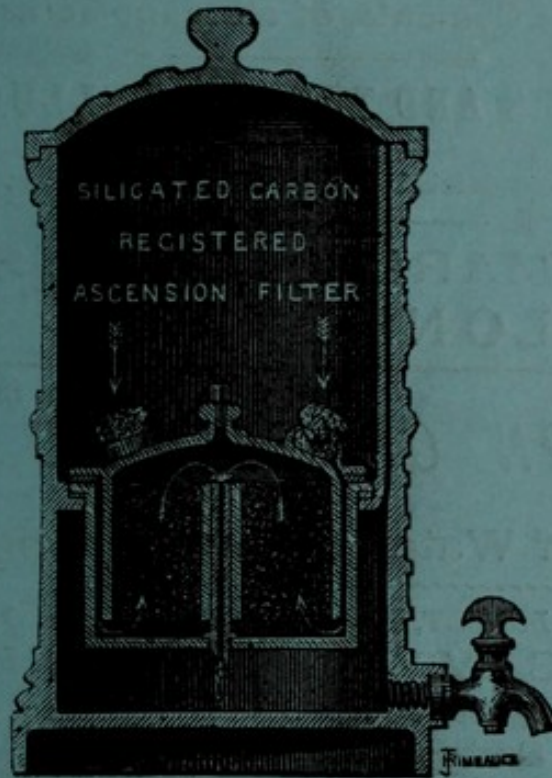
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Filtration of Water through Spongy Iron.

FROM *THE LANCET*, DECEMBER 25TH, 1880, P. 1038.

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Readily mould to the limb and set perfectly hard, and *very inexpensive.*
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4. **HOSPITAL STRAPPING.**
Antiseptic and adhesive. Needs no heat but the warmth of the body.
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Finer, more absorbent and agreeable than oakum or carbolised tow.
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The Oil is prepared by us in Norway by a special process, retaining all the organic constituents as *biliary matter, gaduine*, etc., unchanged, but excluding indigestible solid fats. Is bland, brilliant, and digestive.
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Meat in a partially digested and agreeable form. Is more than an Extract, and contains the whole of the meat.
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The most remarkable and powerful Chalybeate Water ever discovered.

This highly invigorating and digestible Natural Tonic has been found very efficacious in cases of Neuralgia, Diphtheria, Indigestion, Rheumatism, and Gout. It has been used with great success for children with strumous tendencies, and as a child's tonic is far preferable to Steel Wine, &c.

It is extremely valuable for outward application in some cases of Skin Disease, especially Eczema, and for Scalds and Burns.

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Muriate of Magnesia (chloride)	15.16
Silica	3.40
Carbonate of Magnesia	5.42
„ Soda	0.22
Ulmic, Malic, and other acids, constituent of vegetable matters	13.32

DOSES: Three times a day—For Children under seven, one tablespoonful; for Children over seven, one tablespoonful and a half; for Adults, two or three tablespoonfuls.

It has been for some time in use at the Royal Hospital for Diseases of the Chest.

Price 1s. 6d. per Bottle; 5s. per Gallon, direct from the Springs.

May be obtained of MESSRS. SAVORY & MOORE, 143, New Bond Street; MESSRS. BLAKE, SANDFORD, & Co., Piccadilly, London; of Messrs. SYMES & Co., 14, Hardman Street, Liverpool; and of all Chemists.

Wholesale Depôts, London:—MESSRS. INGRAM & ROYLE, 119, Queen Victoria Street, E.C.; MESSRS. BARCLAY & SON, 95, Farringdon Street; and Messrs. MAY, ROBERTS, & Co., Cowcross Street.

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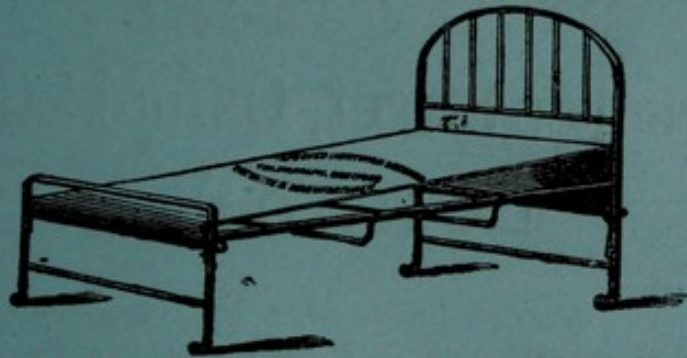
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| SUMMARY OF TOTAL SOLUBLE }<br>CONSTITUENTS ... } | 55-1798                                                                   | 58-0459                                                                       | 60-23                                                                         |
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*Soluble Constituents and Sulphate of Magnesia in "Victoria Bitter Water," as compared with other Mineral Waters.*

|                           | Soluble<br>Constituents. | Sulphate of<br>Magnesia |
|---------------------------|--------------------------|-------------------------|
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| Rakoezy ...               | 53-53                    | 23-06                   |
| Franz Josef ...           | 52-29                    | 24-78                   |
| Hunyady Laszlo ...        | 51-07                    | 24-20                   |
| Hunyady Janos ...         | 41-73                    | 18-44                   |
| Konigsbitterquelle ...    | 37-55                    | 16-68                   |
| Elisabeth ...             | 26-29                    | 8-04                    |
| Pullnaer Bitterwasser ... | 32-72                    | 12-12                   |
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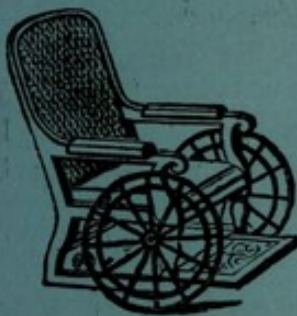
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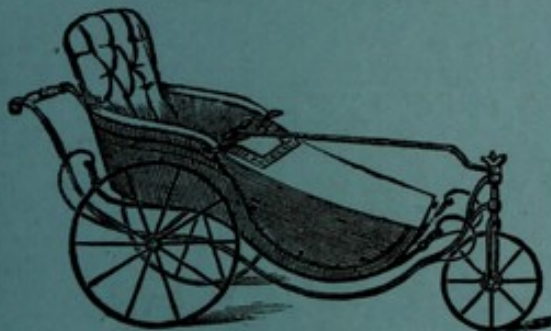
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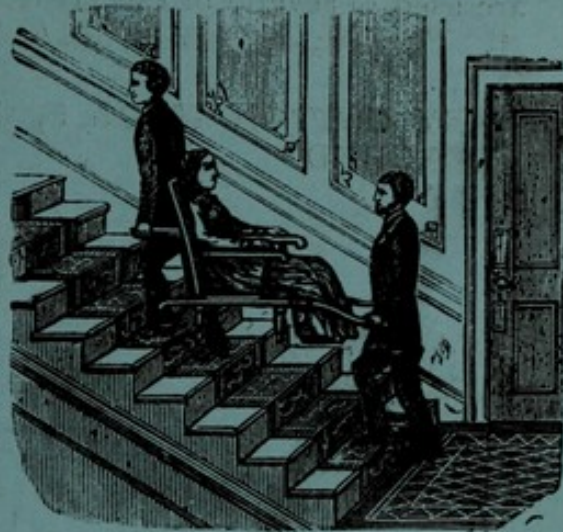
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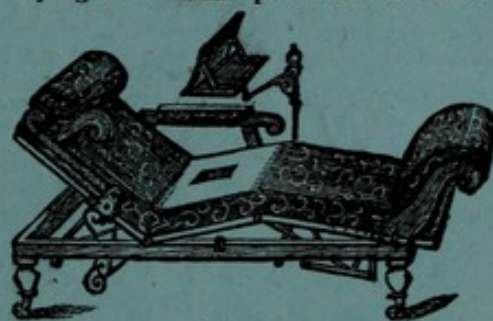
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| Potass, Bromide.....                           | Fine white dry regular<br>crystals .....                                                            | Perfectly free from<br>iodide, and the most<br>free from chloride.                              |
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| „ (500 times) .....                                         | Tenfold strength of P.B.                      | Will dissolve (by Wittstein's test) 500 parts of white of egg and 1250 parts of fibrine in 6 hours.                                                                    |

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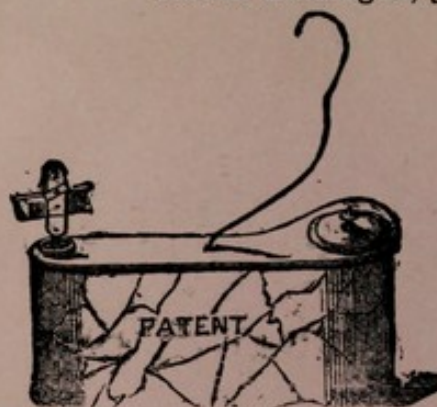
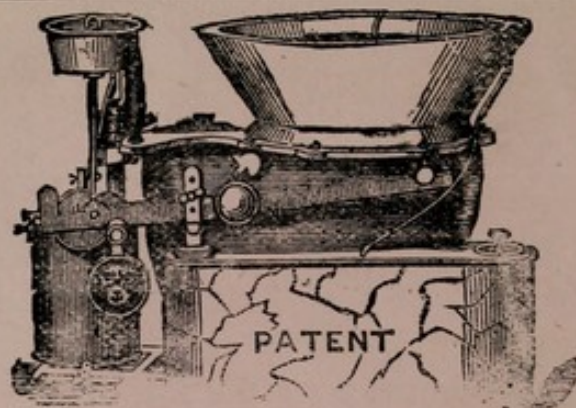


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Patent Sealed 5th March, 1880.

From "The British Medical Journal," April 2, 1881.

ANTISEPTIC APPARATUS.—One of the sanitary precautions most urgently needed at the present day is a means of preventing sewer-gas from entering houses. In the face of the continual sanitary improvements, diarrhœa, infantile and adult, typhoid poisoning, pseudo-diphtheric throat affections, &c., are still extensively fatal, and often most markedly so, in the house of the rich as well as of the poor. It has been noticed in some well-sewered towns that since the introduction of sewers such diseases appear to be on the increase; and it is especially to be noted that they haunt localities which are high and dry, and apparently removed from sources of infection of the soil, the air, or of the water. Some crucial examples have been observed in the best houses in Edinburgh, and in the best districts of London, as well as in regard to provincial towns. It is impossible not to attribute this prevailing plague of sewer gas in houses to the introduction of the water closet system in connection with arterial drainage by sewers. Remedies such as the re-laying of sewers, a thorough system of ventilation of the soil pipes, and the introduction of improved forms of waterclosets, and well-devised traps are indicated as radical; and wherever these cases can be applied they ought to be. On the other hand, it is often found that such remedies are so costly and difficult of application, often involving such an outlay on leasehold premises, that it is practically found very difficult to induce householders to adopt them, even when serious outbreaks of serious illness or chronic suffering from throat affections, headaches, and other indications of sewer-gas poisoning have attracted attention to this frequent source of disease. Again, where well trapped and well placed water closets have been introduced, it is certain that, with our present system of drainage, what are intended to be sewers of passage are (as is well known to be the case in a majority of London districts) rather sewers of deposit and sources of putrefaction and of exhalation of sewer-gas. Even the best appliances will with difficulty prevent sewer-gas from forcing the traps and passing up in gushes into the house whenever the closet is opened and water passes down the pipe displacing the gas. Hence practical men have long felt it to be a great desideratum that the water left in the water closet pan, should, as far as possible be charged with disinfecting antiseptic fluid, which should constitute the closet itself, and an always acting antiseptic water-trap, capable of neutralising whatever sewer-gas passes from the soil-pipe. This is an additional precaution which is of great value where all the other arrangements are of the best kind, and it is really indispensable where they are less effective and where they cannot be depended upon (as is almost universally the case) for being in prime working order. Such an apparatus was some time since brought into public use by a Mr. Baker, and brought prominently before the attention of the public. It was extensively used both in the public service and in private asylums, and is still effectively used in many places. It was, however, found to be somewhat difficult to fit, on account of its shape, and of some complexity in valves and rods, and of other technical difficulties. These difficulties have been completely overcome by a new and simple apparatus of the sort which is now introduced under the name of "the Antiseptic Apparatus," and which has been in use for many months in the houses of various persons who have given it a thorough and searching trial. After such thorough trial we can speak of it with great favour. It is a copper cylinder, easily and cheaply attached to any closet-pan within the woodwork by an ordinary plumber, without deranging the existing arrangements, and it is charged with a strong solution of permanganate of potash. Each time the plug descends after it has been raised, it discharges into the water contained within the closet-pan a charge of the solution. This remains mixed with the water, and destroys all organic contaminations, neutralises sewer-gas, and has the advantage of acting as a continuous and valuable antiseptic barrier to the entrance of such gas. It does not require charging with the fluid more than about once a year in a closet which is extensively used, the cylinder containing 1000 charges of fluid. Quietly and unobtrusively this useful improvement has been brought under the notice of prominent sanitarians and practical men, and it is making its own way. It is, in our view, one of the most valuable, although simple, inventions of the day, and is likely, we believe, to come into very general and extensive use. It is always easy to renew the charge, and its practical operation is so simple that it appears to remain in working order for years without any effort.



