W & J Galloway & Sons

THE GALLOWAY BOILER
No. 7574 1889
In 1835*, the brothers William Galloway (born 1796) and John Galloway (born 1804) having served an apprenticeship with Galloway, Bowman & Glasgow, a partnership involving their father William Galloway (1768-1836), they set up in business on their own account. They operated from Knott Mill Ironworks in Manchester and in 1846 were trading as ironfounders and manufacturers of Patent Screw or Lifting Jacks.

(*Some reports give the set up date as 1836).

In 1848, the brothers obtained a British Patent for “improvements in steam engines and boilers.” Hence the “Galloway Boiler” was born. The Lancashire boiler, which formed the basis on which the Galloways developed their 1851 design, had been patented by Sir William Fairbairn and John Hetherington in 1844. But in 1854 Galloway sent a warning letter to Fairbairn claiming he had infringed their patents. They did something similar to James Lillie (a former business partner of Fairbairn) in 1845, claiming he had infringed upon a boiler-related design of theirs. These claims seem to have been unproven.

By 1851 Galloway was employing 260 men and producing gunpowder mills, steam engines and undertaking various civil engineering projects. John Galloway took a particular interest in boilers and ways to improve their efficiency. An important patent for the Galloway boiler was BP 13532: 1851. The Company had been making boilers of this type since 1849 and one was exhibited in 1851 at the Crystal Palace Great Exhibition, before being purchased by the West Ham Gutta Percha Company. Galloway went on to build some 9,000 boilers of this type by 1891, as well as licensing the design for manufacture by other parties. (The design of the Galloway boiler seems to have been aided by the engineer, Robert Armstrong, who in 1850 wrote the textbook “Boiler Engineering.”)
SIR WILLIAM FAIRBAIRN & JOHN HETHERINGTON

Sir William Fairbairn, 1789-1874

Advertisement of 1853

This engraving of part of the interior of the famous works of William Fairbairn & Son, of Manchester, shows a steam-engine beam and cylinders, Lancashire boilers, and other products, with cranes for moving them and steam-powered machines on the right for punching holes in boiler plates.

Manufacturing Lancashire boilers at Wm Fairbairn & Son, Manchester
W & J GALLOWAY & SONS

In 1856 the firm became W & J Galloway & Sons when John Galloway Jr (son of William, born 1826) and Charles John (son of John, born 1833) were taken into partnership, having served a seven year apprenticeship. From 1855, the Company also worked closely with Henry Bessemer and developed their interests in the steel industry.

As the business grew, additional premises were obtained in 1872 on Hyde Road, Manchester, near Ardwick Railway Station, leaving the Knott Mill factory to concentrate on building engines.

Charles John Galloway had a particular interests in exhibitions and the firm displayed two 40 hp Galloway boilers at the 1873 Vienna Universal Exhibition, and won awards at the 1876 Philadelphia Exhibition and the 1878 Paris Exhibition.

GALLOWAYS LTD

The partnership was converted into a private company, Galloways Ltd, in 1889. When John Galloway Senior died in 1894, the Company had 500 employees at the Knott Hill site and a further 800 at Ardwick. At this time the Company had extensive manufacturing and engineering interests apart from boilers.

John Galloway Junior died in 1896 and in 1899 the business became a public limited company. Charles John Galloway died in 1904 when the Galloway boiler design was still being improved. A superheater had been added in 1902 and another design was introduced in 1910. However, the Company was placed in receivership in 1912 but continued after restructuring in 1925, before again going into receivership in 1932. In 1933, Hick Hargreaves & Co purchased the complete records, drawings and patterns of the defunct W & J Galloway Ltd.
HICK HARGREAVES & COMPANY

A Hick Hargreaves Lancashire boiler
PICTURE GALLERY

1852

1856
To Increase the Power and to strengthen the flues of Cornish or Lancashire Boilers, use Galloway’s Patent Taper Tubes.

The “Galloway” Conical Tubes possess the following advantages over parallel pipes. The globules of steam rise perpendicular from the sides of the tubes as soon as formed, thus bringing the water into immediate contact with the plate.

The heating surface is overhanging. There is more room at top to allow free escape of the steam without priming; and they can be inserted or renewed without patching the flue.

100,000 horse power of boilers are now working containing the “GALLOWAY” CONICAL TUBES.
GALLOWAY'S
PATENT CONICAL BOILER TUBES.

These tubes are made with such an amount of copper as will allow the bottom flanges to pass through the holes in the upper side of the boiler, which renders their introduction into ordinary fixed boilers a simple operation, and with the following advantages:
- The power of the boiler is considerably increased, and the tubes are materially strengthened.
- The circulation of the water is much improved, and unequal expansion, with its attendant evils, prevented.
- Liability to PRIME is lessened.

These tubes have now been in use upwards of eighteen years, and above 80,000 are in work in various parts of the country, with the best results. They can be fixed by any boiler maker, but can only be obtained from the Patentee.

