

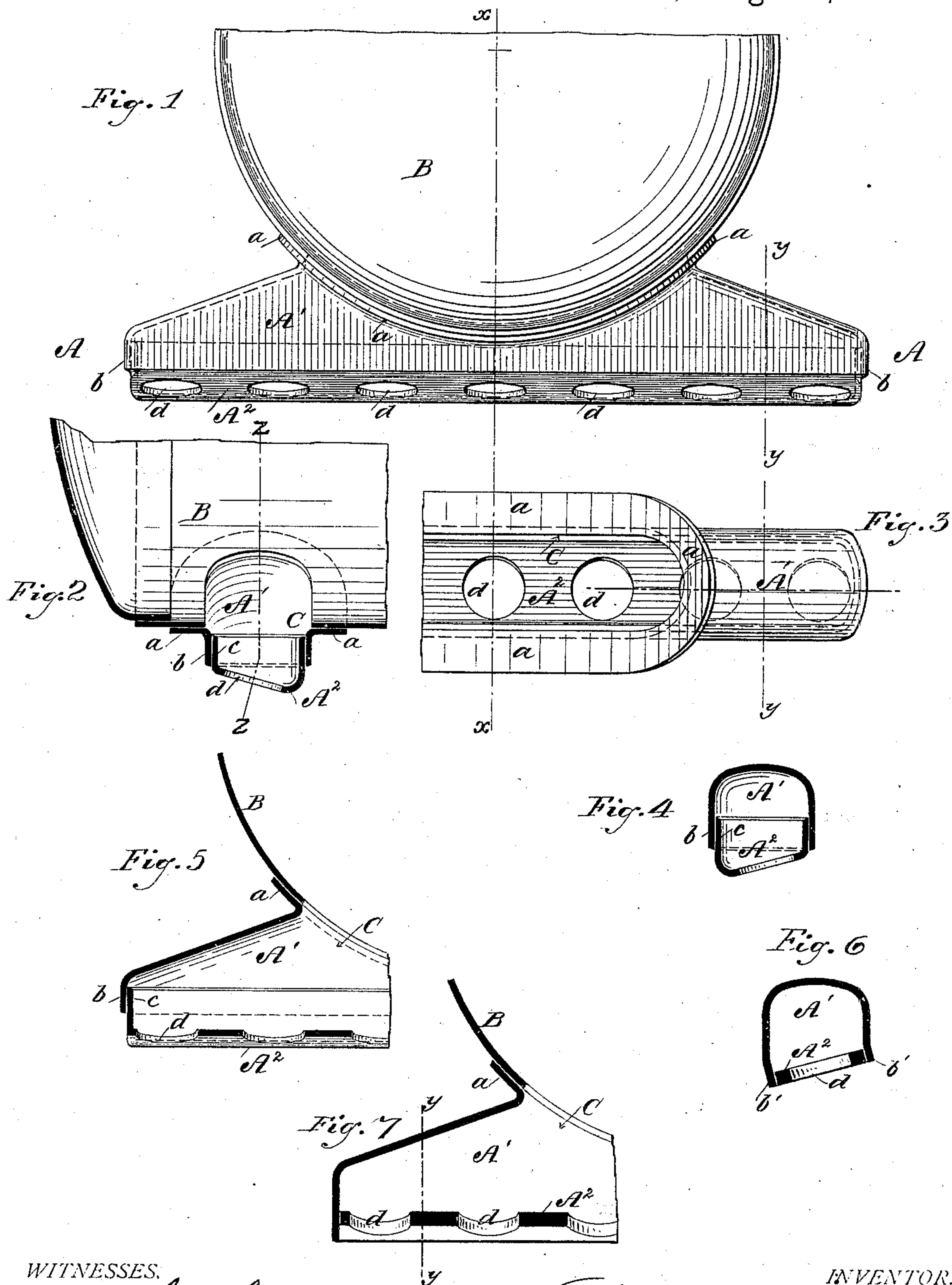
(No Model.)