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W. URQUHART, 327, Edgware Road.



A saving in material and labour.

Mixes easily with Colours  
Brilliant and permanent tints.

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Imperial Wharf, Bankside.

# J. L. BACON & Co.,

*HEATING AND VENTILATING*

**ENGINEERS,**

LONDON, DUBLIN,

AND

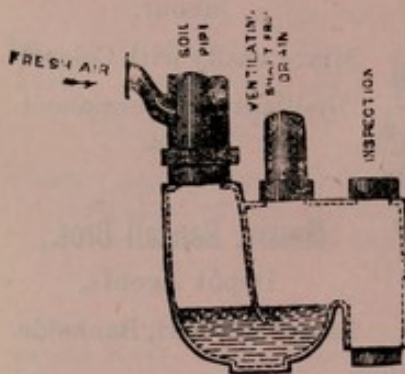
NEWCASTLE.



# WHOLESOME HOUSES.

GOLD MEDAL.—BRUSSELS EXHIBITION, 1880.

## SIMPLICITY ITSELF. BANNER'S PATENT VENTILATING COWL AND TRAP.

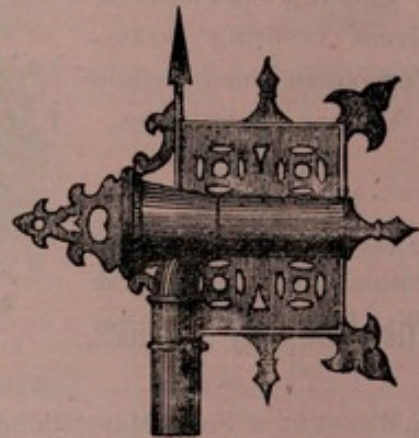


HOUSE TRAP.  
MAY BE PLACED ABOVE OR BELOW  
GROUND LEVEL.

No House should be without one of the latter in the Basement, and one of the former fixed on the Soil-Pipe carried above the Roof, WITH A PROPER INLET for Fresh Air.

Shafts from Soil - Pipe need only be 2½-in. in diameter.

"I must say in justice to Mr. Banner, that the greatest possible credit is due to him for having succeeded in solving a problem which has hitherto baffled all the combined talent of the best sanitary authorities of the day."—Major C. H. SELDON, R.E.



NEW DESIGN OF COWL  
AND TRADE MARK.

"As near perfection as may be; nothing better need be desired."—*Sanitary Record*.

## BANNERS' PATENT SYSTEM OF SANITATION

*Entirely reverses the Method which, previous to its introduction, prevailed.*

Besides being the most effective, it is also the cheapest, is substantially recommended by the Local Government Board, and should be universally adopted.

"We believe Mr. Banner's system of sanitation will make any house absolutely safe from sewer-gas, or noxious odours of any description. We have no doubt that some sanitary reformers will declare that such result is impossible. Our answer to such objectors is, Do as we have done: investigate the novel plan introduced by Mr. Banner, and judge for yourselves."—*Architect*.

"Baron's Court, Dec. 6, 1879. Sir,—I am glad to give my testimony of the complete success of the system which you have inaugurated at Baron's Court, and at my London residence, Hampden House, for the sanitary security of the drain. The system seems to be both simple and effective, and one which is not likely to suffer any derangement.—Faithfully yours, ABERCORN."

TESTIMONIALS to a like effect have been received amongst many others, from the following noblemen and gentlemen, at whose residences the system has been carried out:—The Marquis of Exeter, Marquis of Headfort, Earl Erne, Sir Warwick Moreshead, Sir D. Cooper, F. J. S. Foljambe, Esq., E. Heneage, Esq., W. Grantham, Esq., M.P., F. Bassett, Esq., Leighton Buzzard.

It has been conclusively shown, from experiments scientifically made with these Cowls, if the wind at roof-level be blowing at four miles an hour, which is only one-third its average velocity, that fresh air is drawn in at the inlet if it be properly arranged, and out by the Cowl through any house-drain or soil-pipe in less than one minute.

In confirmation of the above, the Patentee is able to certify that there has not been a single failure, when the system has been properly carried out, at any of the hundreds of houses to which it has already been applied, and he is prepared to undertake to inspect and make good any defect therein, for a period of three years, FREE OF CHARGE.

CAUTION.—Individuals allowing the system to be carried out at their houses with other than the Patentee's appliances (which may be had of any respectable Builder, Plumber, &c.), subject themselves to penalties for infringements.

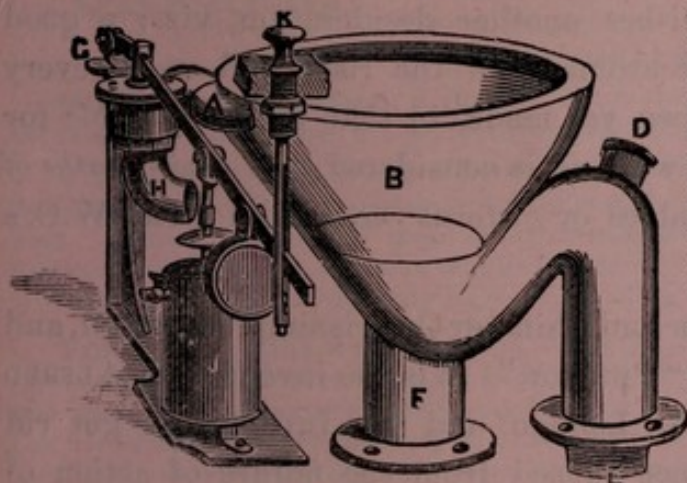
The Banner System has been applied at the Builders' and Manufacturers' Exchange and Subscription Rooms, 205 and 206, High Holborn, where models illustrative of the same may also be inspected, and further information obtained.

FOR FURTHER PARTICULARS AND PRICES, ADDRESS—  
BANNER BROTHERS AND CO.,  
11, BILLITER SQUARE, LONDON, E.C.



BEARD, DENT, & HELLYER,  
 Plumbers and Sanitary Engineers,  
 21, NEWCASTLE ST.,  
 STRAND, LONDON.

HELLYER'S PATENT "VORTEX" CLOSET AND TRAP,  
 IN ONE PIECE.



"VORTEX" WITH VALVE AND REGULATOR.

soil, painted all over the exposed part of the inside of the closet, is easily washed off by the great flush of water brought to bear upon the sides of the basin, while, at the same time, a dozen pieces of ordinary W.C. paper are driven out both of the closet and trap, leaving the same clear and wholesome.

This "Vortex" closet is an improvement upon the "Artisan" and "Water-battery" closets, combining the advantages of both without their disadvantages. A body of water, about 5-ins. deep, is made to stand in the bottom of the basin having an exposed surface of about 9-ins. by 6-ins. to receive the excrement; and the configuration of the basin is such that on using the closet the deposit must fall directly into this water without touching the sides of the basin.

The trap of the closet is provided with a water lock or seal of about 2-ins.

There are no valves or fittings of any kind—except in connection with the water supply—to get out of order! and there is no reason why this closet, when once fixed, should not last half-a-century.

On usage every part, both of the basin and trap, is thoroughly cleansed: so much so that a good coating of plumber's

Hellyer's Patent cast lead "V-Dip Trap," or "ANTI-D." TRAP.

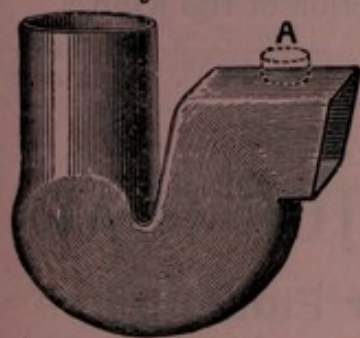


FIG. 5.

driving out the standing water, and, also, to get a scouring force upon the bottom of the trap to drive everything foreign out of it.

This trap is made of the softest and purest lead, without solder of any kind, and is perfectly smooth both inside and out. The substance of the lead is equal to sheet lead 8 lbs. to the superficial foot.

The trap is both self-cleansing and non-syphoning! There are no corners or places about it where any filth or paper can find a lodgment. The space between the bottom and the dip ( $3\frac{1}{4}$  ins.) is purposely made smaller than in any other part of the trap, to ensure the incoming water

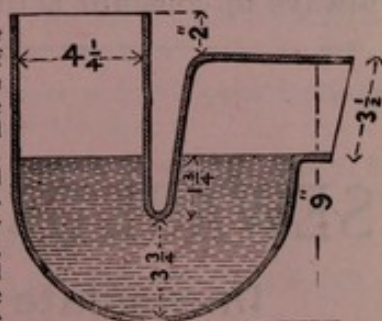


FIG. 6.

This "V-dip" trap has a water-lock or seal of  $1\frac{1}{2}$  ins. as shown in section, Fig. 6, to allow for evaporation, and any little syphoning which must occur, more or less, in all good self-cleansing traps, though this trap is specially designed to lessen the syphoning action of discharges passing either through the trap itself or through the soil-pipe on which the trap is fixed.

An air-pipe can easily be soldered to the top of the outgo, as shown in A, Fig. 5, but this is better done by the plumber on the job, as it can be fixed in any part of the outgo to suit circumstances.



**B O S T E L ' S**

NOW WELL-KNOWN AND EXTENSIVELY USED

**Brighton "Excelsior" Valveless Water-closet**

No. 1,

And also his EXCELSIOR No. 2, accomplishes that which has been required for *years*, viz., a *sweet and wholesome W.C.*, and a Closet through which it is quite *impossible* for Sewage Gases to pass; and, in addition, every atom of matter delivered into it is immediately flushed completely out into the sewer.

HOLT'S Patent Pneumatic and Automatic Flushing Cistern for all purposes, also accomplishes another desideratum, viz.: a good flush, noiseless and without attention of the riser, and excels every other flushing valve or cistern yet made, in that it is *impossible* for water to leak out of it, and when it is considered *that three-fourths of Water wasted* is through valves or cisterns connected with W.C.'s this is of *vital importance*.

