

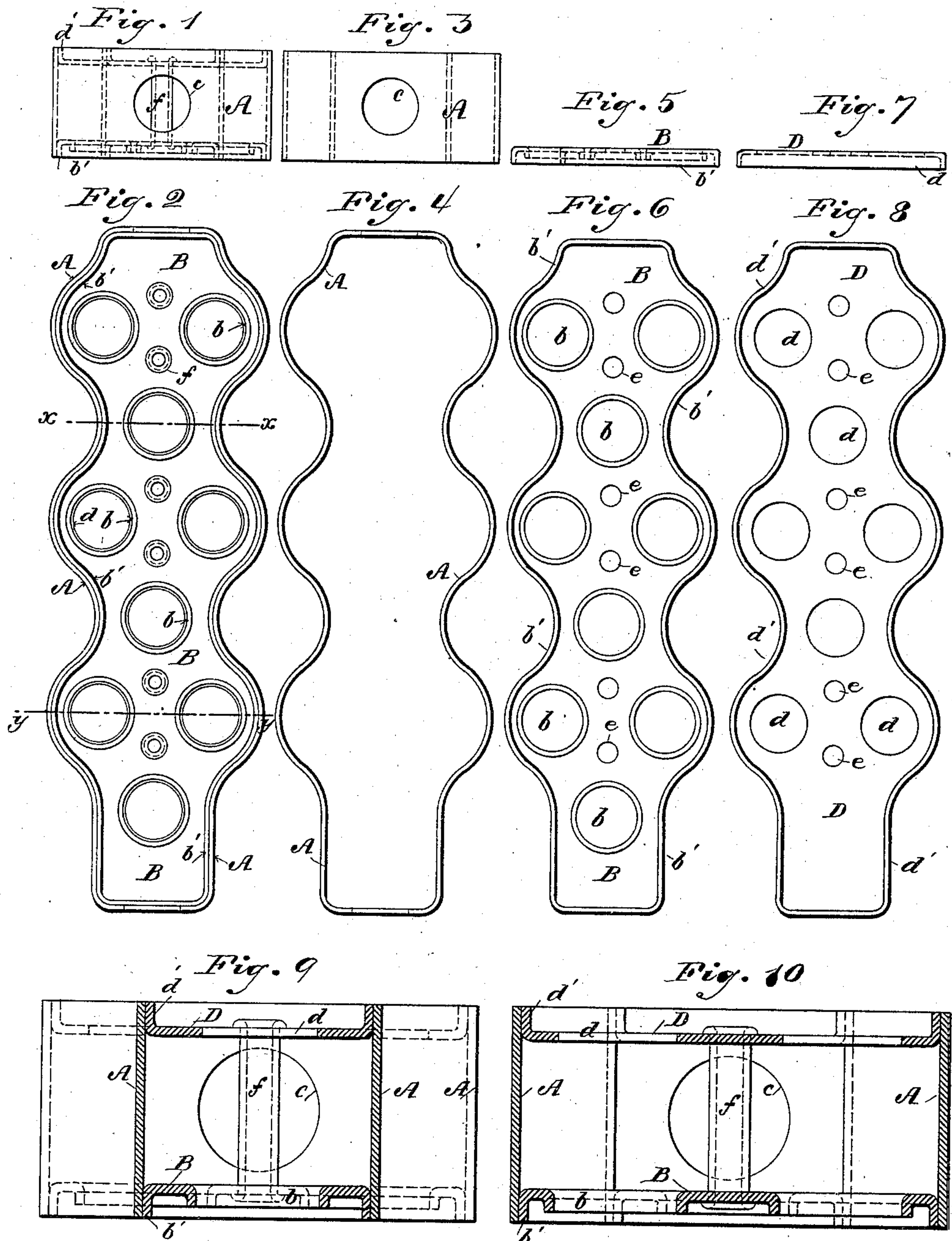
(No Model.)

N. W. PRATT.

MANIFOLD FOR WATER TUBE BOILERS.

No. 368,615.

Patented Aug. 23, 1887.



WITNESSES

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MANIFOLD FOR WATER-TUBE BOILERS.

SPECIFICATION forming part of Letters Patent No. 368,615, dated August 23, 1887.

Application filed March 3, 1887. Serial No. 229,578. (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 Manifolds for Water-Tube Boilers, of which the following is a specification.

This invention relates to the construction of manifold tube-headers for use in connecting
10 together the series of water-tubes of sectional steam-boilers; and the said invention consists in certain novel features of said construction as applied either to corrugated or other shaped headers, whereby the same are manufactured
15 from wrought-metal plates.

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 in detail the manner of its construction,
20 having reference to the accompanying drawings, in which like letters of reference indicate corresponding parts.

Figures 1 and 2 are end and front elevations, respectively, of a completed manifold; Figs. 3
25 and 4, similar views of the strap or periphery of the same; Figs. 5 and 6, 7 and 8, corresponding views, respectively, of the tube-sheet and the hand-hole sheet; Fig. 9, an enlarged cross-section of Fig. 2 on the line *x x*, and Fig. 10 a
30 similarly enlarged cross-section on the line *y y*.

The strap or periphery A is composed of a single piece formed by bending a band or skelp into the required shape and joining the ends thereof, preferably by welding, so as to form
35 the continuous irregular side of the box or manifold.

The plates B and D are formed by cutting them from a plate of metal and turning a flange around their peripheries. By preference this
40 operation would be performed by properly-formed dies in a hydraulic press in a manner well known in the art. The holes in these plates may be punched either before or after flanging, or at the same operation; but, by
45 preference, I produce them by punching after the plate is flanged, whereby they are not liable to distortion by the flanging process.

To the interior margins of the strap A the plates B and D, having the required form to fit
50 said strap, and provided, respectively, with perforations *b* and *d*, are fixed in the position

more clearly shown by Figs. 9 and 10, and welded or riveted by means of their outwardly-projecting flanges *b'* *d'* to the said margins.

At suitable points between the perforations
55 *b* and *d* small perforations *e* are provided for the reception of hollow stays or stay-bolts *f*, Figs. 9 and 10, which serve as a means for stiffening and further securing the plates B and D in position.
60

The circular perforations *d* in the plates D are for the reception of water-tubes to be fixed in series therein by expanding the same, or by other well-known process.

The hand-hole perforations *b* of the plates B
65 are in the present instance of circular form and outwardly flanged, so as to form an exterior seat for the hand-hole plates, the latter being held in place on the outside by means of interior yokes.
70

The perforations *c* in the end faces of the strap A are provided for the reception of tube-connections at the ends of the manifold.

What I claim as my invention, and desire to secure by Letters Patent, is—
75

1. The method of making wrought-metal manifolds for water-tube boilers, consisting in first forming side plates with flanges around their periphery; second, bending a strap into form corresponding to said periphery, and,
80 third, riveting or welding the flanges of said plate to the edges of said strap, substantially as described.

2. The method of making wrought-metal manifolds for water-tube boilers, consisting in
85 first forming side plates with flanges around their periphery, and either at the same or at a subsequent operation perforating the said plates; second, bending a strap into form corresponding with said periphery, and, third,
90 riveting or welding the flanges of said plates to the edges of said strap, substantially as described.

3. A wrought-metal manifold for water-tube boilers, having two of its sides formed of flanged
95 and perforated plates, the same being riveted or welded to a plate or plates forming the remaining sides, substantially as described.

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Witnesses:

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