

(No Model.)

N. W. PRATT,

MANIFOLD FOR WATER TUBE BOILERS.

No. 368,614.

Patented Aug. 23, 1887.

Fig. 2

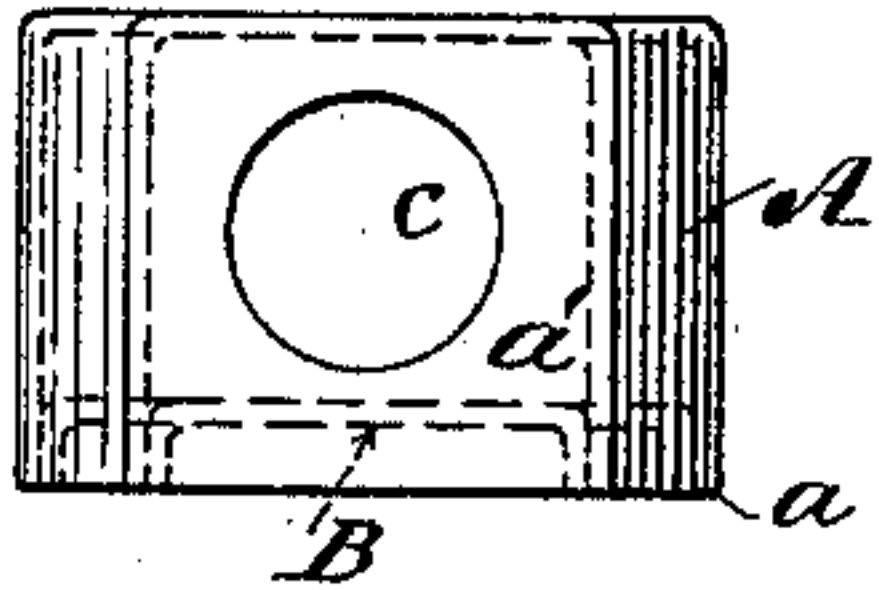


Fig. 1

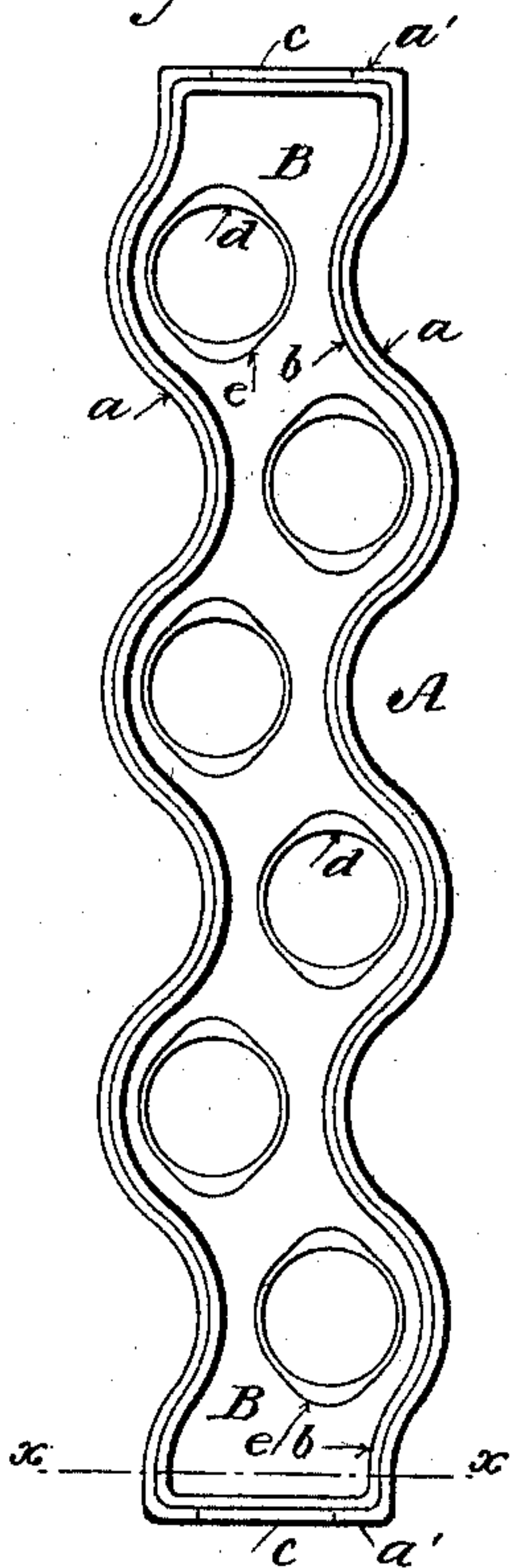