N. W. PRATT.

CONNECTING BOX FOR SECTIONAL STEAM BOILERS.

No. 368,613.

Patented Aug. 23, 1887.



WITNESSES.

Aug. 23, 1887.
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CONNECTING-BOX FOR SECTIONAL STEAM-BOILERS.

SPECIFICATION forming part of Letters Patent No. 368,613, dated August 23, 1887.

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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 boxes for use in making 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 said connecting-boxes
15 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 with the 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 connecting-box disconnected from the drum; Fig. 4, a cross-section of the
30 connecting-box, 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, as shown by the line $z z$, Fig. 2.
35 Fig. 6 is a cross-section, taken in a plane similar to that of Fig. 4, of a modified detail of construction; and Fig. 7, a vertical longitudinal section of a portion of the connecting-
40 box, taken in a plane similar to that of Fig. 5, showing also the modified feature of Fig. 6.

The feature of the present invention is that of constructing the connecting-box A of two
45 interlocking pieces, the upper one, A' , formed from wrought-metal plate into a flanged saddle form having a continuous perimeter, b , at its edge, and the lower one, A^2 , consisting of a wrought-metal tube-sheet, having also a continuous perimeter, c , at its edge to interlock
50 or telescope the perimeter, b for the purpose of welding or riveting the same thereto,

such parts being formed by dies and hydraulic pressure, in a manner well understood by persons skilled in the art.

The flange a , having a saddle form to coincide with the external circumference of the drum B for the purpose of riveting the connecting-box thereto, may be constructed so as to project outwardly, as shown in the drawings, or may be turned inwardly, in which
55 case the opening in the drum would be reduced, if necessary, for the purpose.

For purposes of convenience the saddle-piece A' is preferably inclined on its upper sides, reducing its cross-sectional area to-
60 ward the ends.

The tube-sheet A^2 presents at the bottom of the connecting-box a flat surface having perforations d for the reception of tubes. For the purpose of entering the tubes at an angle
70 other than a right angle to the axis of the drum, I make the said flat surface in this instance inclined to the said axis and to the normal of the sides of the connecting-box. In other construction it may be made parallel.
75

The tube-sheet A^2 , furthermore, may be secured to the perimeter b of the saddle-piece, either by means of its flanged perimeter c , or may be constructed of a thick sheet, Figs. 6
80 and 7, the same being secured by welding and fitted to the interior of the extended perimeter of the saddle-piece, having its edges turned to the desired angle, as appears in Fig. 6.

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

1. The method of making a connecting-box for a water-tube boiler, consisting in first pressing from a plate of wrought metal a box having a continuous perimeter at its edges; second, flanging the top of said box in saddle
90 form to fit the side of a drum, and, third, fixing in the open bottom thereof a tube-sheet, substantially as specified.

2. The method of making a connecting-box
95 for a water-tube boiler, consisting in first pressing a plate of wrought metal into a box form, open at the bottom, the top being of saddle form to fit the side of a drum, and, second, closing the bottom by fixing therein a tube-
100 sheet, substantially as specified.

3. A connecting-box for water-tube boilers,

consisting of a flanged saddle-piece joined to a flanged tube-sheet, substantially as described.

4. A connecting-box for water-tube boilers, consisting of a saddle-box pressed from one piece of metal, and a separate tube-sheet riveted or welded thereto, substantially as shown.

5. A connecting-box for water-tube boilers, consisting of a box-formed saddle and a tube-sheet fixed therein at an angle to the normal of the sides, substantially as described.

6. A connecting-box for water-tube boilers, consisting of two interlocking pieces, each formed by pressing from one piece of metal

and riveted or welded together, substantially as described.

7. A connecting-box for water-tube boilers, consisting of two pieces, each pressed into box form and joined by riveting or welding, so that the plane of the bottom is at an angle to the center line of the drum, to which the whole is adapted to be connected, substantially as specified.

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Witnesses:

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