

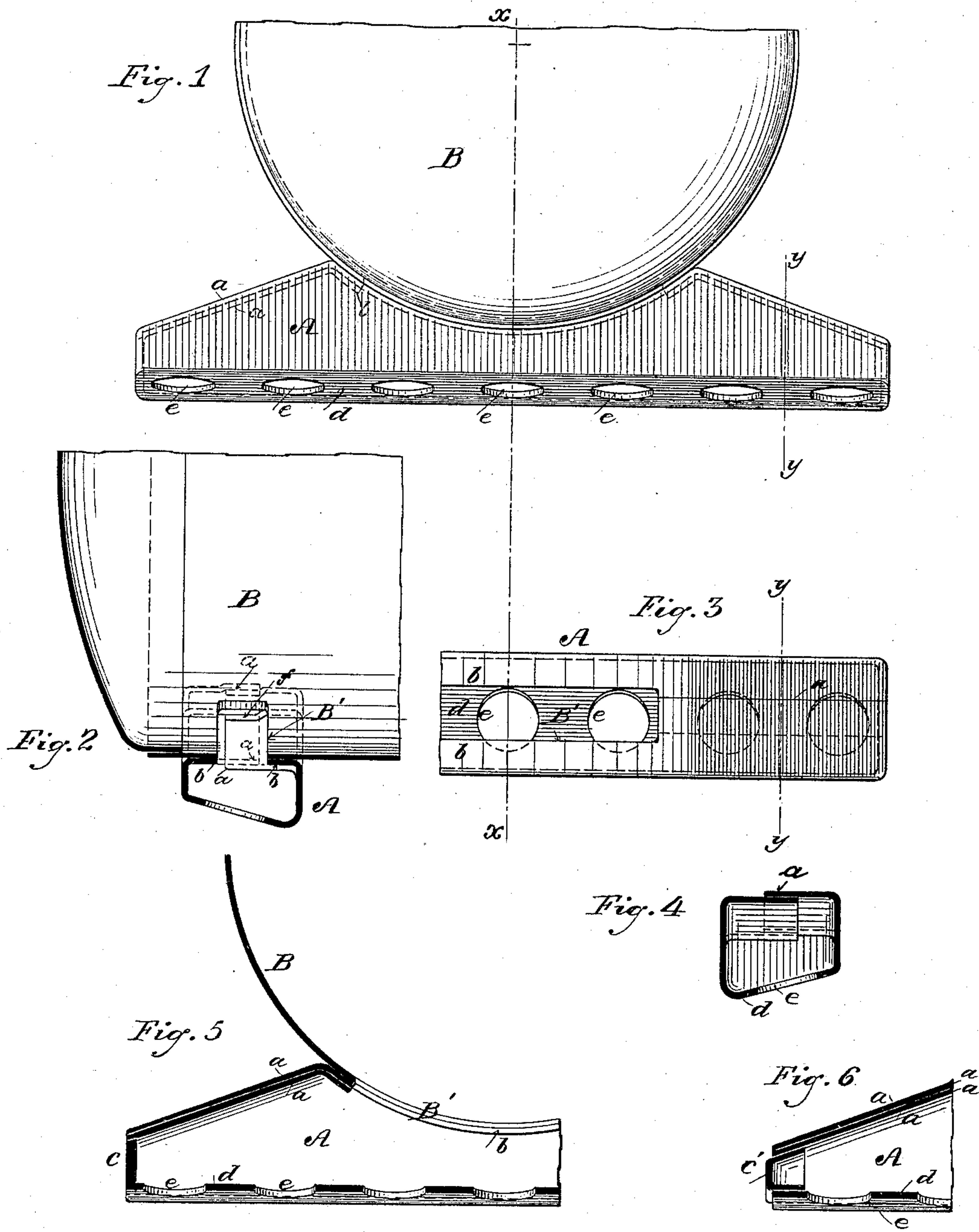
(No Model.)

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CONNECTING BOX FOR SECTIONAL STEAM BOILERS.

No. 368,616.

Patented Aug. 23, 1887.