Fig. 3

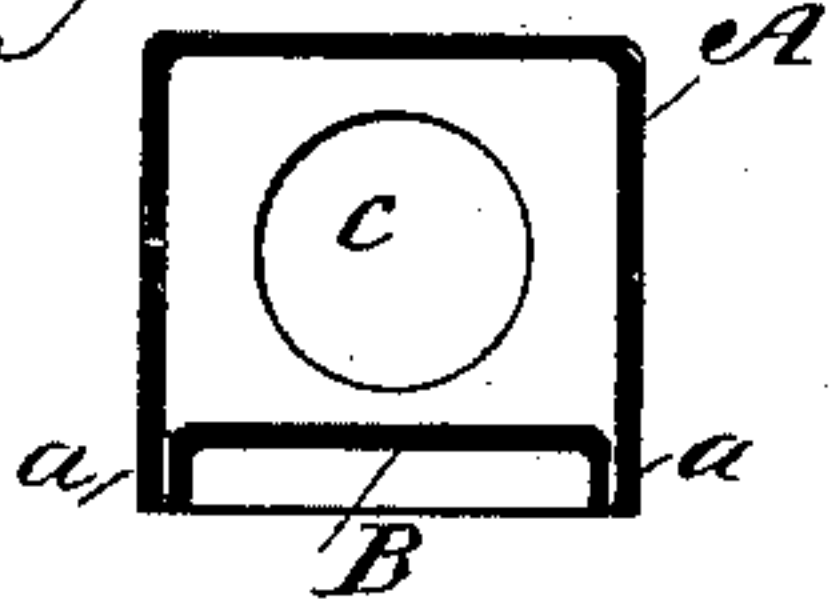


Fig. 10

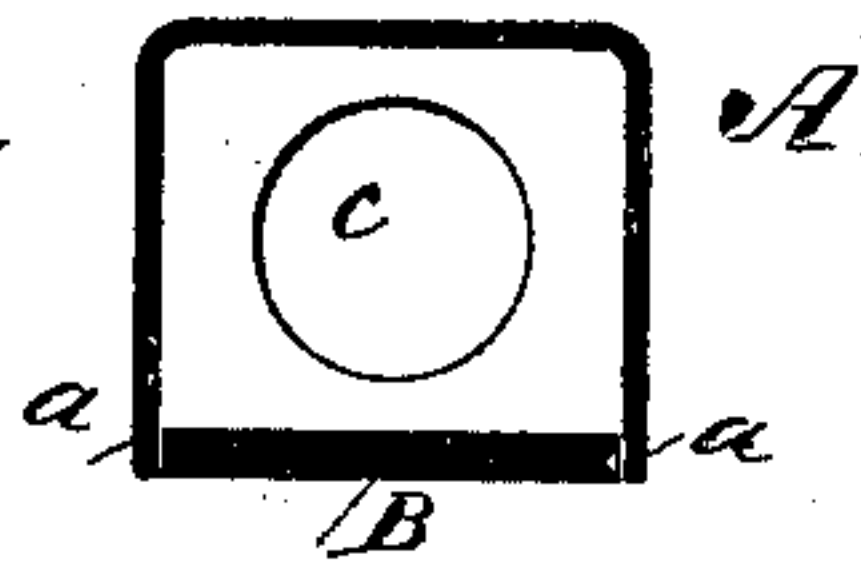


