

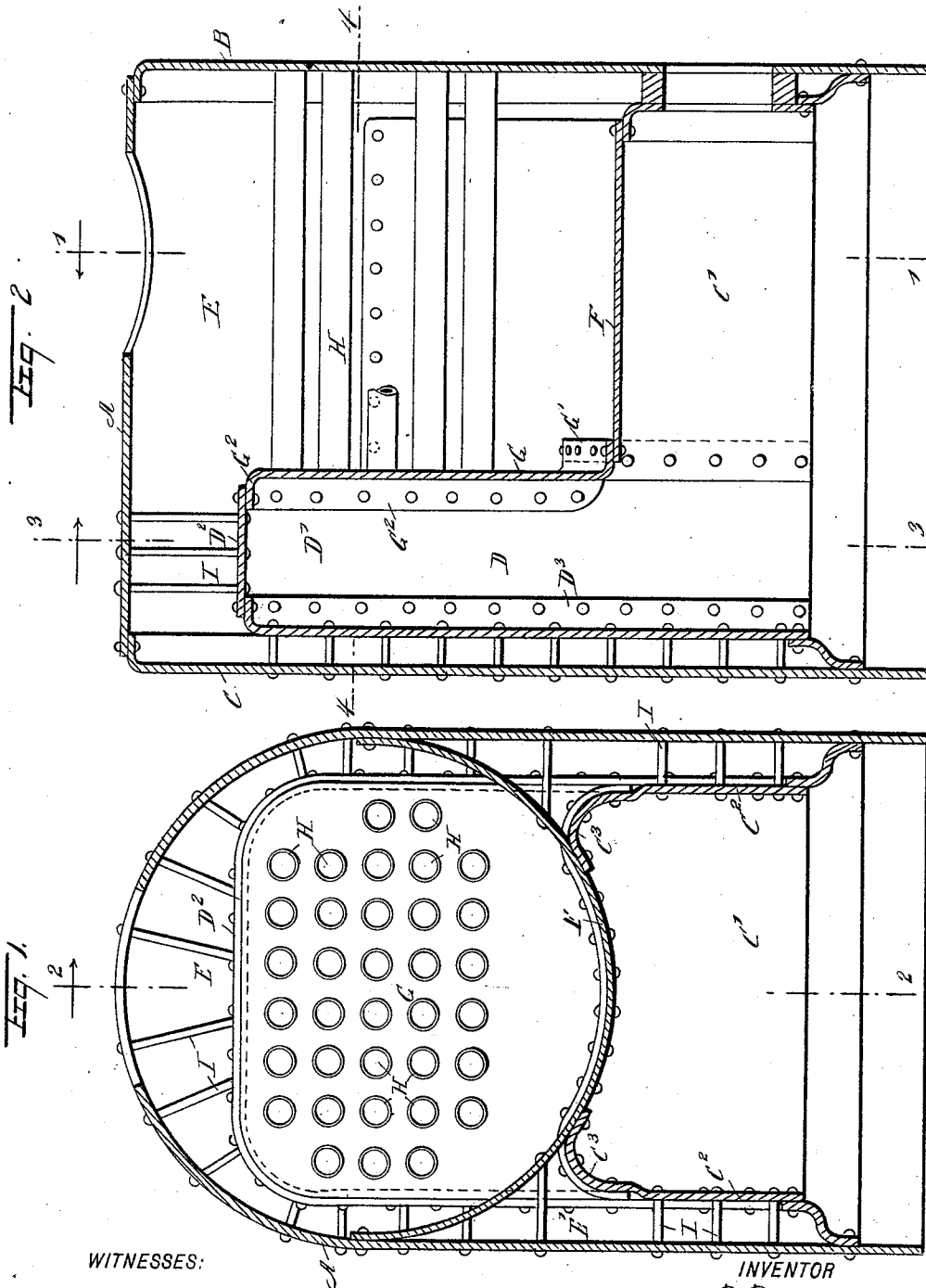
(No Model.)

2 Sheets—Sheet 1.

R. REEVES,
STEAM BOILER.

No. 539,304.

Patented May 14, 1895.



WITNESSES:

N. Walker
Thos. G. Foster

INVENTOR

R. Reeves

BY

Munn & Co.
ATTORNEYS.

