

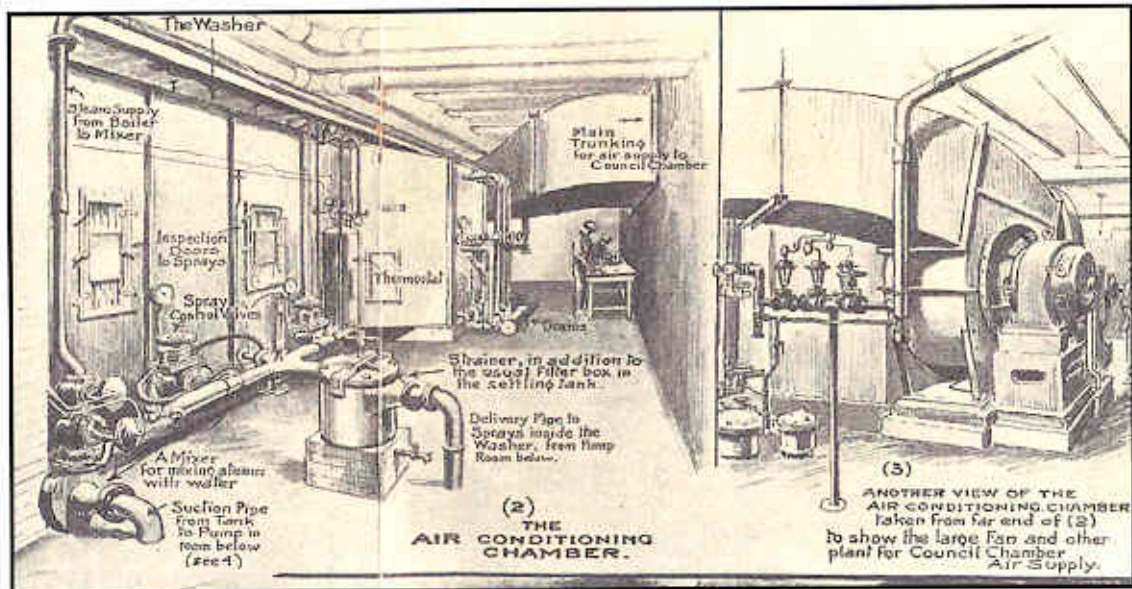


First IHVE Summer Meeting, Stourbridge, 1899 [CIBSE]

Institutions and Societies

The archives and libraries of various professional institutions, learned societies and trade organisations can be a useful source of information and illustrations relating to building engineering services. Organisations specialising in this branch of engineering date only from the close of the 19th century. Before this building services records may feature as a very small part of more broadly based institutions. The very earliest organisations include the Worshipful Company of Plumbers (1365) and the Worshipful Company of Tallow Chandlers (from c.1300, Grant of Arms 1456). Next came the Royal Society (1660). There is then a gap until the Royal Institution (1799), the Royal Institute of British Architects (1837), the Institution of Mechanical Engineers (1847), the Institution of Gas Engineers (1862) and the Institution of Electrical Engineers (1880). An important institution as regards building services is the Institution of Civil Engineers (1818) as a number of important heating and ventilating engineers were members.

Specialised building engineering organisations include the Sanitary Institute (1876), the Institution of Heating and Ventilating Engineers (1897), the Institute of Refrigeration (1899, originally the Cold Storage and Ice Association), the Institute of Plumbing (1906) and the Illuminating Engineering Society (1909). The IHVE and the IES are now amalgamated as the Chartered Institution of Building Services. The CIBSE includes the Society for Light and Lighting, the Society of Public Health Engineers, and the CIBSE Heritage Group (1973). Early UK trade organisations are the Plumbers Company (1886), the Electrical Contractors Association (1901) and the Heating and Ventilating Contractors Association (1904). Information relating to UK systems, equipment and buildings is also available from the American Society of Heating and Ventilating Engineers (1894) and the American Society of Refrigerating Engineers (1904), now combined as the American Society of Heating, Refrigerating and Air Conditioning Engineers.