HALL'S Patent Ventilator and Chimney Cowl is simplicity itself, and fully justifies its title of the "PERFECT." It is the invention of ALFRED HALL, Esq., M.D., F.R.C.P.S., London, and was invented to get rid of the trouble and annoyance caused from the failure of action of every description of moveable and swinging Cowl, in consequence of the constant attention always required by a moveable Cowl. This Ventilator never requires the least attention, and being immovable is always in constant action whichever is the direction of the wind.

**B O S T E L ' S**

**SEWAGE GAS INTERCEPTOR TRAP:**

Immediate access, Fresh Air Flushing.

WHOLESALE AND RETAIL:

8, Golden Lane, E.C.; 4, Agar Street, W.C.,  
**L O N D O N ;**

18 and 19, Duke Street, Brighton.



STAND No. 181.

BOYLE'S  
PATENT SELF-ACTING  
AIR-PUMP VENTILATORS



Effectually extract the foul air, have no mechanical motion, are entirely free from down-draught, and can be constructed to harmonize with every style of architecture.

"They are constructed on sound scientific principles, act in strict accordance with the laws of Nature, and cannot fail to operate."—PROFESSOR GRANT, LL.D., Glasgow Observatory.

EFFICIENT VENTILATION GUARANTEED.

These Ventilators are pronounced by the most eminent scientific and practical men in the kingdom to be the most efficient method of Ventilation yet brought out.

TESTIMONIALS.

Dr. B. W. Richardson, F.R.S.—"Since these excellent Ventilators have been introduced we have now got perfect methods of ventilation."

From the late Sir Gilbert Scott, Architect.—"I have used your Patent Self-Acting Air Pump Ventilators with complete success. From experience of them in my own house and other buildings—public and private—where they have been applied under my direction, I can confidently and will always have great pleasure in recommending them."

From Sir William Thompson, F.R.S., Glasgow University.—"I have seen several different forms of Mr. Boyle's Air-Pump Ventilator in actual operation, and have much pleasure in testifying to their efficiency. They thoroughly realize the favourable anticipations which I formed from experiments on models shown to me by Mr. Boyle. Having one fitted up in my yacht, I find it has caused a very decided improvement in the draught."

*Boyle's System of Sanitation.*

SOIL PIPES, DRAINS, and SEWERS VENTILATED on the most approved principles by means of BOYLE'S PATENT SELF-ACTING AIR-PUMP VENTILATORS, combined with an Improved Trap and Inlet for fresh air.

10-inch Ventilator, 3-inch Pipe, galvanized iron and enamel painted, specially made for the Ventilation of Soil Pipes. Price 32s. 6d.

"Boyle's Patent Self-Acting Air-Pump Ventilator, which does not revolve, is the best soil-pipe Ventilator that I know of."—ERNEST TURNER, Esq., F.R.I.B.A., &c.

*Estimates given and Designs supplied.*

PROSPECTUSES, PRICE LISTS, AND TESTIMONIALS ON APPLICATION.

ROBERT BOYLE & SON, Ventilating and Sanitary Engineers,

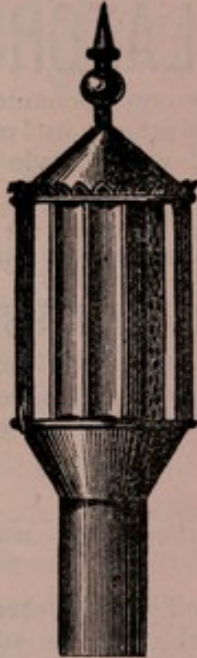
110, BOTHWELL-ST., GLASGOW, & 64, HOLBORN VIADUCT, LONDON.

WORKS: 154½, BOTHWELL-STREET, GLASGOW.

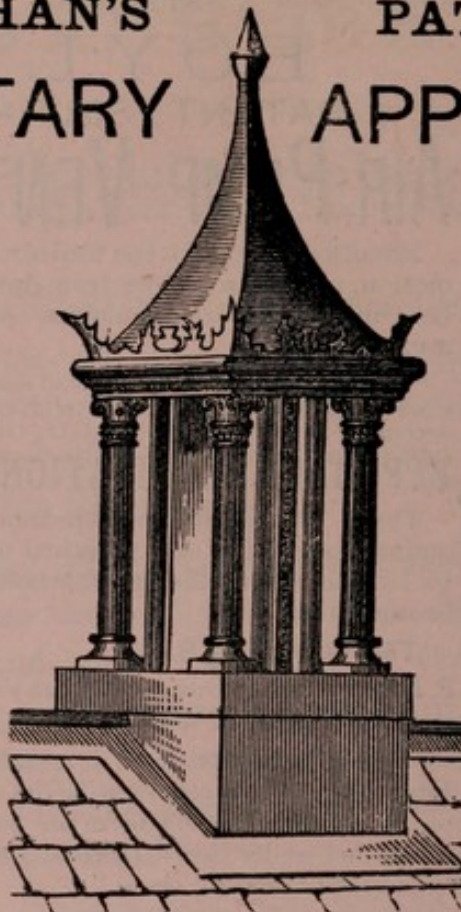
N.B.—The complete system may be seen in operation and tested at the above offices. Inspection respectfully invited.



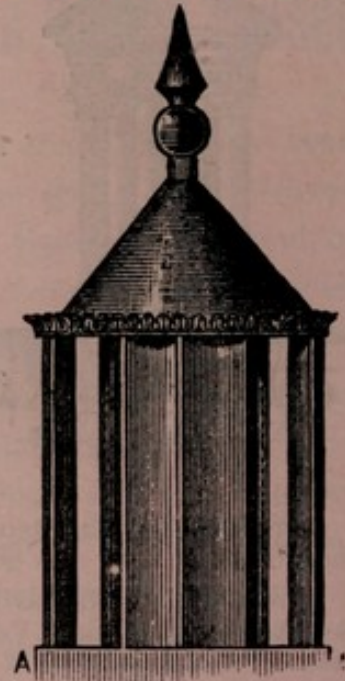
BUCHAN'S PATENT  
SANITARY APPLIANCES.



No. 1,  
Induced-Current  
Fixed Ventilator,  
for  
Soil Pipes, &c.

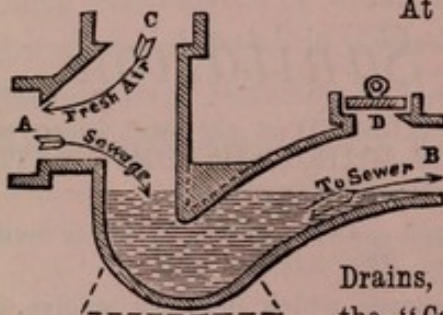


No. 3, Ornamental, for Churches, &c.



No. 2: Induced-Current  
Fixed Ventilator,  
For Halls, Schools, &c.

The Best and Cheapest Exhaust Ventilators in the Market. Beat all the leading makers Cowls by 82,739 feet in nine two-hours Tests at London. The Patent Ventilating Chimney Can is a Modification of the No. 1 Ventilator. The use of the Railway Carriage Ventilator would be a boon to all Travellers per Rail.

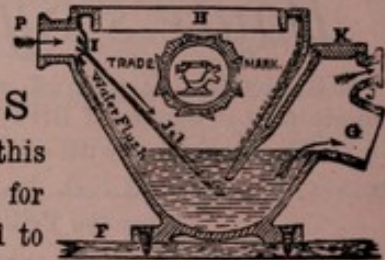


No. 2 Trap. 8,000 in use.

At the Philosophical Society's Exhibition, Glasgow, October, 1880,

First Prize  
MEDALS

were Awarded to this  
Ventilating Trap for  
Drains, Soil Pipes, &c., and to  
the "Carmichael" Water Closet here shown.



Professors James Thomson, F.R.S., and Fleeming Jenkin, F.R.S.; Drs. Wm. Wallace, J. A. Russell, J. B. Russell, Robert Bell, &c.; Messrs. Ernest Turner, G. H. Guillaume, Jas. Salmon & Son, Campbell Douglas, John Honeyman, &c., &c., Architects, Mr. R. Barnes Austin, C.E., and many other scientific and professional gentlemen of note, approve of or use these appliances. Mr. Baldwin Latham, C.E., on page 408 of his "Sanitary Engineering," in referring to the Model Bye-Laws of the Local Government Board, says:—"This is in fact the system patented in April, 1875, by Mr. W. P. Buchan, a Plumber of Glasgow," &c.

PRICE LISTS, TESTIMONIALS, &c., FROM

W. P. BUCHAN, M.S.A., F.S.Sc. (LOND.),  
Sanitary Engineer, 21 RENFREW STREET, GLASGOW.



# BULLIVANT'S

## Air-Tight & Noiseless Sliding Sashes,

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PATENTED.

1878.



PHILADELPHIA.



GREAT BRITAIN.



PARIS.

Received the above Awards—because,

By being **EASILY REMOVED AND READJUSTED** they prevent all **ACCIDENTS** arising from **CLEANING WINDOWS.**

They are specially adapted for **HOSPITALS, INFIRMARIES,** and rooms for **INVALIDS** generally, as they **EXCLUDE DRAUGHTS** and **DO NOT RATTLE.**

Their **SIMPLICITY OF CONSTRUCTION** is such that they cannot get out of order.

There is **NO FRICTION ON PULLEY STYLES,** which may be **POLISHED OR PAINTED.**

The **LINES AND GLAZING CAN BE RENEWED AT ANY TIME,** without disturbing beads or decorations, matters of considerable moment in expensively finished apartments, and well worthy of consideration, both as regards **EXPENSE** and **RAPIDITY OF COMPLETION.**

They are unequalled in **NEATNESS OF APPEARANCE.**

The above advantages, added to the fact that their **SELF-ADJUSTMENT** effects such **PERFECT BALANCE** as to be able to raise or lower them from any point on the upper or lower rails, renders them

**IMMEASURABLY SUPERIOR TO ANY WINDOWS  
HITHERTO INVENTED.**

**PRICE**—1s. 2d. Net. per foot super., for 2-in. yellow deal moulded and double tenoned sashes, with deal-cased frames, the pulley styles moulded on inner edge, oak double rebated and throated cills, rebated meeting rails, including patent pullies, fixing screws and nuts, hardwood guide-bars fitted with No. 8 best flax line, exclusive of Glass and Weights.

DELIVERED AT THE G.W. RY. STATION.

Sole Proprietors & Manufacturers—

**R. BULLIVANT, TAGLIAFERRO, & Co.,**  
Offices—104, Ledbury Road, London.

*Works—Dulverton, Somersetshire.*

**PRESENT SLIDING SASH WINDOWS ALTERED AT A SMALL COST,**

As the Sash Frame is not disturbed, and no new sashes or glazing required.



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BELL HANGING,

Mechanical,

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VOICE TUBES.

Hoists,

Gate opening Apparatus,

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Also Manufacturers of Every Description of

WINDOW BLINDS.

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And at Edinburgh, Glasgow, Perth, and Dundee.

ESTABLISHED 1809.

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PURE LIGHT

FOR

COUNTRY MANSIONS, &c.,

PRODUCED BY THIS APPARATUS

Without Trouble or Nuisance, and at a small cost.

(See the Testimonials at the Stand.)