Fig. 4

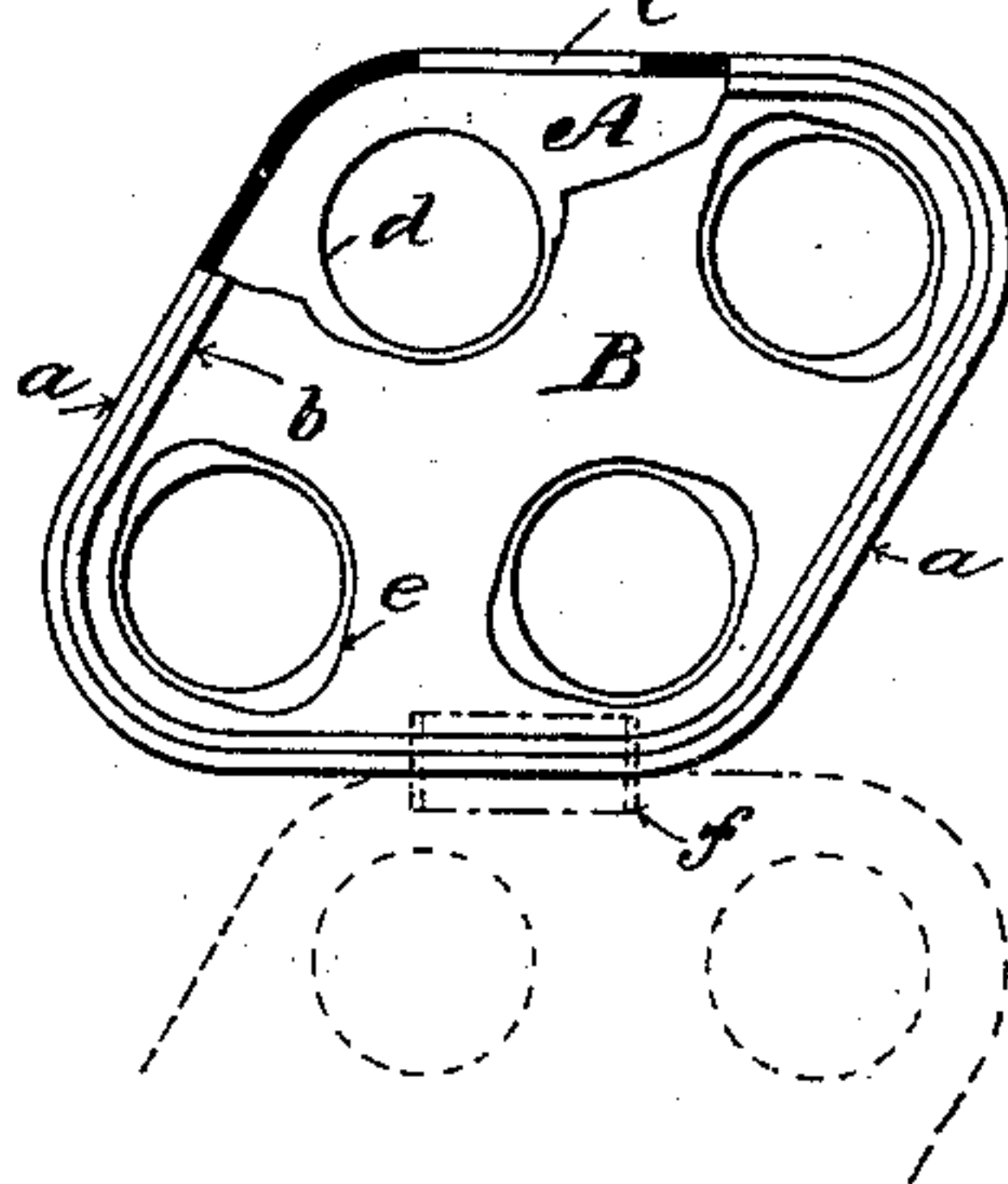


Fig. 5

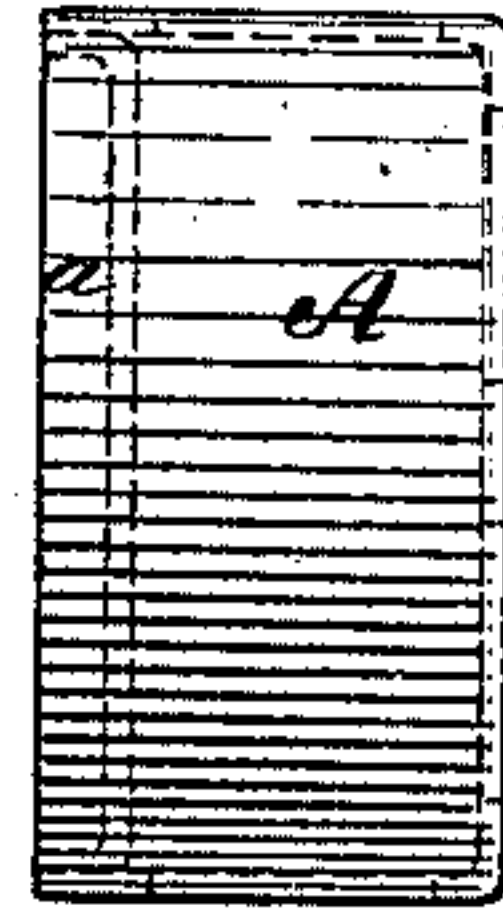


