The Quest for COMFORT

A selective pictorial history of the early days of building services to mark the Centenary of the Chartered Institution of Building Services Engineers 1897-1997
23. Wagstaff’s Sectional Saddle Boiler, 1874.
J G Wagstaff Ltd. BSE: p135.

24. Haystack Steam Boiler, 18th century.
The Archaeology of the Industrial Revolution,
B Bracegirdle, 1974, p110.

(A M Perkins’ Improved Patent Apparatus for Warming
and Ventilating Buildings, 1840) HHW: p11.


27. Holcroft & Hoyle’s Steam Boiler, 1854. BSE: p130.


31. Advertisement: Steam Traps & Calorifiers, 1894. It is said the word calorifier was originated by Royles. John J Royle, Manchester. HHWp. ix.
it has been shown how engineering knowledge and skill have triumphed over superstition and ignorance in explaining and preventing lethal boiler explosions such as those of the last century. JHVE, 33, November 1965, p13.

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33. The Disastrous Effects of a Boiler Explosion, c1890. In Great Britain, between 1882 and 1893, there were 660 boiler explosions, resulting in 313 deaths. Heating and Ventilating Buildings, R C Carpenter, 1910, p205.

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IMPROVED PATENT SEVERN BOILER

Most Compact, Powerful, & Economical Independent Boiler.

Suitable for all descriptions of HEATING.

Testimonials, Sizes and Prices on application.

SECTION. ELEVATION.

MATHER & KITCHEN, DERBY.

(Their) recollection of central heating is mainly based on a night they spent in a hotel in Worthing for Ada's wedding in November 1902. They occupied the royal suite, which contained the hotel's only radiator. This radiator, of Persian design, was the sort of thing over which savages would have built a temple. It hissed and gurgled and spat—at noon it boiled—at night it froze solid, and housemaids approached it on tiptoe with nervous giggles.


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**N° 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.

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.

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.

THOMAS POTTERTON.

London: Printed for Her Majesty’s Stationery Office, by Darling & Son, Ltd. —1894

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The Quest for Comfort

It must have been well understood in early days, that the greater the heating surface, the greater the amount of heat transferred, but it was George Stephenson, in his Rocket locomotive of 1825, who provided smoke tubes and produced not only the locomotive boiler, but also founded the conception of multitubular boilers. Boilers for Space Heating, H M Simpson & D C Gann, JIHE, 33, November 1965.


HARLEY & SUGDEN'S
IMPROVED WROUGHT WELDED SADDLE BOILER
TO WHICH THE
GOLD MEDAL
ROYAL HORTICULTURAL SOCIETY'S SHOW
WAS AWARDED AT THE
AT BIRMINGHAM, JUNE, 1872

"GOLD MEDAL BOILER"
REGISTERED TITLE

ELEVATION, IN BRICKWORK.

CROSS SECTION.

LONGITUDINAL SECTION.

ELEVATION, WITHOUT BRICKWORK.

A Ashes Pit
B Fire
C Centre Flue
D Right & Left Return Flues
E Water-way Terminal End
F Sliding Soot Door for Cleansing Flues, with Fire Brick Casing
G Sludge Plugs for cleansing internal part of Boiler
H Regulating Flues
I Hollow Space round Boiler utilizing Heat given off from external surface of Boiler

ENTERED AT STATIONERS' HALL.