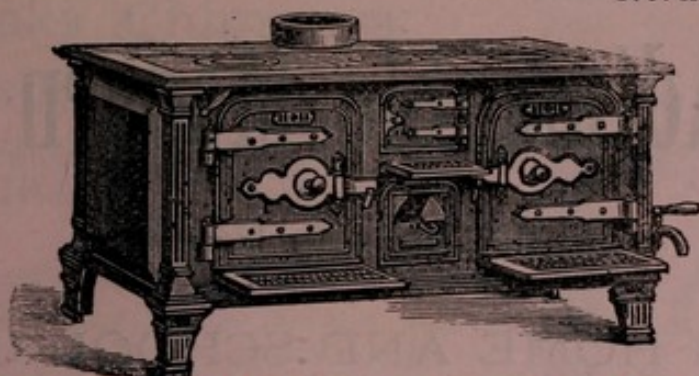
THESE MACHINES HAVE BEEN WORKING FOR THE PAST  
SEVEN YEARS.

Portable Gas Apparatus Company, 47, Millbank Street,  
WESTMINSTER, S.W.

F. W. CLARK,

Patentee and Engineer.





70 PER CENT. LESS FUEL BURNT,

Perfection and Economy in Cookery, ensuring perfect Combustion, thus curing smoky chimneys, by using the

## Patent Treasure Cooking Range,

Unsurpassed for Durability, Depth of Oven, and Capacity of Boiler.

MAY BE PLACED ANYWHERE. CANNOT GET OUT OF ORDER.

Illustrated Price Books post free.

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61, Fleet Street, E.C.

Established a Quarter of a Century

N.B.—The Cheapest Coal most suitable.

No. in Catalogue, 270.

## JOSEPH CLIFF & SONS,

(Wortley, near Leeds),

MANUFACTURERS OF WHITE, COLOURED, AND

PATENT

ORNAMENTAL GLAZED BRICKS,

Patent Machine-made Gas Retorts,

ARCHITECTURAL TERRA-COTTA (GLAZED AND UNGLAZED),

SANITARY TUBES,

STONEWARE AND BUFF GLAZED SINKS,

*Blue Staffordshire Bricks, Tiles, etc.*

POTT'S PATENT EDINBURGH SEWER TRAPS,

ELLISON'S PATENT CONICAL AIR BRICKS,

Knight's Patent Terra-Cotta, Chimney Terminals, etc., etc.

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# The Adjustable Modern Desk

(Glendenning's Patent),

FOR HOME AND SCHOOL USE,

WITH

## DR. ROTH'S CHAIR,

Is the most perfect Desk yet made.

Desk and Seat Moveable Vertically are adapted to all heights.

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and reading.

*Seat, with all Dr. Roth's Improvements, 40s. & 50s. each.*

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## Dr. Roth's Hygienic Chairs,

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Support Thigh, Spine, and Shoulders. Spine Pad moveable vertically.

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*Dr. Roth's Spinal Couch.*

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## Smoky Chimneys A Thing of the Past.

CRANE'S Patent REGISTERED GRATE  
burns ANTHRACITE as easily as ordinary  
Coal.

Effectually and certainly prevents Chimney Smoking  
Takes up no more space than the ordinary register  
stove, and can be fixed by any bricklayer.

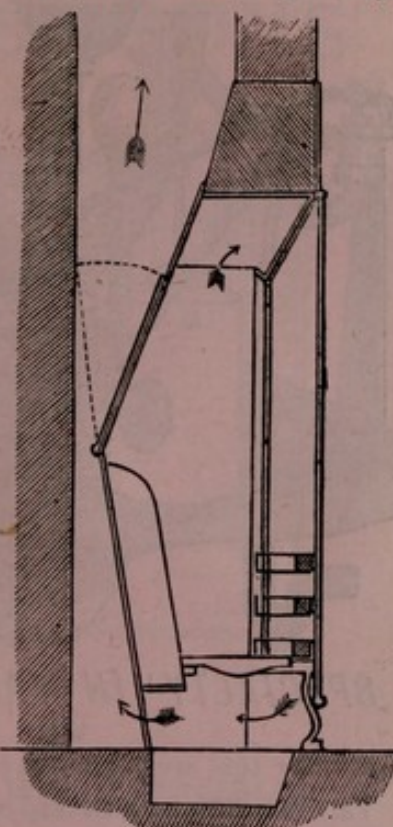
Effects a great consumption of smoke when burning  
Bituminous Coal. Thoroughly ventilates the room.  
Can be seen fixed and in use at the Manufacturers'

**DEANE & CO.,**  
46, King William St., London Bridge.  
ESTABLISHED A.D. 1700.

Patterns and prices on application.

N.B.—THE PRINCIPLE OF THIS STOVE CAN BE  
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*Mosaic Marble and Mosaic Granite*

Jointless Floors and Stairs, Pavements, Hearths, Fenders,  
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Slabs for building Concrete Walls with Finished Polished  
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For Fire Resistance, Strength, and Economy,

Superior to all other. Specialite for

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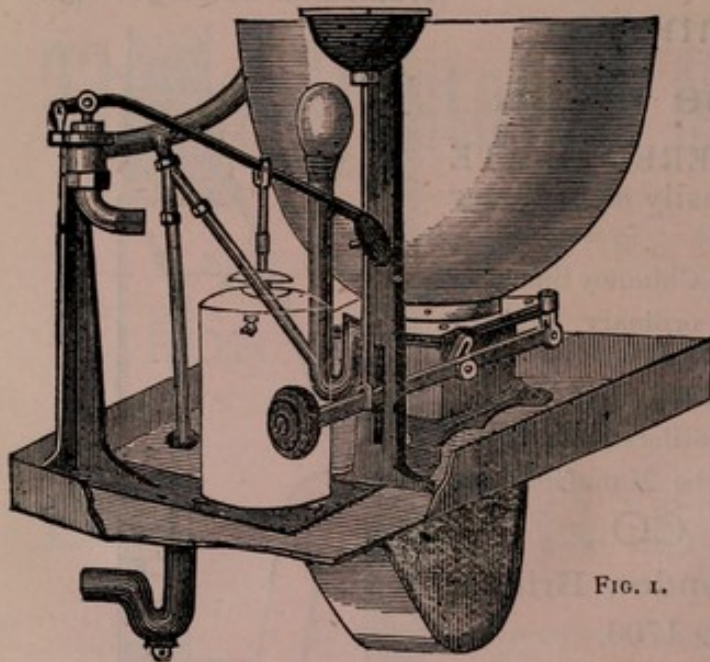


FIG. 1.

**SPECIALTY IN VALVE CLOSETS.**

FIG. 1.

By this arrangement the Lead overflow of Valve Closet and also trap of lead safe, is flushed each time the handle of the Closet is pulled up.

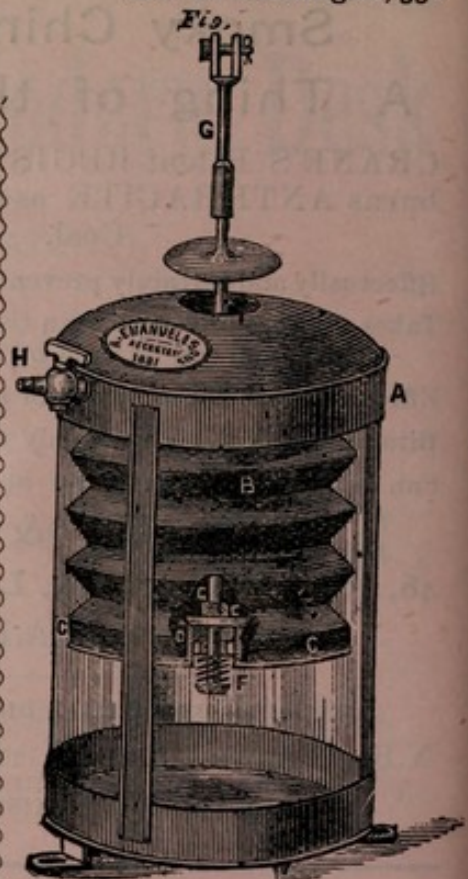


FIG. 2.

# Registered Closet Regulator.

FIG. 2.

The purpose of utility to which the shape or configuration of this design has reference, is to improve the form of air regulators used for controlling the closing of the water supply valve through which water is supplied to a closet basin each time the handle of the closet is pulled up, so that such Regulators may be made to act with greater certainty than hithertofore.

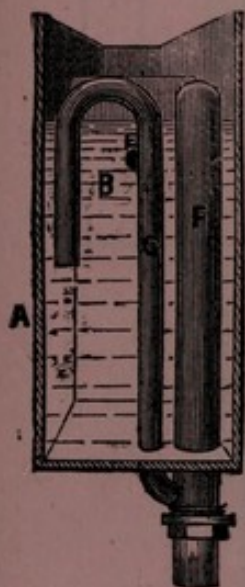
Fig. 2 is a vertical section of the Regulator. It consists of an outer case A, to the interior of the top of a flexible bag or diaphragm B. C is a rigid bottom to the diaphragm. D is a valve-seat standing up from the bottom C. E is a valve closing over the top of the valve-seat D. F is a spring by which the valve is held down on to its seat. G is a rod attached to the top of the valve E; this rod is coupled to the ordinary weighted lever arm of the closet, so that when the closet handle is pulled up the rod is also raised. H is a tap standing out from the outer case A, by which the escape of air from the interior case can be controlled. When the handle of the closet is pulled up, the rod G so raised, the valve E is lifted from its seat and air can then pass through it into the interior of case A. When the closet handle is put down and the weighted lever-arm is no longer held up by it, the lever arm is supported only by the rod G. The valve E is then at once closed by the action of the spring F, and by the weight resting upon it, and the escape of air from the outer case A, can only take place through the tap H; the descent of the rod is thus controlled, the time it takes to descend being adjusted by more or less opening the tap H.

**A. EMANUEL & SONS,**  
 BIRMINGHAM—Phoenix Works, Speaking Stile Walk, Holloway Head.



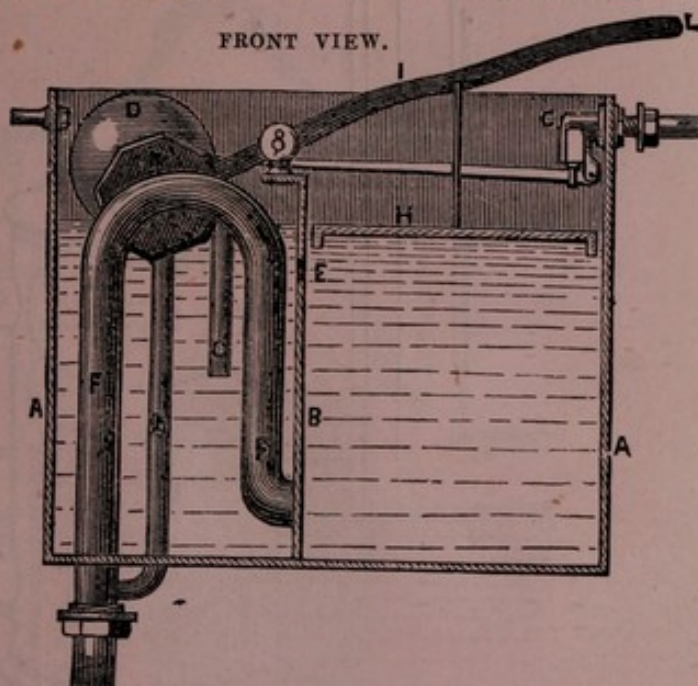
# A. EMANUEL & SONS'

SIDE VIEW.



THE DRAWING SHOWS A VERTICAL SECTION OF THE WATER WASTE PREVENTER.

FRONT VIEW.



