

F. SCHMITT.
FASTENING FLUES IN STEAM BOILERS.
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953,062.

Patented Mar. 29, 1910.

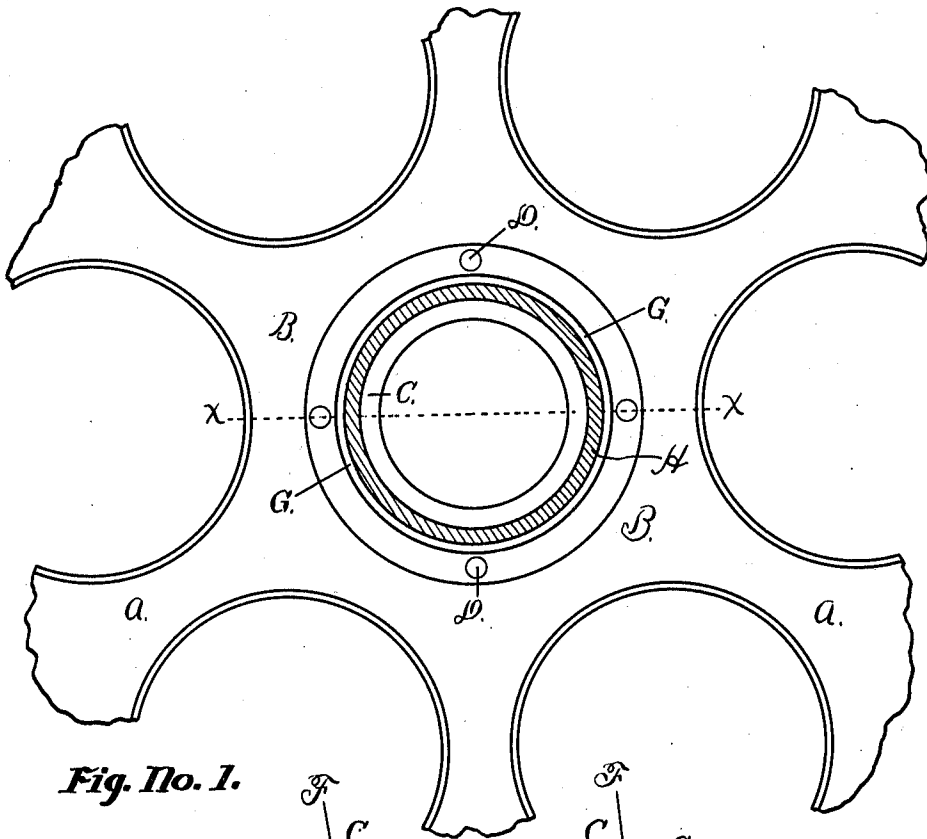


Fig. No. 1.

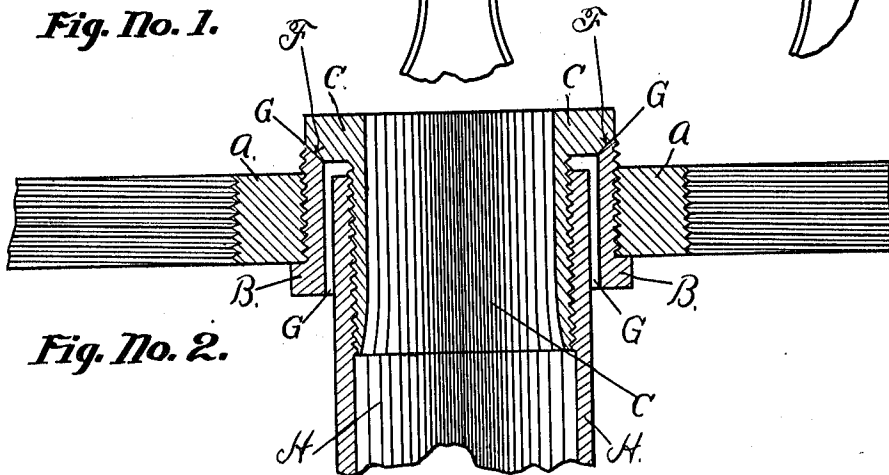


Fig. No. 2.

Witnesses
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UNITED STATES PATENT OFFICE

FREDRICK SCHMITT, OF SALT LAKE CITY, UTAH.

FASTENING FLUES IN STEAM-BOILERS.

953,062.

Specification of Letters Patent.

Patented Mar. 29, 1910.

Application filed December 15, 1908. Serial No. 467,699.

To all whom it may concern:

Be it known that I, FREDRICK SCHMITT, a citizen of the United States, residing at Salt Lake City, in the county of Salt Lake and State of Utah, have invented certain new and useful Improvements in Fastening Flues in Steam-Boilers, of which the following is a specification.

The object of my invention is to provide a device for securing the flues in a steam boiler, so that they may be easily and quickly put into said boiler, and when desired for purposes of repairs, may be as easily and quickly removed. Also to so secure the flues in a steam boiler that they will not leak and will not so easily burn out as they do now in the present manner of putting them in. This I do by the invention illustrated in the accompanying drawings in which the letters of reference indicate like parts throughout the several views.

Figure 1, is an end elevation of a part of the sheet of a boiler, from an inside view, with my device shown in one hole. Fig. 2 is a section on line *x, x*, of Fig. 1.

In the accompanying drawings the flue sheet of a boiler is indicated by A and shows a part of the sheet with the flue holes threaded with a left hand thread. Inserted in the flue holes are the flue sheet bushings B, threaded with threads of left hand turn that mesh with the threads of the flue sheet. The flue H, has each end internally threaded with right hand threads, and a safe-end C, is provided with threads on the outer side that mesh with the threads within the end of the flues. The flue sheet bushings B, are provided with wrench holes D, within which holes are inserted the ends of the wrench for the purpose of inserting and removing the bushings from the flue sheet. The safe-ends C, are similarly provided with holes for the same purpose. Having inserted the flue sheet bushings B, in each of the flue holes, the flues are then inserted within the boiler, one end having been fitted with the safe-end C. The other safe-end C, is then inserted and tightened up. All of the flues are placed in the boiler in the same manner.

The form of the flue sheet bushings B, provides for a bearing that is also provided on the safe-ends C. Where these bearings meet is indicated in the drawings as a joint F, and when the safe-ends are tightly turned in, the joint is perfect.

The flue sheet bushings B, are made with left hand threads so that when the safe-ends C, are turned up, the right hand threads of the safe-ends C, will not loosen the flue sheet bushings, the tendency will be to tighten and make the joints F, more perfect. The flue sheet bushings B, are made slightly larger than the flues H, and they extend somewhat beyond the end of the flues. This insures an opening or water jacket (marked G on the drawings) that prevents the burning out of the flues where they are connected with the flue sheet A, of the boiler, also allows the tightening of the safe-ends and joints F. This device enables the machinist to easily and rapidly take the flues out of a boiler, and remove any scale or sediment that may have formed on them, or repair any slight defects much more rapidly and economically than has previously been possible.

Having thus described my invention, I desire to secure by Letters Patent—

In combination, a boiler flue having an internal thread of a certain character, a flue sheet having a hole with a thread of a different character from that of the flue, a flue sheet bushing screwed into said hole, said bushing having its outer end beveled, a space being formed between the flue and the bushing, and a safe-end screwed into said threaded end of the flue and having a flange spaced from the end of the flue and abutting against the said beveled bushing end, the latter space communicating with the aforesaid space, for the purpose set forth.

In testimony whereof I have affixed my signature in presence of two witnesses.

FREDRICK SCHMITT.

Witnesses:

GEO. KEENAN,
J. C. BOWRING.