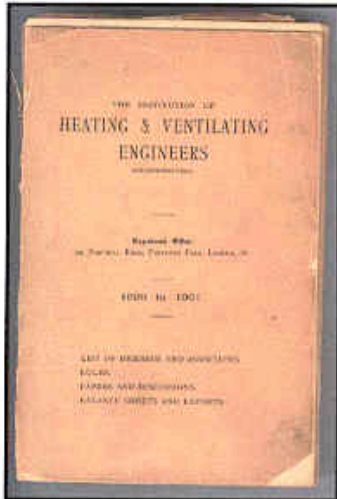
London County Hall, Westminster, Council Chamber Air Conditioning
Scientific American, November 1922, pp.328-9

Transactions, Proceedings, Journals & Magazines

Some building engineering information is available in early scientific, engineering and building publications: *Philosophical Transactions* (1660), *ICE Proceedings* (1818), *The Illustrated London News* (1842), *The Builder* (1843) and *The Engineer* (1856). Early news about the IHVE appeared in *The Ironmonger* and *Domestic Engineering and Estate Engineer* (subtitled *A monthly journal published in the interests of the Heating, Ventilating, Lighting and Cleaning Industries*). This was supplanted by the *IHVE Proceedings* (1901-33), which then continued as the *IHVE Journal*. *The Illuminating Engineer* (1908) was adopted as the journal of the IES, later (1936) becoming two publications, *Light & Lighting* and the *IES Transactions*. Early trade magazines include *Heating & Ventilating Engineer* (1927), *The Steam Engineer* (1931) and *Electrical Times* and *Electrical Review* (both over a hundred years old). Later titles include *Heating & Air Treatment*, *Plumbing* and *Electrical Design*.

Numerous articles in the American press relate to UK building services. Publications include *Scientific American* (1845, originally titled *The Advocate of Industry and Enterprise, and Journal of Mechanical and Other Improvements*), *The Journal of the Franklin Institute* and *Harper's Weekly*. At the close of the 19th century there was *Domestic Engineering*, *The Metal Worker*, *Engineering Review*, *Manufacturer and Builder*, *Ice & Refrigeration*, *Cold Storage & Ice Trade Journal*, *ASHVE Transactions*, *The Heating & Ventilating Magazine* and *American Electrician*. Later came *Heating, Piping and Air Conditioning* (1929), which originally incorporated the *ASHVE Journal*. Other magazines include *Air Conditioning*, *Heating & Ventilation* and *Actual Specifying Engineer*.

Many of the titles mentioned are no longer published.



First issue of the IHVE Proceedings, 1901. An index of Proc.IHVE and the IHVE Journal can be found in the 1971 IHVE Guide (Blue) Book

Right
An 1897 issue of the US magazine Domestic Engineering, the year of the founding of the IHVE. Note the recycling hole (top left corner) with the instruction "Well, I'll be hanged."

DOMESTIC ENGINEERING

PLUMBING . . HEATING . . LIGHTING . . VENTILATING

WHOLE (March 59) 34 CLARK ST., CHICAGO, MARCH, 1897 Vol. 11, No. 3

BRANDS NEW YORK, BOSTON, MINNEAPOLIS, DENVER AMERICAN RADIATOR CO. CHICAGO, ILL. U.S.A.

WELL, I'LL BE HANGED

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TELEPHONE MAIN 3501.

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SCALE WITH OF WINDING WATER

F. E. CUDELL'S

Patent Sewer-Gas and Back-Water Trap

For Wash Basins, Sinks, Baths and Wash Tubs.

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TRUTHS AN ACTUAL TEST OF 200 POUNDS THE BEST METAL

PRESSURE REGULATING AND BACK PRESSURE VALVES FOR UTILIZING EXHAUST STEAM FOR HEATING PURPOSES. T. KIELEY, 7-11 West Thirtieth Street, New York

