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 (1885), 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.
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, Lighting & 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.


Many of the titles mentioned are no longer published.
First issue of the IHVE Proceedings, 1890. An index of Proc. IHVE and the IHVE Journal can be found in the 1971 IHVE Guide (Blue Book).

Right: Jan 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 inscription "Well, I'll be hanged."
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.
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:

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.

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.

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.

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 form a zig-zag flue, to act substantially and for the purpose set forth.

Dated this 13th day of March 1894.

THOMAS POTTERTON.
Further Reading
Some modern information sources


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)


Additional information is available on the website of the CIBSE Heritage Group at www.hevac-heritage.org
Prudential, Holborn Bars 1872
3. In the summer months the fans to be worked from 3.00 a.m. to 8.00 a.m. in the morning and to 8.00 p.m. in the afternoon till the house closes. This will apply from June 1st to Sept. 30th. For the remaining months, judgment is necessary, as to 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.