

(No Model.)

F. X. FISCHER.
BOILER ATTACHMENT.

No. 508,007.

Patented Nov. 7, 1893.

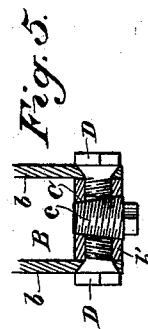
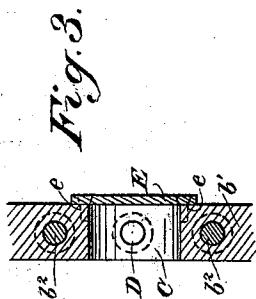
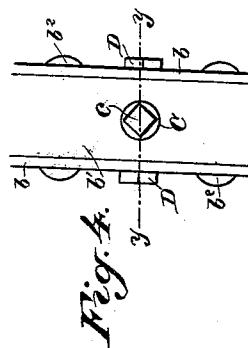
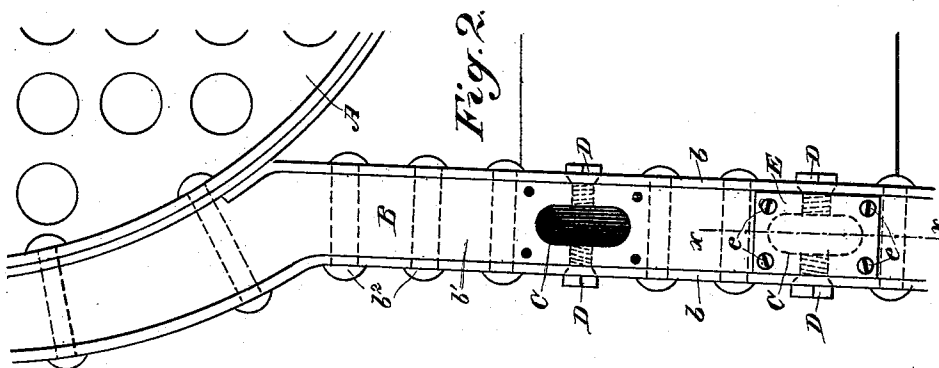
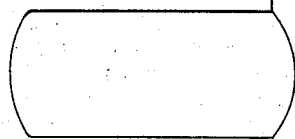


Fig. 1.



Witnesses,
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UNITED STATES PATENT OFFICE.

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BOILER ATTACHMENT.

SPECIFICATION forming part of Letters Patent No. 508,007, dated November 7, 1893.

Application filed March 24, 1893. Serial No. 467,497. (No model.)

To all whom it may concern:

Be it known that I, FRANK X. FISCHER, a citizen of the United States, residing at Oakland, Alameda county, State of California, have invented an Improvement in Boiler Attachments; and I hereby declare the following to be a full, clear, and exact description of the same.

My invention relates to that class of boilers in which the boiler is supported by vertical water legs on each side and it consists in a novel construction of the hand holes in the water legs as will be hereinafter fully described and claimed.

The objects of these improvements will appear in the course of the following description.

Referring to the accompanying drawings for a more complete explanation of my invention,—Figure 1 is a longitudinal vertical section of the fire and combustion chamber and part section and part elevation of the boiler. Fig. 2 is an elevation of the water leg, showing two hand holes, one of which is covered and the other uncovered. Fig. 3 is a vertical section through one of the hand holes. Fig. 4 is an elevation, and Fig. 5 is a section showing the hand hole closed by an ordinary plug instead of by a plate.

A is a multitubular boiler, supported upon each side by the water legs B. Each of these legs consists of two separated sheets *b*, which at their ends overlap an intervening bar *b'*, to which they are secured very strongly by the rivets *b''*, passing through the sheets and intervening bar. This bar forms the end wall of the water leg, and it has been customary to make the hand holes in it. The construction hereto employed was to cut the bar completely from side to side, to form the hole, and to secure to each side thereof, to hold the severed ends together, bearing plates, which also received the side bearings of the covering plates of the hand holes. Great difficulty has been experienced in forming a tight joint by this construction, and it has been impossible to provide a sufficient number of hand holes for each water leg. The object of my improvement is to avoid these difficulties by providing a construction of hand hole which will make a tight joint and which will enable me to provide as many of them as may be required to keep the water legs thoroughly clean.

In my present construction I cut in the end bar *b'* of the water leg a hole C, preferably of an oblong shape as shown, and it lies entirely within the width of the bar. This hole is cut in the bar where a rivet would ordinarily be, but which rivet is now omitted, thus enabling me to make a hand hole between every second rivet if I so desire. The omission of the rivets, where the holes are formed, is supplied by the side screws D which I enter from the sheets on each side, and allow them to pass into the end bar up to the wall of the hole. Thus the sheets are held to the bar at as many points as before, and all the desired strength any tightness are obtained. The hole may be closed by a plug *c* as in Figs. 4 and 6 but preferably by a cover.

E is a plate forming the cover for the hand hole, and this is secured firmly to the face of the end bar over the hole by means of screws *e* tapped into said bar.

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

1. In a boiler, a water leg composed of separated sheets and an end bar riveted between said sheets, said bar having made through it at points between the rivets, hand holes, and side screws passing through the sheets into the bar opposite the sides of the holes, substantially as herein described.

2. In a boiler, a water leg composed of separated sheets and an end bar riveted between said sheets, said bar having made through it at points between the rivets, hand holes, and cover plates secured directly to the face of the bar over each hand hole, substantially as herein described.

3. In a boiler, a water leg composed of separated sheets and an end bar riveted between said sheets, said bar having made through it at points between the rivets, hand holes, side screws passing through the sheets into the bar opposite the sides of the hand holes, and cover plates secured to the face of the bar, over the holes, substantially as herein described.

In witness whereof I have hereunto set my hand.

FRANK X. FISCHER.

Witnesses:

S. H. NOURSE,
J. A. BAYLESS.