BUFFALO FAN SYSTEM OF HEATING AND VENTILATING

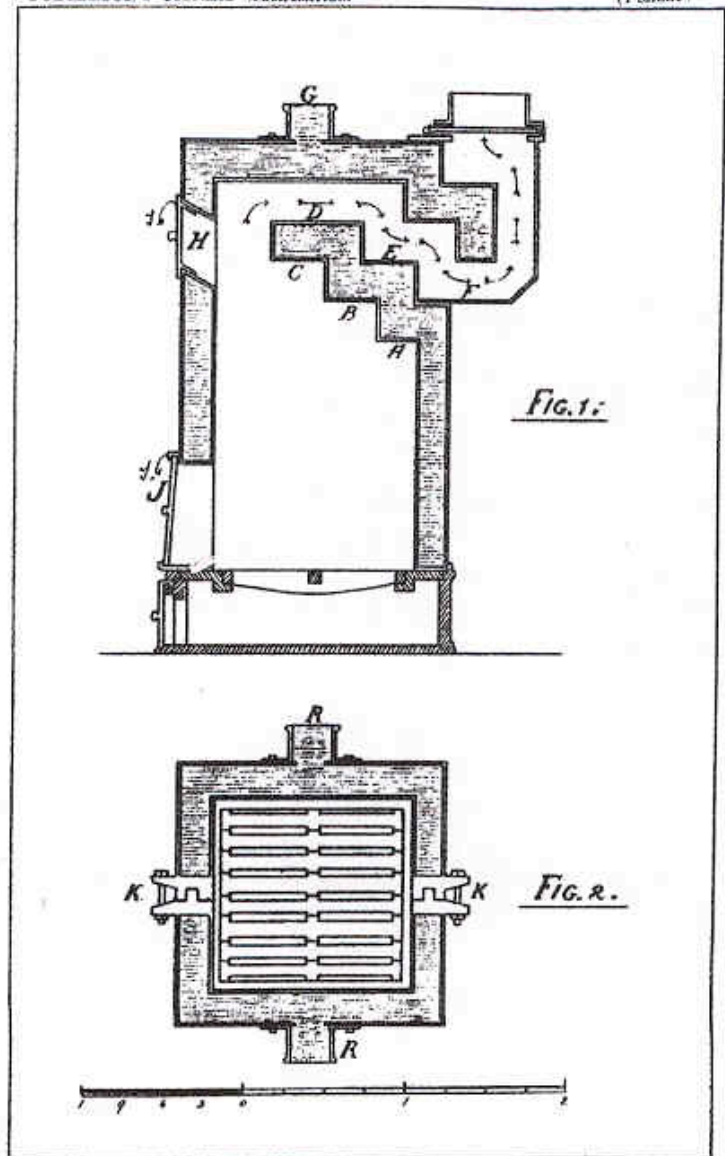
LARGE BUILDINGS

BUFFALO, N.Y.



Patents

A useful source of drawings and details of construction of building engineering services equipment and systems is the UK Patent Office (which holds details of early British Patents). Similarly, records of the United States Patent Office may be consulted.



[This Drawing is a reproduction of the Original on a reduced scale.]

N^o 5182



A.D. 1894

Date of Application, 13th Mar., 1894—Accepted, 30th June, 1894

COMPLETE SPECIFICATION.

An Improvement in Boilers for Heating Greenhouses and other Structures.

I, THOMAS POTTERTON, of "Norman Hurst," 122 Cavendish Road, Balham in the County of Surrey, Hot Water Engineer, do hereby declare the nature of this invention and in what manner the same is to be performed, to be particularly described and ascertained in and by the following statement:—

- 5 Usually the flue from an independent hot water boiler passes away at the top, there being a clear way to same directly over the fire, by which much of the heat is conducted away and wasted. My invention relates to a boiler by which I avoid this waste of heat, as I shall describe in accompanying drawings.

10 Fig. 1 is a vertical section, and Fig. 2 is a sectional plan of a boiler according to my invention.

I make the boiler in two sections, right and left hand, which are bolted together K K, each part having zig-zag projections A. B. C. over fire. The top part of each section is made parallel to the part over the fire, thus forming a zig-zag flue D. E. F.

- 15 A feed hole H, and clinker door J are provided in front. A flow pipe G from top of each section, and return pipe R from side of each section, provide for water circulation. These two parts are made so that these pipes may have the same or independent circulation.

20 Having now particularly described and ascertained the nature of my said invention, and in what manner the same is to be performed, I declare that what I claim is:—

A boiler having zig-zag projections over fire, and constructed to a form a zig-zag flue, to act substantially and for the purpose set forth.

Dated this 13th day of March 1894.

25

THOMAS POTTERTON.

Further Reading

Some modern information sources

Billington, N S & Roberts, B M 1982 *Building Services Engineering: A Review of its Development*, Pergamon Press, Oxford (an illustrated history)

Donaldson, B & Nagengast, B 1994 *Heat & Cold: Mastering the Great Indoors*, American Society of Heating, Refrigerating and Air Conditioning Engineers, Atlanta, GA, USA (an illustrated history of heating, ventilating, refrigeration and air conditioning, published for their centenary)

Richardson, R & Thorne, R 1994 *The Builder Illustrations Index 1843-83*, Hutton & Rostron, Guildford (45 years of cross-references to articles in *The Builder*)

Roberts, B M 1997 *The Quest for Comfort*, privately published for the CIBSE Centenary (a selective pictorial history of all building engineering services)

Roberts, B M 2000 *The Comfort Makers*, American Society of Heating, Refrigerating and Air Conditioning Engineers, Atlanta, GA, USA (270 mini-biographies of pioneers of heating, ventilating, refrigeration and air conditioning)

