

J. LEE.

Fire-Box Attachments to Steam-Boilers.

No. 158,425.

Patented Jan. 5, 1875.

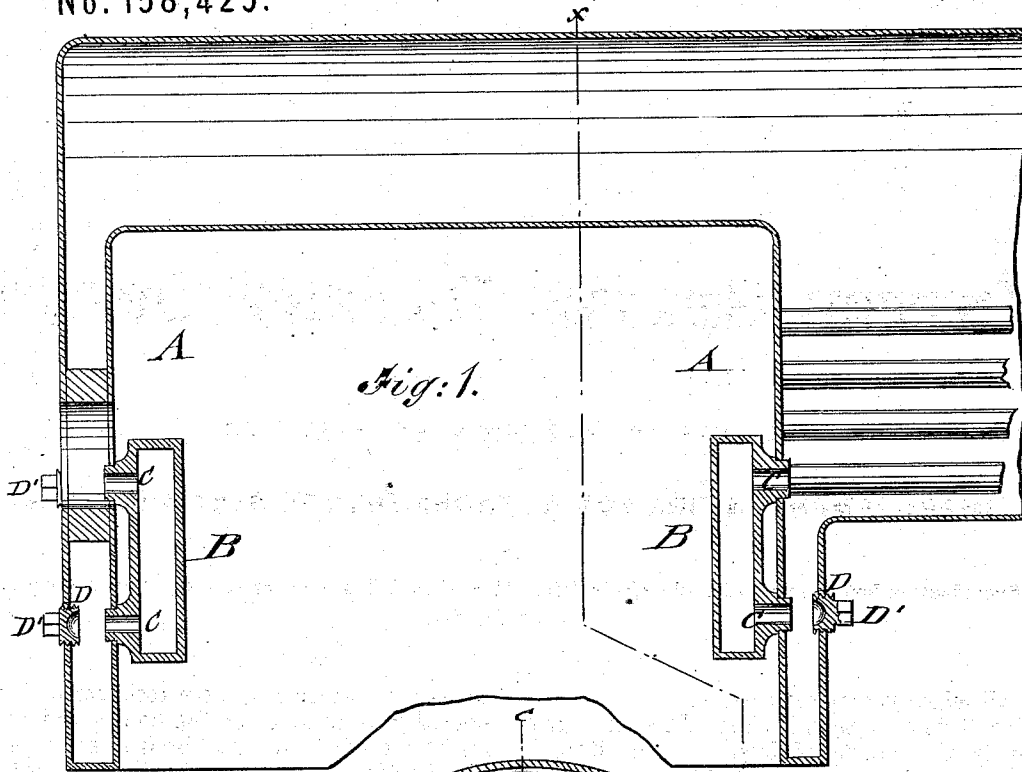
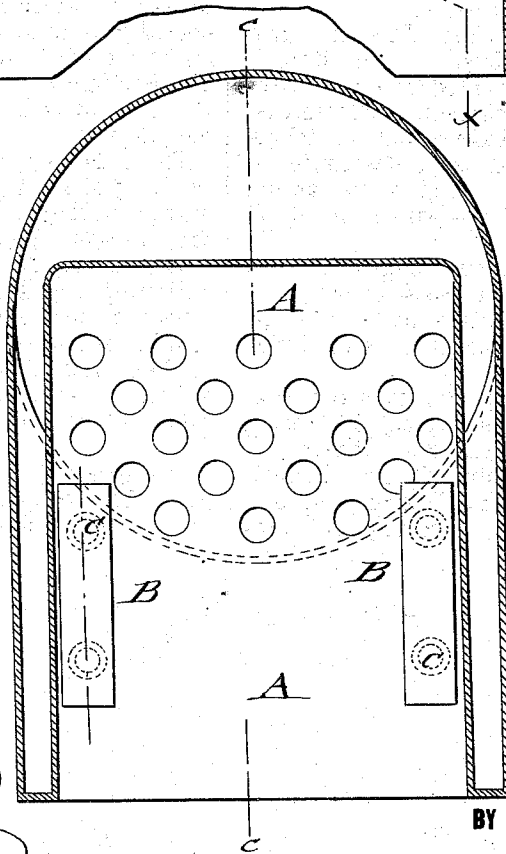


Fig. 2.



WITNESSES:

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UNITED STATES PATENT OFFICE.

JOHN LEE, OF HAZLETON, PENNSYLVANIA.

IMPROVEMENT IN FIRE-BOX ATTACHMENTS TO STEAM-BOILERS.

Specification forming part of Letters Patent No. **158,425**, dated January 5, 1875; application filed October 17, 1874.

To all whom it may concern:

Be it known that I, JOHN LEE, of Hazleton, in the county of Luzerne and State of Pennsylvania, have invented a new and Improved Fire-Box Attachment to Steam-Boilers; and I do hereby declare that the following is a full, clear, and exact description of the same, reference being had to the accompanying drawing forming a part of this specification, in which—

Figure 1 of the drawing is a longitudinal section, and Fig. 2 a vertical cross-section.

The drawing represents a boiler with (although it may be without) a water-jacket around the fire-box A.

My object is to protect the rivet-joint from the direct flame or impingement of heat, so as to avoid the weakening and ultimate impairment of the seam-joint without diminishing the fire-surface. This I accomplish by a seamless hollow casting, B, having projecting

tubes C C, which may be forced through and held tightly in holes of the boiler, while they may be readily removed by driving a punch or other device passed through the outer holes D. The latter may be stopped by detachable plugs D'.

These hollow castings are cheaply made, easily applied to any boiler, and quickly removed, affording an effectual protection to the rivet-joint, and not at all lessening the ordinary fire-surface.

Having thus described my invention, what I claim as new, and desire to secure by Letters Patent, is—

The combination, with boiler and fire-box, of a hollow casting, B, having the projecting tubes C C, as and for the purpose specified.

JOHN LEE.

Witnesses:

THOMAS JEFFERSON WILLIAMS,
JOSEPH KINYON.