John Henry Mills

John Henry Mills has been described as a mechanical genius, who was in turn, craftsman, inventor, heating contractor, scientific investigator and engineering consultant. He patented a cast metal sectional boiler in 1867. Improved designs followed, to be manufactured by the Walworth Company and then by George W Walker & Co. However, from 1873 his boilers were manufactured exclusively by the H B Smith Co. His early boilers were steam type: later he concentrated on hot water design. Mills is considered most of the most widely renowned engineers in the USA in the last quarter of the 19th century.
John Henry Mills, 1834-1908

Known as the **Father of the Mill’s Boiler**, a brilliant inventor and self-educated engineer worked as a freelance designer in a varied relationship with the H B Smith Company over the years from 1873 to 1897.

Mills Cast-Iron Sectional Heating Boiler with Top Steam Drum

*Baldwin on Heating, 1897*

*[From Heritage Group electronic book “A Parcel of Boilers]*
John Henry Mills (1834-1908)

The practical application of steam heating was greatly advanced by the work of John Henry Mills, a "mechanical genius, who was in turn craftsman, inventor, heating contractor, scientific investigator, and engineering consultant." He became one of the most widely renowned engineers in the United States during the last quarter of the nineteenth century.42

Following Brayton's lead, John H. Mills in 1867, patented his first cast-metal sectional boiler. This one was designed for use with an engine but others, for heating, appeared in the years between 1869 and 1874. A Walworth catalog of 1892 makes the statement: "It was at our factory in Cambridgeport, Massachusetts, in 1870 that the first Mills Sectional Boilers were made and a little later his direct and indirect radiators." Mills himself regarded his third boiler as his "first practicable boiler," the manufacture of which, he says, was begun by George W. Walker & Co. at Watertown, Massachusetts, in the foundry of Miles Pratt & Co.

The first reference to a Mills Product which appears in the records of the H.B. Smith & Co. is under date of 28 August 1871, when 300 pounds of Mills boiler grates at 7 cents a pound were ordered by the Union Steam and Water Heating Company of New York through the Westfield firm. Eighteen months later (1 March 1873), the Smith Company was in complete control of Mills boiler manufacture.43

"In spite of his success with steam, Mills soon turned to water as a superior heating agent. As early as 1877, he had observed its increasing popularity and admitted that it was more silent and steady than steam and more economical of fuel. His extensive work with water began in the mid-eighties."44 Mills worked on water-heating systems for a number of notable projects, such as the Pierce Building (1887) in Boston and substituting a hot water system for the existing air system in Trinity Church (1888), also in Boston.

In 1877, John Mills wrote a small treatise on Heating by Steam, and between 1888 and 1890, he wrote his two-volume book Heat, Science and Philosophy of its Production and Application to the Warming and Ventilation of Buildings, which
was published in 1890. “The book is a curious mixture of science, history, and current practice, but is a mine of miscellaneous technical information, with elaborate diagrams and charts.”

This two-volume opus was an important resource for boiler and steam heating engineers for years to come.

There is a story, still current at the Westfield foundry, that at some time in 1905 or 1906, John Mills drifted into town shabbily dressed and practically penniless. J.R. Reed, shaking his head sadly but with a characteristic twinkle in his eye, remarked: “John Mills, I always warned you of this. Didn’t I say that if you kept on at the rate you were going you would surely scratch a poor man’s pants?” Then, putting a check in the old man’s hand, he added, “You are not going to give this money away or use it for any more experimenting. It is to take care of John H. Mills.” This was the last time that Mills was seen in Westfield. The check was for $5,000.

H B Smith Co

Founded in April 1854 from the original foundry and stove works in Westfield, Massachusetts, purchased by Henry Smith in 1853. The firm manufactured the boilers developed by Stephen J Gold, and later by his son Stephen, principally the “Gold” boiler, adapted from the earlier designs of George B Brayton of Providence, Rhode Island.
Henry B Smith, 1817-1900
Company Founder

Edwin Smith, 1819-1886
Brother of Henry and Co-Founder