Roberts, B M & Yunnice, P G 2001 *The Magic of Hot Water*, Andrews Waterheaters, Wednesbury (a pictorial history of domestic hot water services)

Thevenot, R 1979 *A History of Refrigeration Throughout the World*, International Institute of Refrigeration, Paris (detailed history, not illustrated)

Additional information is available on the website of the CIBSE Heritage Group at www.hevac-heritage.org



Ewart's Copper Ventilators, c.1900

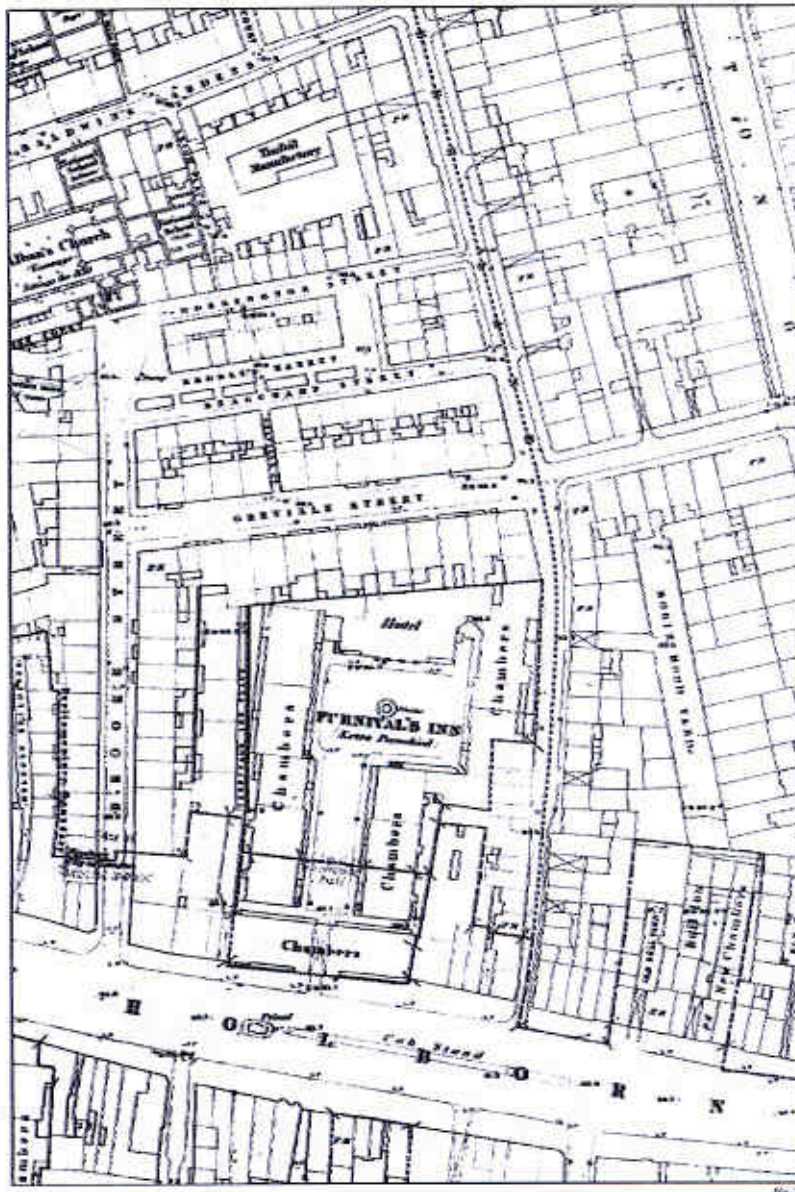
Cover Illustrations

Front *Heating & ventilation scheme, Birmingham Council House, 1875* [BLRC.45/2]

Inside front *Phipson sketch for service ducts Halifax Baths, 1891* [PC/18]

Inside back *Prudential, Holborn Bars site OS 1872* [London Borough of Camden, Local History Library]

Back *Extract from Phipson Operating Instructions for Empire Theatre, Leicester Square, 1890* [PC/49]



Prudential, Holborn Bars 1872

3.—In the Summer months the Fans to be worked from 3.0^o clock in the afternoon till the house closes. This will apply from June 1st to September 30th For the remaining months. Judgment is necessary, as the time of starting will much depend upon the External Temperature but as a rule, the Fans should be in full operation 1/2 an hour or an hour before the admission of the Public.
1

Extract from Phipson's Operating Instructions for the Empire Theatre, Leicester Square