Fig. 6

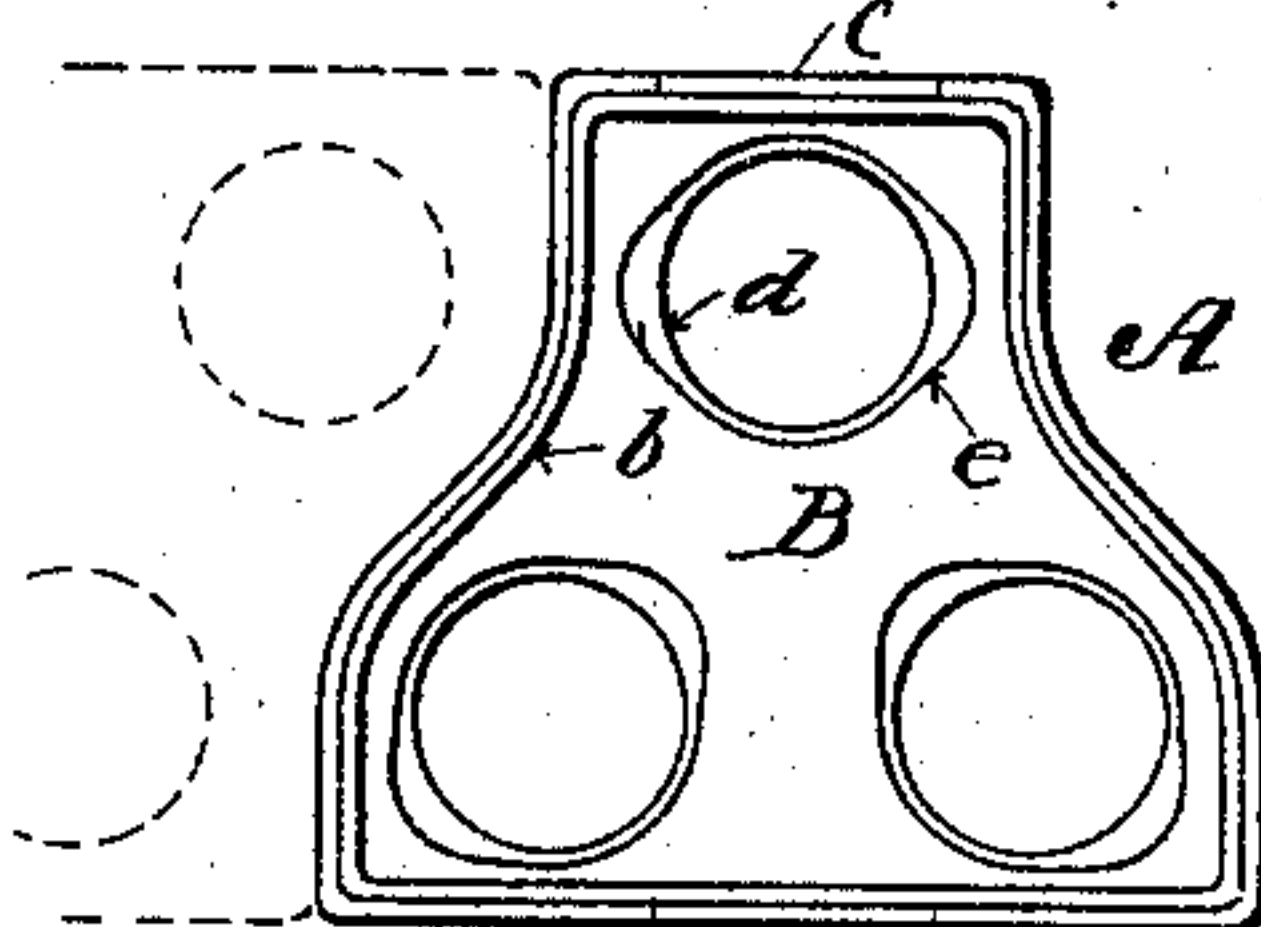


Fig. 7

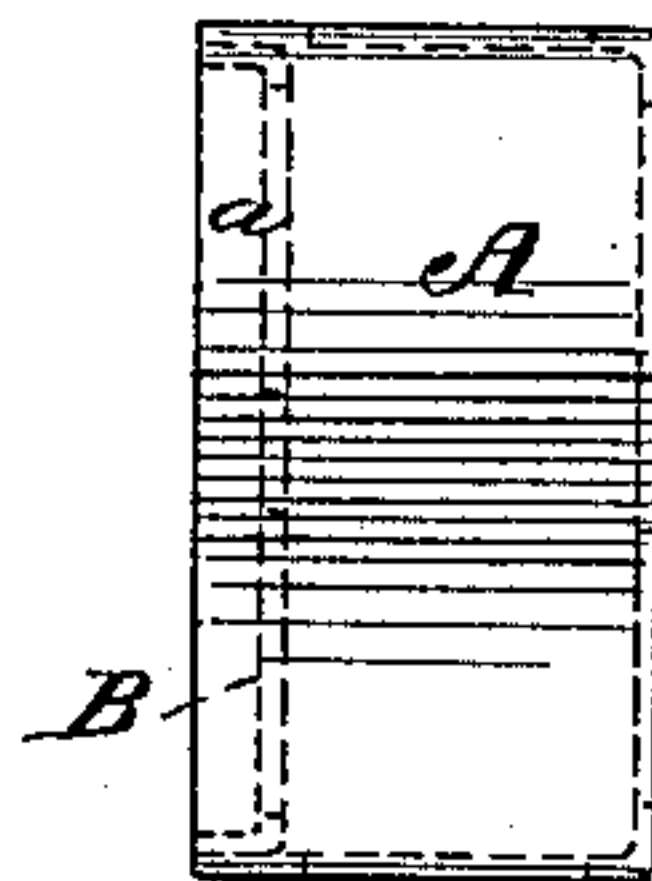