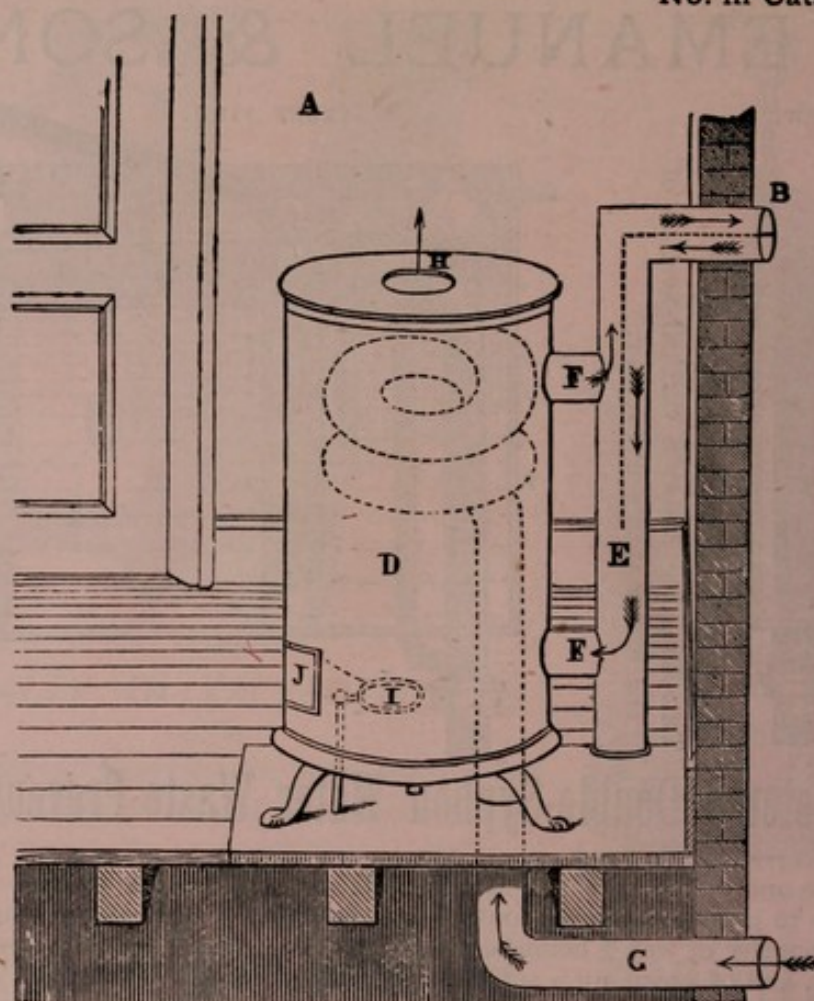
## Registered Double-Syphon Water Waste Preventer.

THE purpose and utility to which the shape or configuration of this design has reference, is to provide a simple and effectual means of preventing more than a regulated quantity of water being discharged at any one time into the pan of a water closet, and of ensuring a sufficient afterflow of water into the closet pan, after it has been flushed or cleaned out by the main discharge of the measured quantity of water into it.

A is a cistern divided into two compartments by a partition B. Water is supplied from a water supply pipe to the right hand compartment through a ball cock C, the ball, or float D, of which is in the left hand compartment. In the upper part of the partition B, is an opening E; when the right hand compartment has filled with water up to this opening, water flows through this opening into the left hand compartment, and fills that compartment, until by the rising of the ball cock or float D, the supply cock C is closed. F is a syphon pipe, the shorter limb of which opens into the right hand compartment of the cistern, and the longer limb of which is carried down to the closet pan or basin. G is a syphon pipe of smaller diameter, its shorter limb opens into the left hand compartment of the cistern, and its longer limb is led into the longer limb of the syphon F. H is a plate or float fitting loosely to the sides of the right hand compartment; it is attached to one arm of a lever I, and is held up by a weight K fixed to the other arm of the lever. A wire is attached to the lever at L, and when the wire is pulled downwards, by the pulling up of the closet handle in the ordinary manner, the plate or float H is forced downwards. Water is thus forced into the larger syphon, and this syphon becomes charged and at once empties the right hand compartment into the closet basin, the smaller syphon also becomes charged, and when the right hand compartment has been emptied, continues to deliver a small stream of water into the syphon F, until the water level in the left hand compartment gets below the end of the shorter limb of the smaller syphon. As the water level in the left hand compartment descends, the cock C opens and again fills the cistern, the right hand compartment being the first to fill as explained.

LONDON & BIRMINGHAM.





*George's Patent Gas Calorigen,*  
 FOR  
 WARMING & VENTILATING APARTMENTS.

The peculiarity of construction in this gas stove, which diffuses heat principally by convection, consists of an outlet so arranged with regard to the inlet (both being external to the apartment) that only so much air passes either way as is required to support and carry off the products of combustion.

The heat generated by combustion warms a thin coil of sheet iron in the interior of the stove, the coil being in communication at one end with the external atmosphere, and at the other with the apartment; thus a stream of fresh air, which is warmed in its passage, is drawn into, and equally diffused throughout, the apartment.

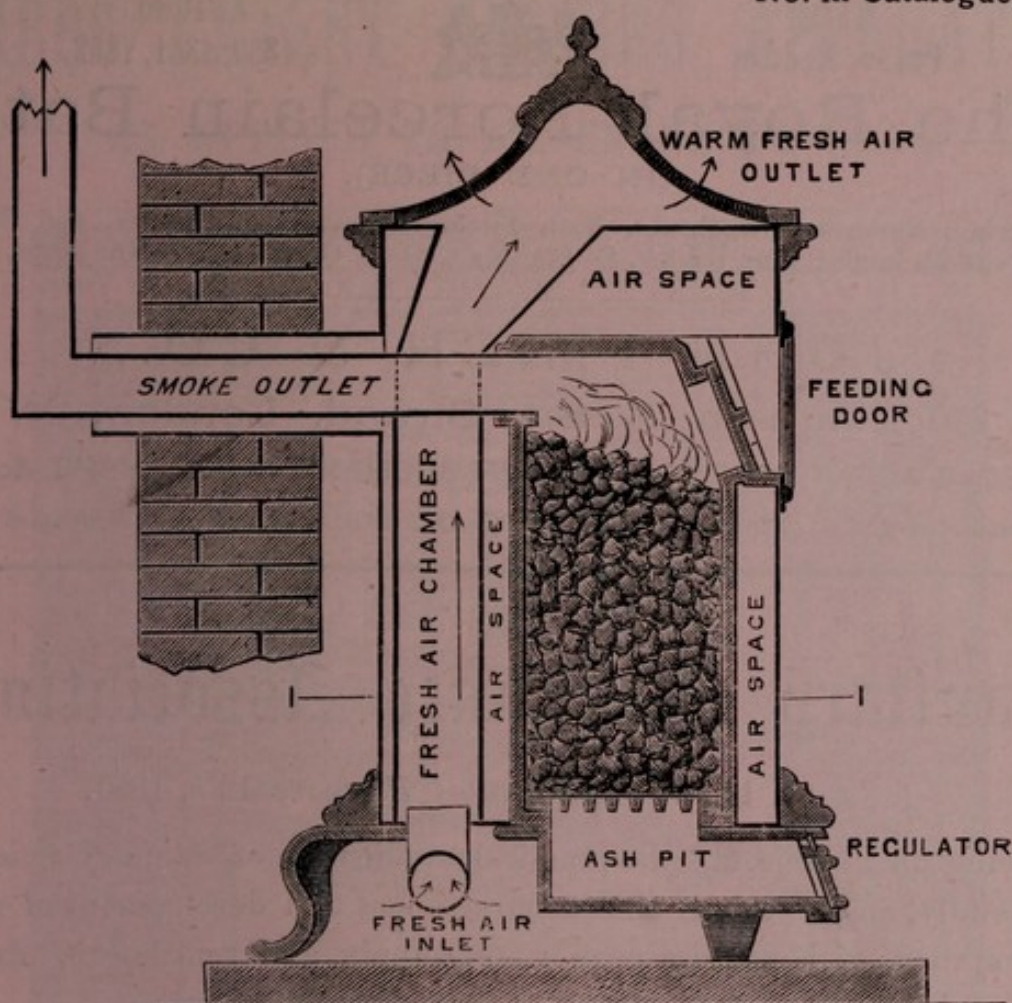
This stove is made in sheet iron, and also in copper; is suitable for warming bedrooms, sitting rooms, and small conservatories.

Consumption of gas from 10 to 15 feet per hour, according to size of burner.

Prices from £3 3s. upwards.

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This Stove also introduces a stream of fresh air (warmed), and will burn for 12 hours or longer, without attention, at a cost of one penny.

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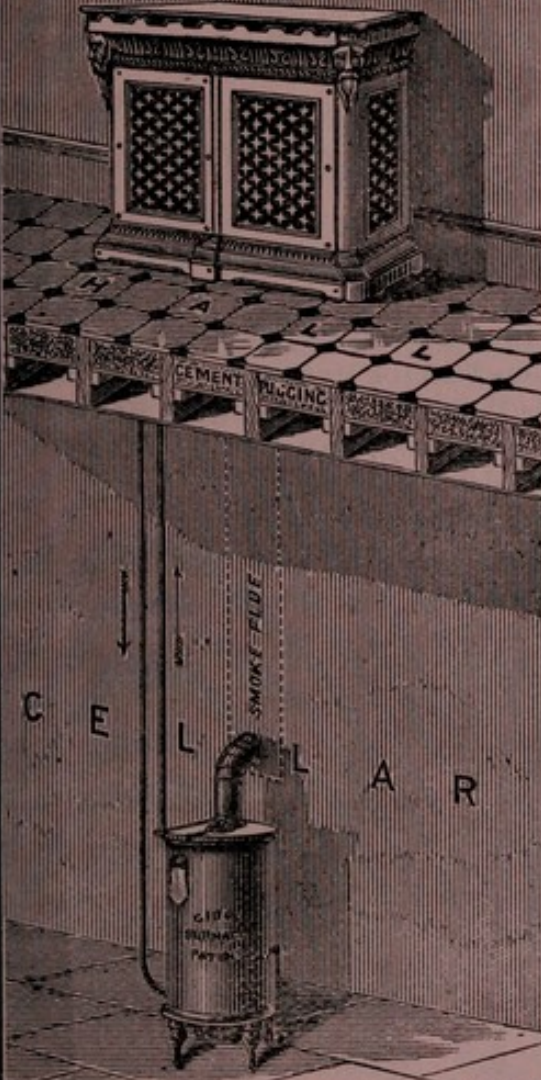
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IF THERE IS NOT A CELLAR WITH A FLUE IN UNDER WHERE COIL IS REQUIRED ADD TO THE ABOVE SUM 4'  $\frac{1}{2}$ " FOR EVERY FOOT TO NEAREST FLUE AND SEND SKETCH SHOWING WHERE FLUE IS