WITNESSES.

Aug. 23, 1887  
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# UNITED STATES PATENT OFFICE.

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## CONNECTING-BOX FOR SECTIONAL STEAM-BOILERS.

SPECIFICATION forming part of Letters Patent No. 368,616, dated August 23, 1887.

Application filed March 3, 1887. Serial No. 229,579. (No model.)

*To all whom it may concern:*

Be it known that I, NAT. W. PRATT, a citizen of the United States, residing at Brooklyn, county of Kings, and State of New York, have  
5 invented certain new and useful Improvements in Connecting-Boxes for Sectional Steam-Boilers, of which the following is a specification.

This invention relates to the construction of  
10 manifolds or boxes for use in making a connection between a drum and a series of water-tubes of sectional water-tube steam-boilers; and the said invention consists in applying certain novel features of construction to the  
15 said connecting-boxes for the purpose of producing them from wrought metal.

In order to enable others skilled in the art to which my invention appertains to understand and use the same, I will proceed to describe the features of its construction, having  
20 reference to the accompanying drawings, and subsequently point out in the appended claims its novel characteristics.

Figure 1 is an end elevation of a portion of  
25 a drum, and connecting-box in position thereon; Fig. 2, a vertical section of the same on the line  $x x$ , Fig. 1; Fig. 3, a plan view of a portion of said box disconnected from the drum; Fig. 4, a cross-section of the same,  
30 taken on the line  $y y$ , Fig. 1, and viewed in an opposite direction from Fig. 2; Fig. 5, a vertical longitudinal section of the connecting-box and a portion of the drum, the plane of said section being transverse to the drum; and  
35 Fig. 6, a detached sectional view corresponding with Fig. 5, showing a modified detail of construction.

The feature of the present invention is that of forming the connecting-box A substantially  
40 from a single piece by wrapping a plate of metal into a box form, with the overlapping edges  $a$  welded or riveted together at the top. The central portion of the box so formed is depressed on its upper side in a saddle form  
45 to fit the cylindrical side of the drum B. The depressed portion has an oblong opening, which matches the corresponding opening, B', of the drum, and for the purpose of being riveted or welded thereon the margins  $b$  of the  
50 depressed portion constitute a flange. The

parts of the flange at the ends of the opening where the box-seam overlaps are made to present a flush exterior surface by the proper welding of the overlapping edges in the manner shown at  $f$ , Fig. 2. The top of the box is  
55 by preference inclined so as to converge and reduce its cross-section toward the ends as viewed in front elevation.

The ends of the connecting-box or manifold are closed, preferably, by separate blocks  $c$   
60 or cup-shaped flanged heads  $c'$ , Fig. 6, welded or riveted therein.

For the purpose of entering the water-tubes at an incline to the drum, the lower side,  $d$ , of the manifold is inclined, as shown, presenting  
65 a trapezoidal cross-section at all points throughout its length, the said inclined side  $d$  being provided with a series of perforations,  $e$ , into which the ends of connecting-tubes are expanded. The side  $d$  may either be inclined  
70 with relation to the axis of the drum or parallel therewith.

What I claim as my invention, and desire to secure by Letters Patent, is—

1. A wrought-metal connecting-box for a  
75 water-tube boiler, made substantially of one piece of metal wrapped into form and its edges riveted or welded together, the ends being closed by blocks or cups welded or riveted therein, substantially as specified. 80

2. A wrought-metal connecting-box for a water-tube boiler in saddle form with inclined ends, with a welded or riveted seam at the top and the ends closed by small plugs or cups welded or riveted therein, substantially  
85 as specified.

3. A wrought-metal connecting-box for a water-tube boiler, composed substantially of a single sheet of metal wrapped to overlap at the ends and form an internal flange around  
90 a central opening, by which it may be secured to a drum, substantially as specified.

4. A wrought-metal connecting-box for a water-tube boiler, having the sides and bottom of one piece and with a trapezoidal cross-section, substantially as specified. 95

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Witnesses:

CHAS. W. FORBES,  
AUG. CREVELING.