Fig. 8

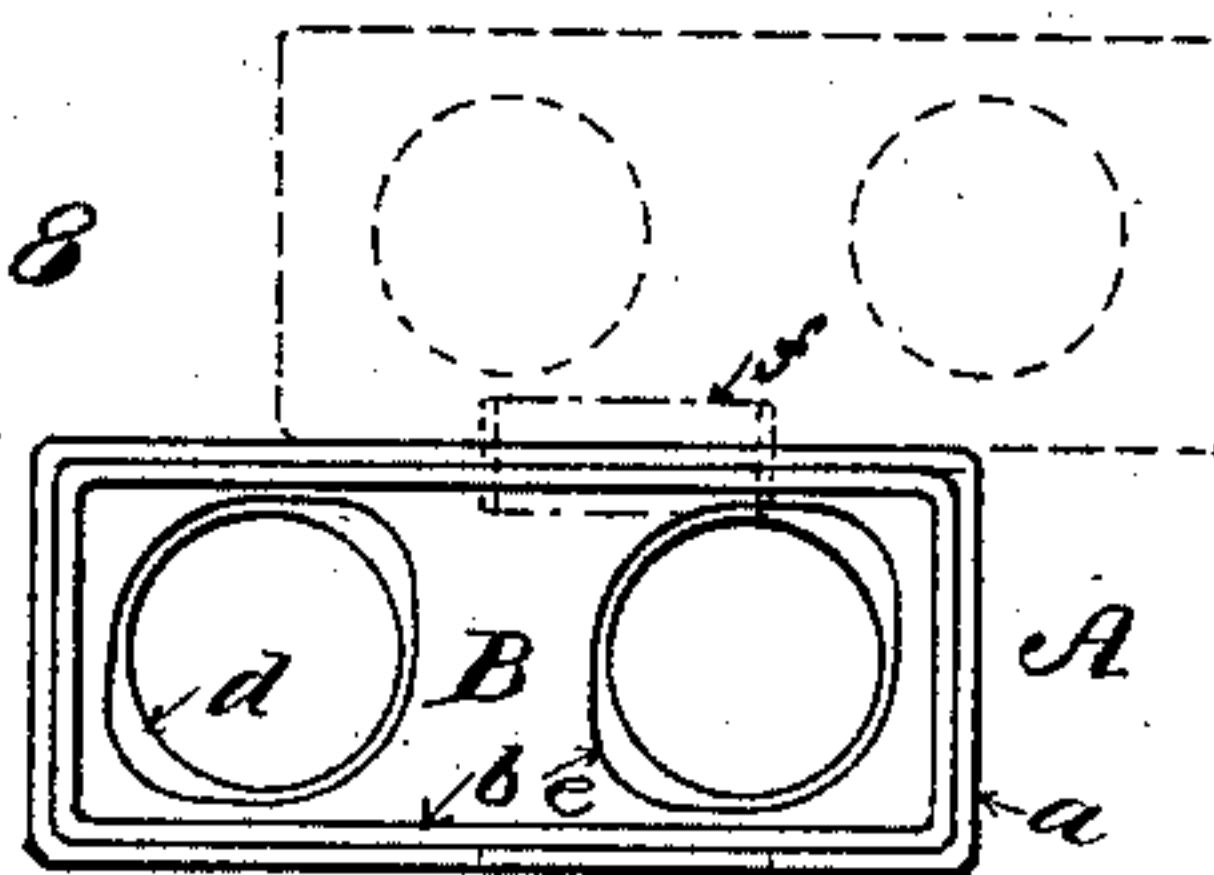
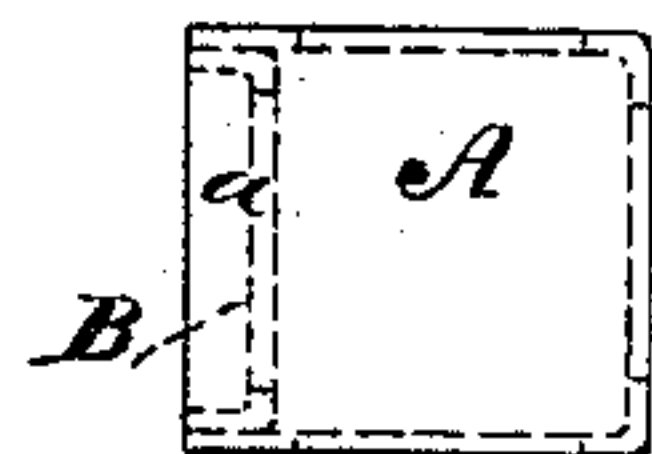