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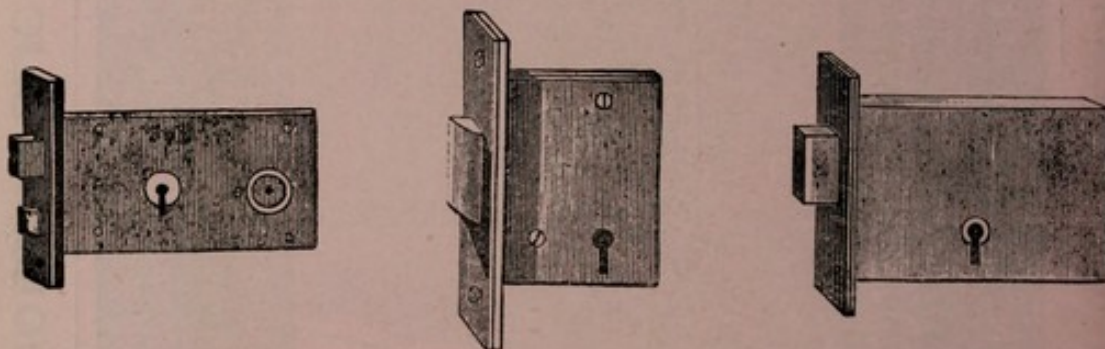
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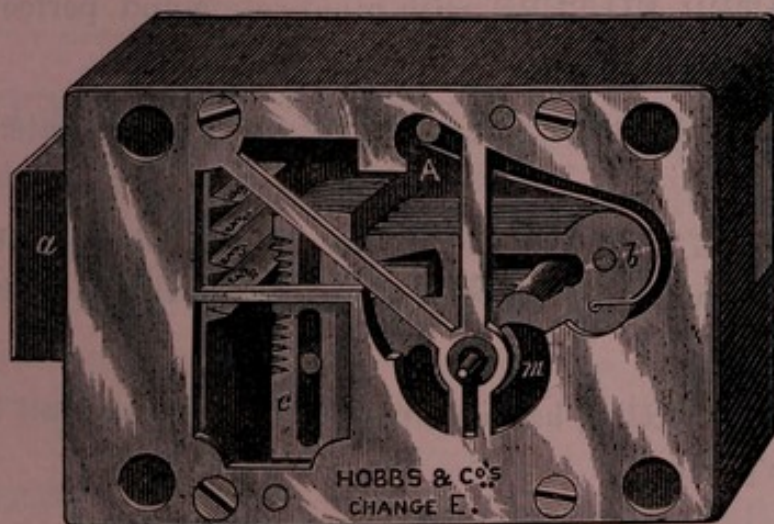
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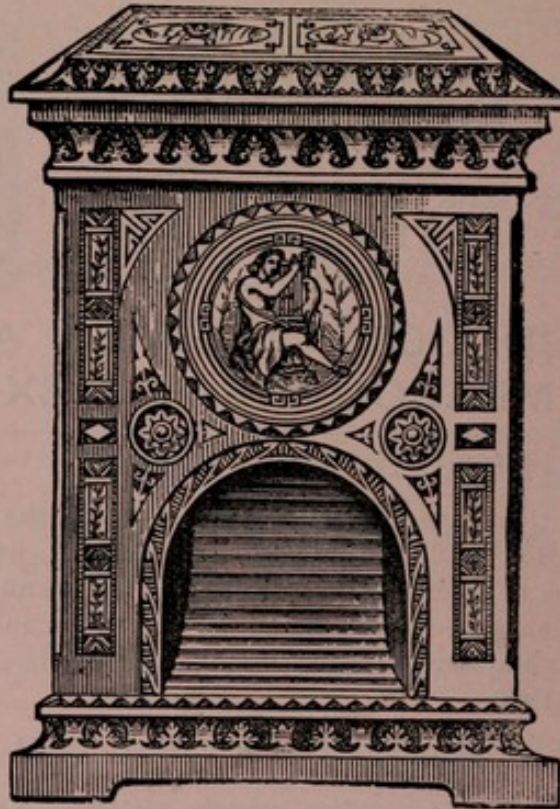


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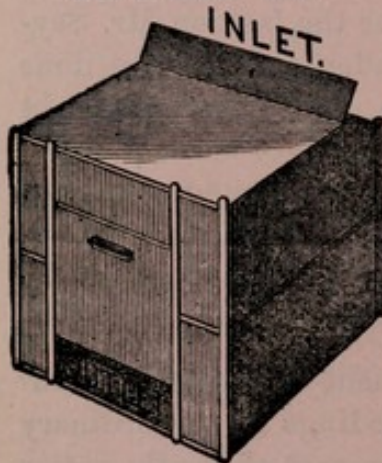
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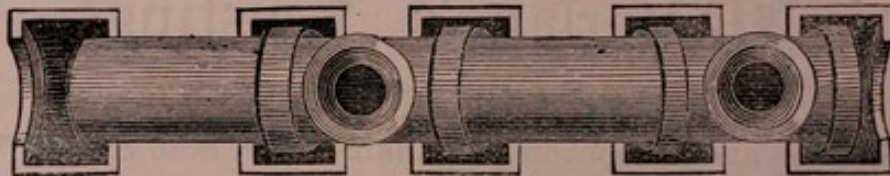
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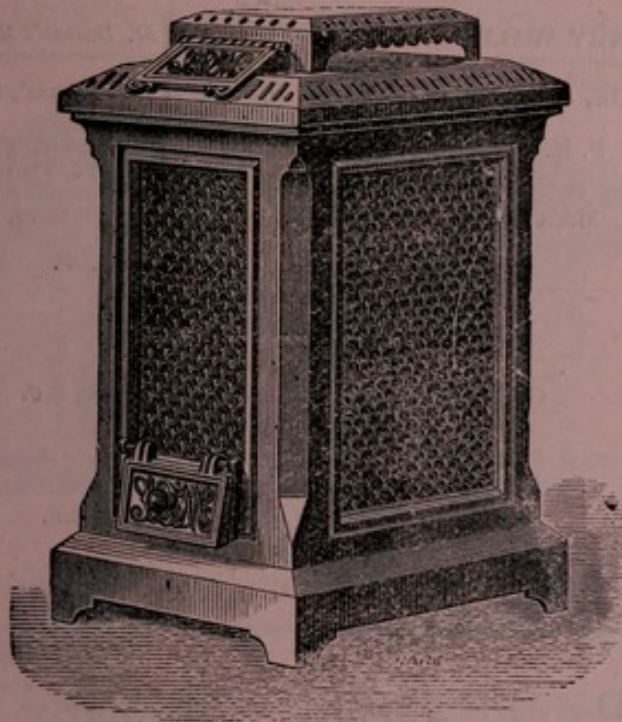
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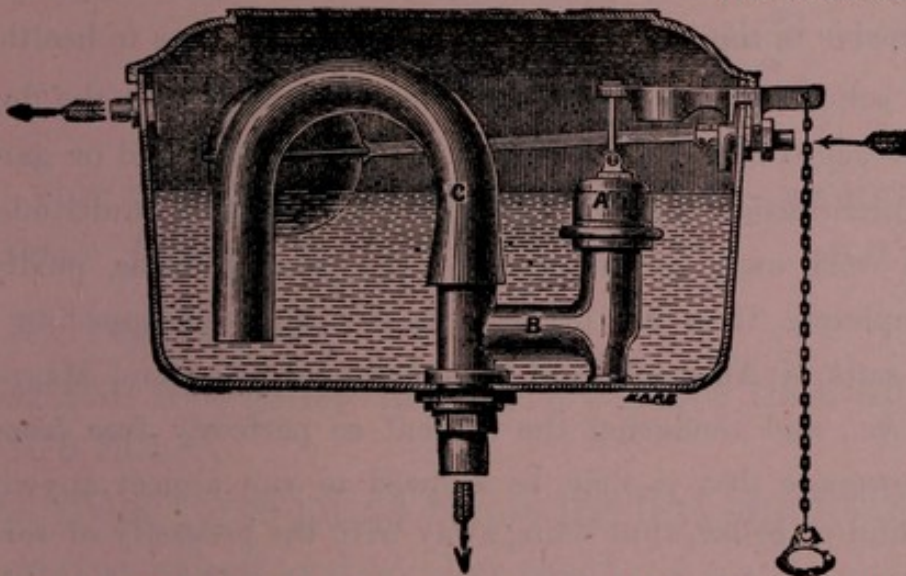
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PURNELL'S Patent Syphon WATER WASTE PREVENTER

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The advantages of this Patent Waste Preventer are—Efficiency, Durability, and Simplicity. It is Perfect in Action, and not liable to get out of order. The action of the cistern may be described as follows:—Immediately the valve A is opened, the water flows through connection B into discharge pipe, causing a partial vacuum, the water rushing to fill up the vacuum starts the syphon C. When once the syphon is set in action, it will continue running until the whole contents of the cistern have been discharged. The valve being self-acting, no waste of water can possibly take place, whether the handle is secured or not, until it is brought into action again. The above can be seen in action at

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PREVENTION OF LEAD POISONING.

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MANUFACTURERS OF

PATENT TIN-LINED LEAD PIPING,

For the Prevention of Lead Poisoning of Water, Beer, Soda Water, and other liquids.

PATENT TIN-LINED SHEET LEAD FOR COUNTER TOPS, LINING CISTERNS, VATS, &c.

Makers of Block Tin Tubing and Sheets, Pewter Composition, Gas Tubing, Lead Piping, &c.

Works: NORMANDY WHARF, ROTHERHITHE, S E.



“Patentee.”

## PATENT 4,479.

An Apparatus for **Earth-filtering** all discharges from **Water-closets**; retaining the insoluble solids in an air-tight receptacle for removal at intervals of weeks or months, without the escape of any odour offensive to the community or any gases injurious to health.

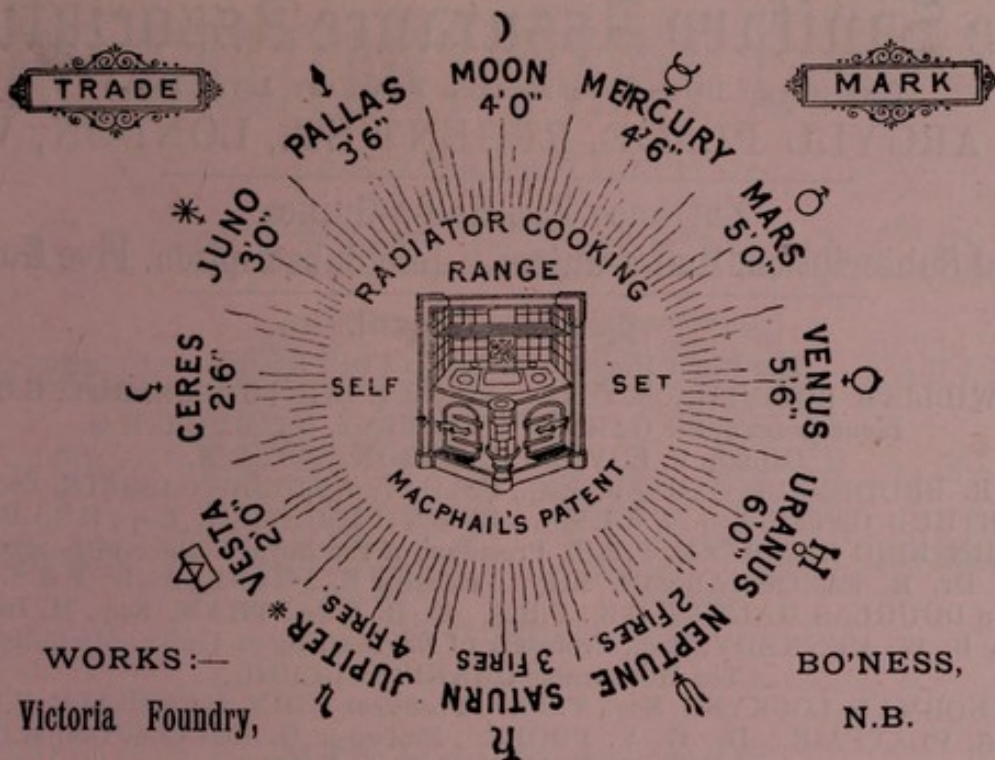
All the solids in *solution* pass quickly downwards with the flow of fluid into troughs filled with common earth from the field or garden, and “the nitrification Bacteria” contained in countless multitudes in this earth work away continuously on the passing fluids, purifying them completely from all organic matter and decomposing and *fixing* the salts of Ammonia and Phosphates of Lime and Magnesia, Silicates, &c., and rendering the effluent so perfectly free from all taint of sewerage that it may be allowed to run almost anywhere, above ground or below, thus doing away with the necessity of sewers, keeping the rivers free from pollution, and supplying the agriculturist with the very best manure known for fertilizing the land and increasing the crops.