W. & J. GALLOWAY & SONS,
ENGINEERS AND BOILER-MAKERS,
MANCHESTER.
Makers of Wrought-Iron Welded Furnaces, &c.

MANUFACTURERS OF THE WELL-KNOWN
"GALLOWAY BOILER."
(AS PER SKETCH ANNEXED).
UPWARDS OF TWO THOUSAND OF WHICH ARE NOW AT WORK.
Boilers of any dimensions, upon this or any other plan, can be delivered within a few days from receipt of order.

STEAM ENGINES
SPECIALIY ADAPTED FOR ROLLING MILLS, &c. &c.
Polishing, Grinding, and other M achines for Plate Glass.
LEAD ROLLING MILLS AND PIPE PRESSES.—BESSEMER MACHINERY.

GALLOWAYS LIMITED.
50 or 60
BOILERS
ALWAYS ON STOCK
READY FOR DELIVERY

TELEGRAPHIC ADDRESS:
"Galloway, Manchester."
GALLOWAY'S
PATENT CONICAL WATER TUBES FOR STEAM BOILERS.

The above Tubes are made with such an amount of taper as will allow the bottom flange to pass through the hole in the upper side of the Boiler flue, which renders their introduction into ordinary fixed boilers a simple operation, and with the following advantages:

- The power of the boiler is considerably increased, and the flue is materially strengthened.
- The circulation of the water is much improved, and unequal expansion, with its attendant evils, prevented.
- Liability to fatigue is lessened.

These tubes have now been in use upwards of 14 years, and above 22,000 are in use in various parts of the country with the best results.

They can be fixed by any boilermaker, but can only be obtained from the Patents,

W. & J. GALLOWAY & SONS, ENGINEERS AND BOILER MAKERS, MANCHESTER.

Section of “Galloway” boiler, showing arrangement of back flues; the furnace being of the same construction as in the common two-flue boiler.

RIGBY'S PATENT CIRCULAR FIRE BARS, Which are strongly recommended as being both economical and effective.

Forge and furnace boilers, whether vertical or horizontal, are specially benefitted by the use of these tubes, as the heat being so intense, a thorough circulation of water is absolutely necessary to prevent leakage and priming.

1866
COAL ECONOMY

Instal the

SUPERMISER

LEEK'S PATENTS

The Modern Fuel Economiser

GIVING

Greatly Increased Efficiency. 82% Guaranteed.

Increased Steaming Capacity.

Supplies both high temperature Feed Water and Pre-heated Air.

Complete control over combustion conditions, reducing smoke and grit troubles.

Self-cleaning, requiring no scrapers or wasteful soot blowers.

Ready accessibility for examination.

Maintenance costs negligible.

Full particulars on request.

GALLOWAYS

LIMITED

MANCHESTER.
THE "GALLOWAY" BOILER

HAS PROVIDED THE WHOLE OF THE STEAM REQUIRED

In the English Sections of the following Exhibitions

<table>
<thead>
<tr>
<th>City</th>
<th>Year</th>
<th>Boilers</th>
</tr>
</thead>
<tbody>
<tr>
<td>VIENNA</td>
<td>1873</td>
<td>2</td>
</tr>
<tr>
<td>PHILADELPHIA</td>
<td>1876</td>
<td>3</td>
</tr>
<tr>
<td>PARIS</td>
<td>1878</td>
<td>3</td>
</tr>
<tr>
<td>HEALTH</td>
<td>1884</td>
<td>2</td>
</tr>
<tr>
<td>INVENTIONS</td>
<td>1885</td>
<td>7</td>
</tr>
<tr>
<td>COLONIAL</td>
<td>1886</td>
<td>4</td>
</tr>
<tr>
<td>LIVERPOOL</td>
<td>1886</td>
<td>3</td>
</tr>
</tbody>
</table>

In every case receiving the HIGHEST AWARD, and at

MANCHESTER - 1887 - - 10 BOILERS,

Each 30 ft. x 8 ft., working at 100 lb. pressure, provided all the steam required.

50 NEW STEEL GALLOWAY and TWO-FLUED BOILERS

Of all Sizes and Strengths generally READY FOR IMMEDIATE DELIVERY.

GALLOWAY & SONS,
MANCHESTER.

Date unknown, possibly 1890s
Galloways Limited, Manchester,

Have about 50 Boilers Ready for Delivery.

Telegram Address: "GALLOWAY, MANCHESTER."

1891
REFERENCES & RECORDS OF GALLOWAY

1856 The Modern Practice of Boiler Engineering, Robert Armstrong, E & F N Spon, London

1894 Boilers, Engines and Machinery, Galloway Catalogue

1905 Boilers and Engines, Galloway Catalogue


---- W & J Galloway and Sons, British Industrial History, Grace’s Guide

---- W & J Galloway & Sons, Wikipedia


---- W & J Galloway & Sons

---- The Galloways, www.themeister.co.uk/hindley/galloways.htm


---- United States Patent Office

---- W & J Galloway Letter Books: The John Rylands Library, Deansgate, Manchester: Collection Reference gb 133 Eng MS 1504 (two volumes)

Websites with photographs and information on Galloway Boilers

Papplewick Pumping Station, Coldharbour Woollen Mill, Coleham Pumping Station, Victoria Baths in Manchester, Ryhope Pumping Station, Pinchbeck Marsh Pumping Station, Crofton Pumping Station