Fig. 9



WITNESSES.

Aug. 23, 1887
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UNITED STATES PATENT OFFICE.

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MANIFOLD FOR WATER-TUBE BOILERS.

SPECIFICATION forming part of Letters Patent No. 368,614, dated August 23, 1887.

Application filed March 3, 1887. Serial No. 229,577. (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 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.

Figure 1 is a front elevation of a completed header; Fig. 2, an end view of the same; Fig.
25 3, a cross-section of the same on the line $x x$, Fig. 1; Fig. 4, a front elevation, partly in section, of the invention embodied in a modified form of header; Fig. 5, a side view of Fig. 4; Fig. 6, a front elevation of a second
30 modification of form; Fig. 7, a side view of Fig. 6; Fig. 8, a front elevation of a third modification of form; Fig. 9, a side view thereof; and Fig. 10, a cross-section, corresponding with Fig. 3, showing a modified detail of construction.
35

The open box A, Figs. 1, 2, and 3, the sides of which compose the exterior flange, a , Fig. 1, is pressed or stamped from a single piece of metal into the corrugated trough-like form,
40 the ends a' being formed from the same piece. At the same operation, or at a subsequent operation, the back of the box A is perforated with circular holes d for the reception of the water-tubes, to be fixed therein by the expanding process, or otherwise. The ends a' are also
45 perforated with circular openings e , for the reception of tube-connections.

A separate plate, B, formed in a similar manner, having the flange b , Fig. 1, is perforated with oblong openings e , having a suitable shape for the introduction of hand-hole

plates opposite the tube-perforations. The plate B, flanged at b to fit the interior of the flanges $a a'$, or sides of the box, is welded or riveted in the position more clearly shown by
55 Fig. 3, the flange b projecting outward preferably. The plate B may also be made without flanges, and of a sufficient thickness, as in Fig. 10, to be welded in place by its edges, presenting a flush exterior surface of the manifold.
60

The manifolds shown by Figs. 4 to 9, inclusive, are produced in a corresponding manner to that described with relation to Figs. 1, 2, and 3, and the feature of Fig. 10 is likewise
65 applicable. The dotted lines indicate the relative position of adjacent duplicate manifolds, which are connected in series by means of nipples f , fixed into the perforations e .

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

1. The method of making wrought-metal manifolds for water-tube boilers, consisting in pressing or stamping an open box from sheet metal and then closing the remaining side by
75 welding or riveting a plate therein, substantially as described.

2. The method of making wrought-metal manifolds for water-tube boilers, consisting in first pressing or stamping an open box from
80 sheet metal, and either at the same time or a subsequent operation perforating the same for the reception of tubes, and then closing the remaining side by riveting or welding a plate therein, substantially as described.
85

3. The method of making wrought-metal manifolds for water-tube boilers, consisting in pressing or stamping an open box from sheet metal, and either at the same time or a subsequent operation perforating the same, and
90 then welding or riveting a perforated plate therein, substantially as described.

4. A wrought-metal manifold for water-tube boilers in box form, having three or more of its sides made from one piece of metal and
95 one side fixed therein by welding or riveting, substantially as described.

NAT. W. PRATT.

Witnesses:

CHAS. W. FORBES,
AUG. CREVELING.