This application of earth-filters to water-closets goes far to solve the problem set forth in the Article on Agriculture in the edition of the “Encyclopædia Britannica” now publishing, viz.: “how to collect and utilize town sewage without offence to the senses or harm to the health of the community.”

The gaseous products from the receptacle are conducted upwards through a charcoal chamber. From the earth in the troughs no deleterious or odourous gases ever arise.

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Radiates five times more fire surface than any close fire range.

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Obviates baked and sodden meat.

Burns the smoke.

Saves half the fuel.

Does twice the work of any other range.

Gives uniform heat in ovens regulated by one flue only.

Has an independent Grill fire.

Ventilates the kitchen to perfection.

Ensures a continuity of hot water.

Burns Coal, Coke, or Anthracite.

Requires no building of Brick-work.

**RADIATOR RANGE Co.,**  
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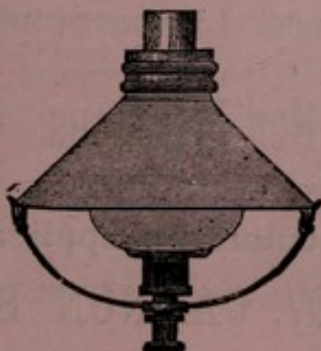
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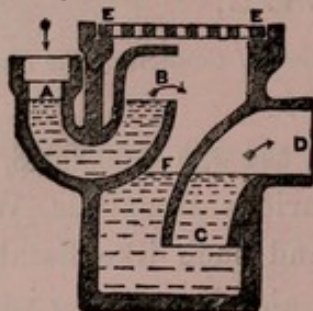
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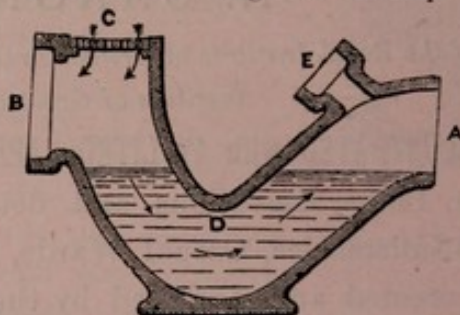
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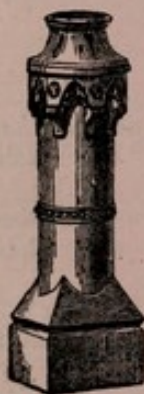
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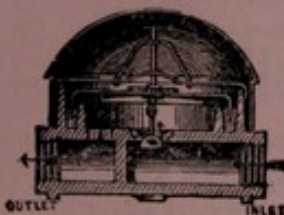


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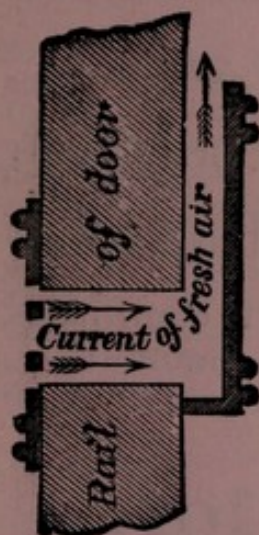
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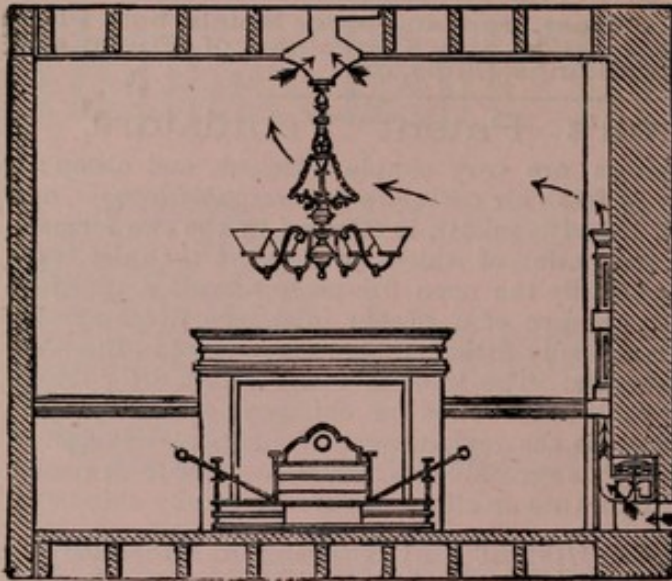
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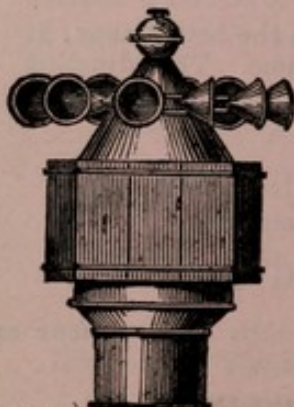
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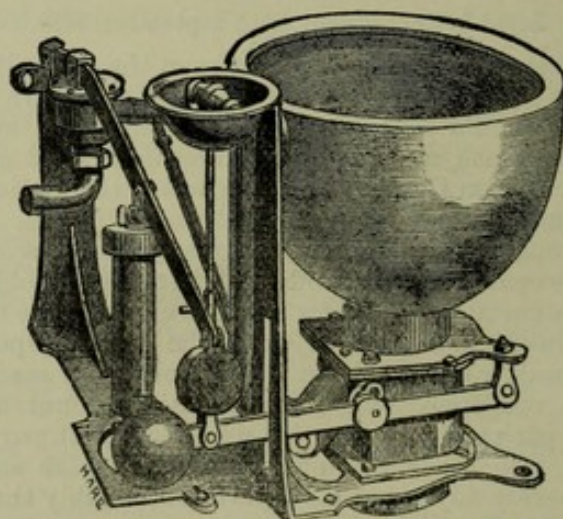
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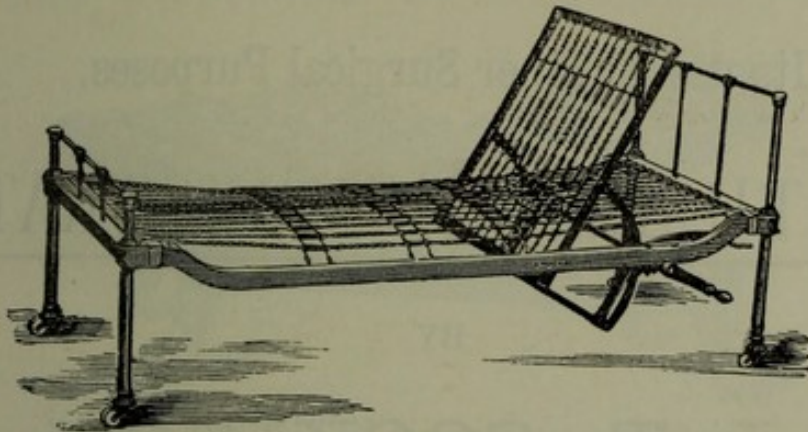
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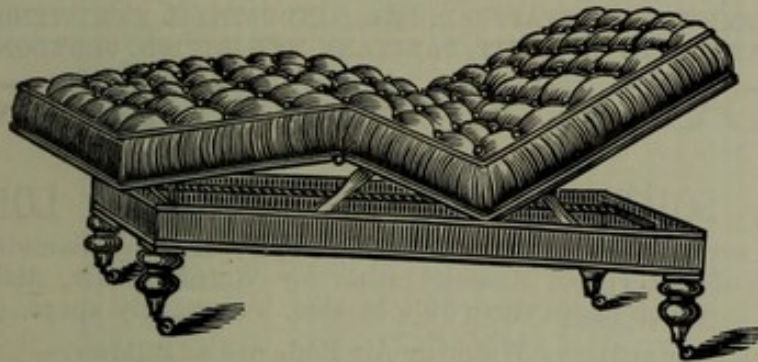
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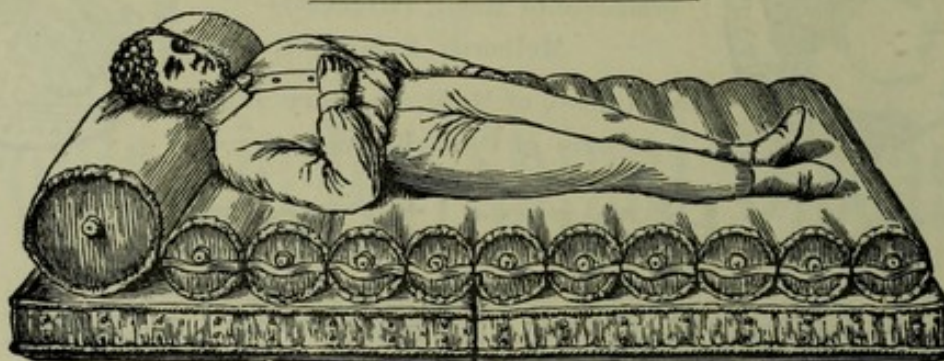
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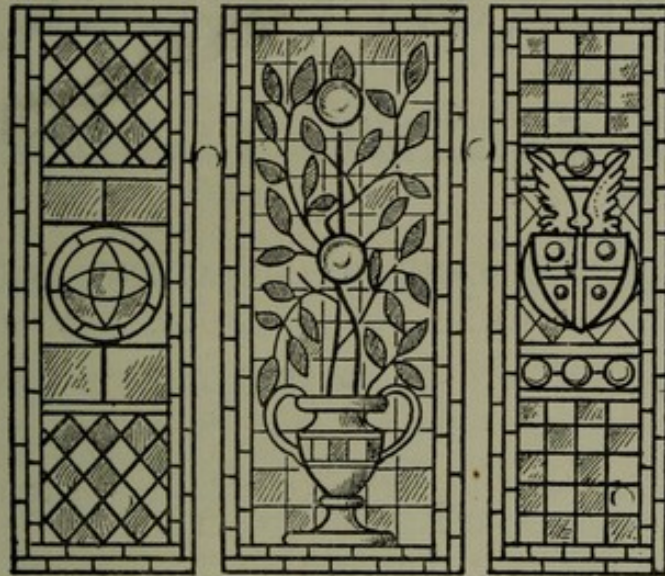
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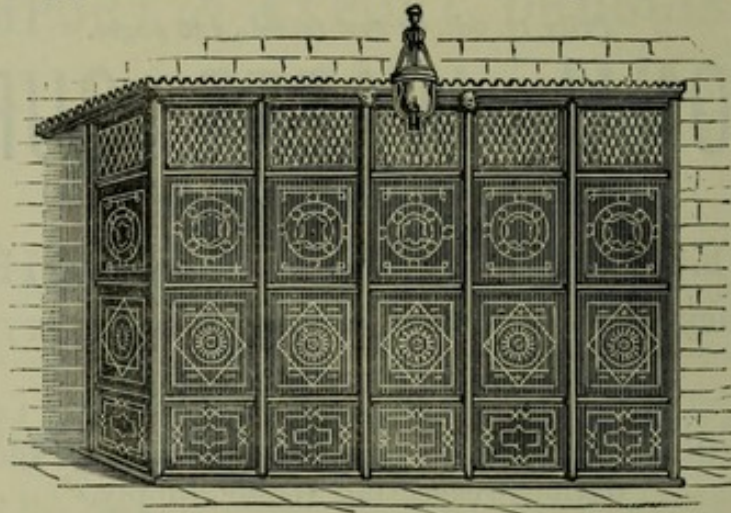
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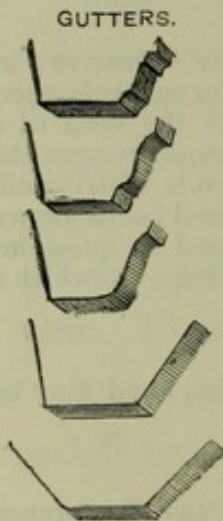
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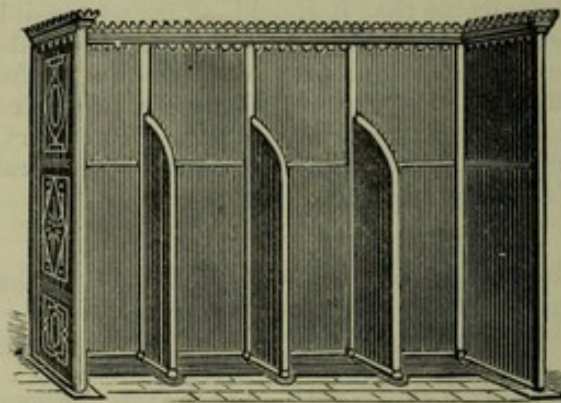
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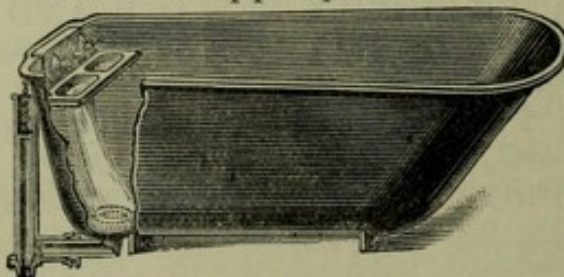
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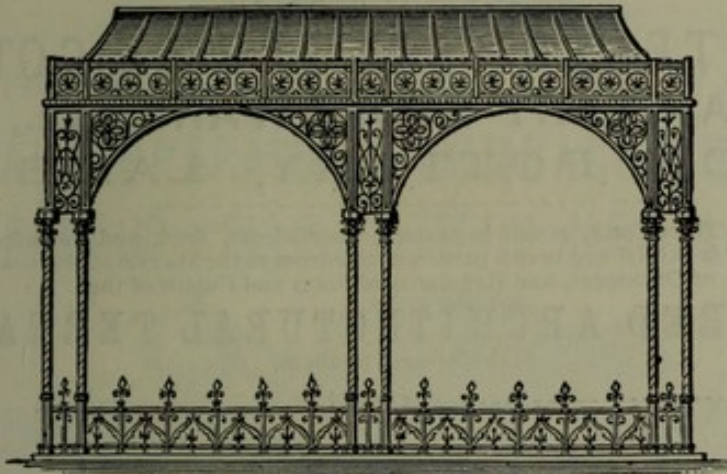


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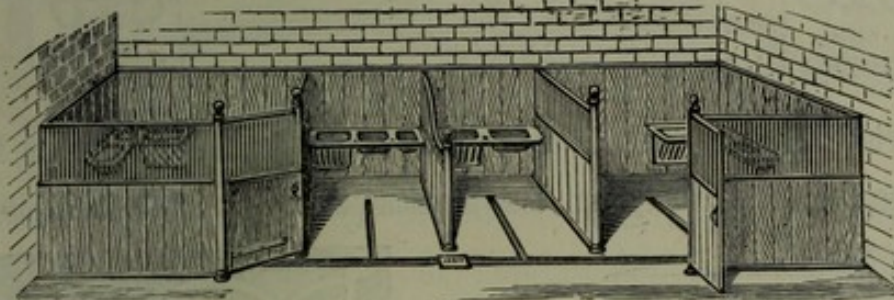


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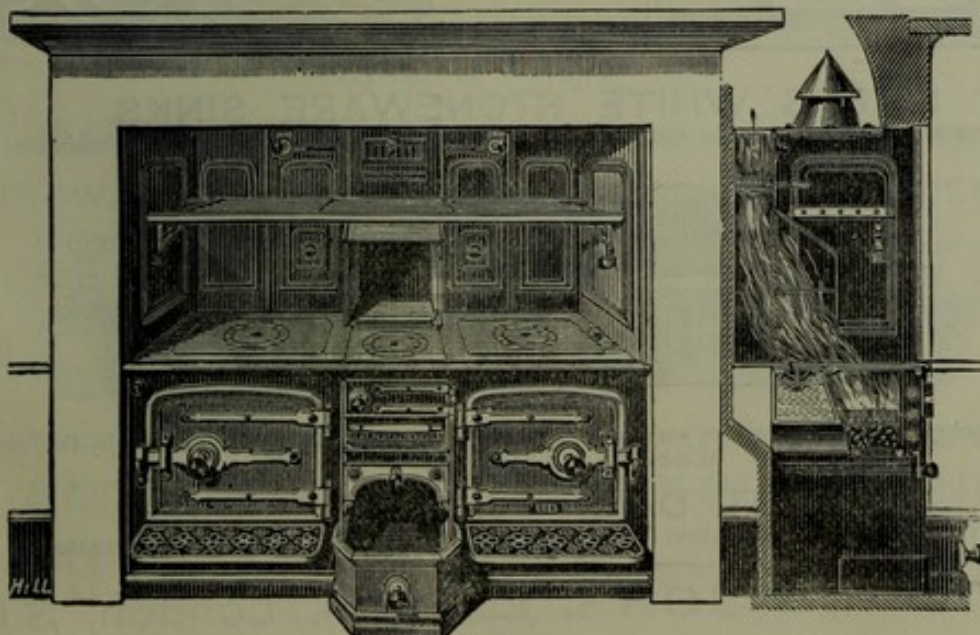


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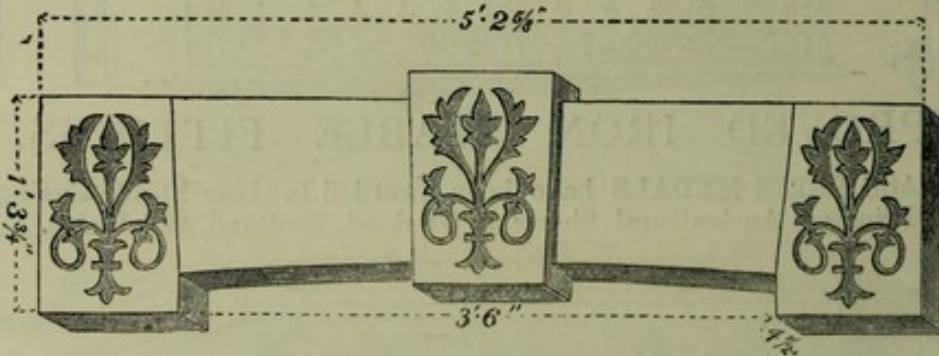
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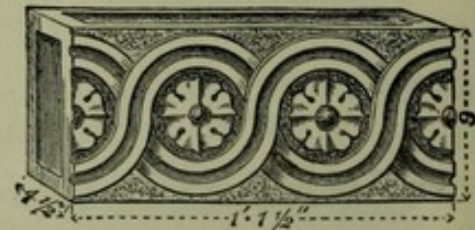
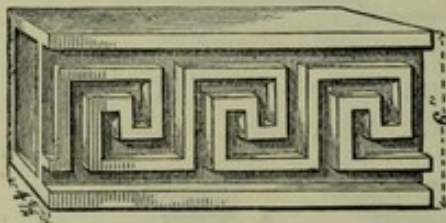
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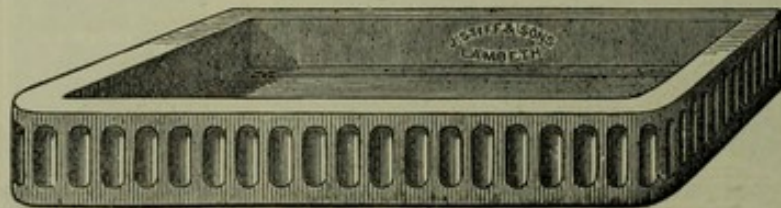


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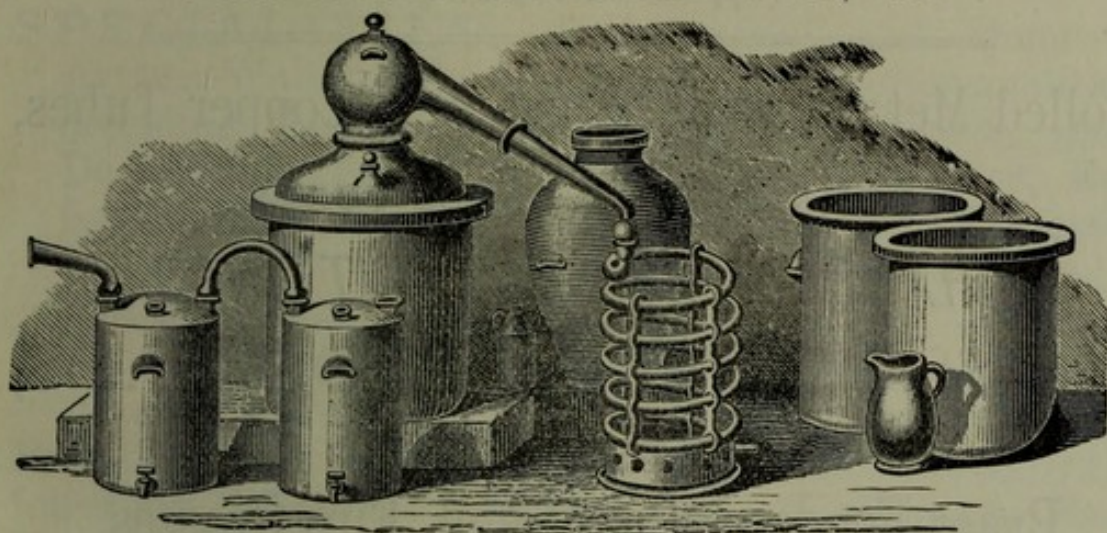
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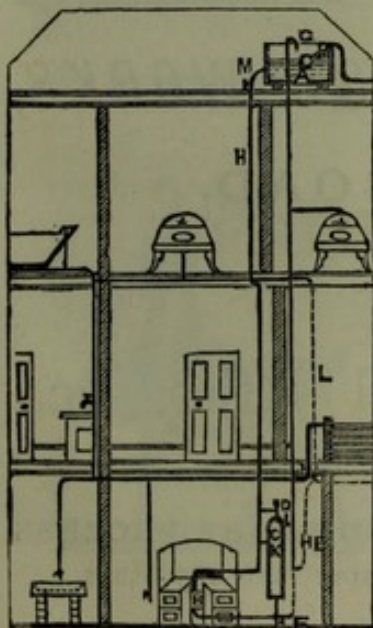
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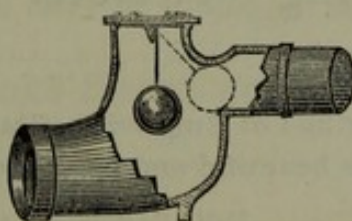
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