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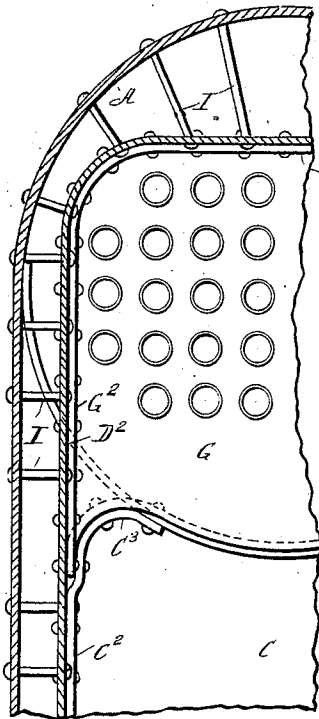


Fig. 3

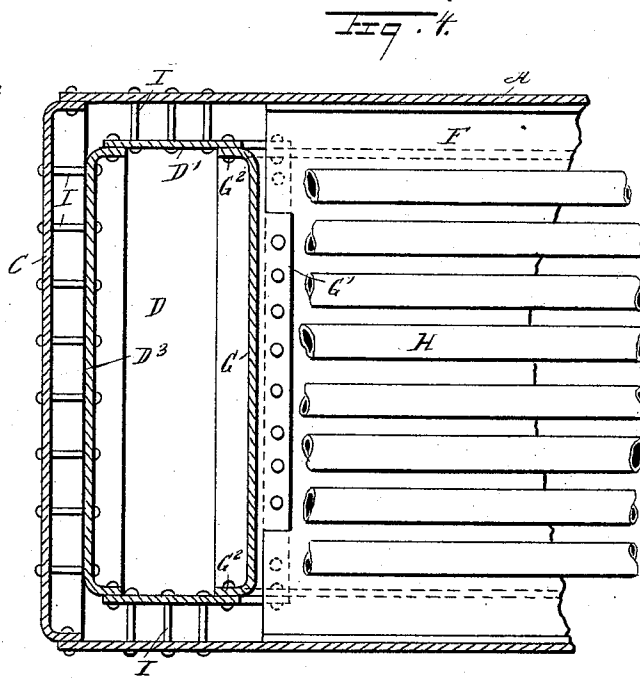


Fig. 4

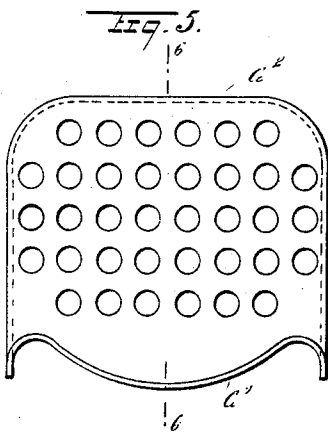


Fig. 5

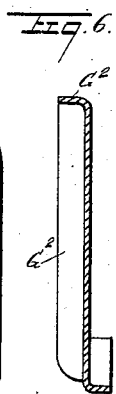


Fig. 6

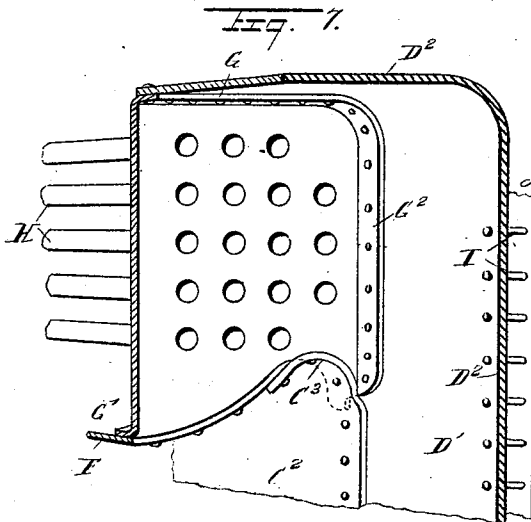


Fig. 7

WITNESSES:

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UNITED STATES PATENT OFFICE.

RICHARD REEVES, OF TOLEDO, OHIO, ASSIGNOR TO HIMSELF, AND CONRAD GEORGE, OF ANN ARBOR, MICHIGAN.

STEAM-BOILER.

SPECIFICATION forming part of Letters Patent No. 539,304, dated May 14, 1895.

Application filed October 2, 1894. Serial No. 524,760. (No model.)

To all whom it may concern:

Be it known that I, RICHARD REEVES, of Toledo, in the county of Lucas and State of Ohio, have invented a new and Improved
5 Steam-Boiler, of which the following is a full, clear, and exact description.

The object of the invention is to provide a new and improved steam boiler, which is simple and durable in construction and forms a
10 large heating surface in a comparatively small space.

The invention consists principally of a crown sheet and fire box sides provided at their upper ends with flanges fastened to the
15 said crown sheet.

The invention also consists of certain parts and details, and combinations of the same, as will be fully described hereinafter and then pointed out in the claims.

20 Reference is to be had to the accompanying drawings, forming a part of this specification, in which similar letters indicate corresponding parts in all the figures.

Figure 1 is a cross-section of the improvement on the line 1 1 of Fig. 2. Fig. 2 is a longitudinal section of the same on the line 2 2 of Fig. 1. Fig. 3 is a cross-section of part of the improvement on the line 3 3 of Fig. 2. Fig. 4 is a sectional plan view of the same on the line 4 4 of Fig. 2. Fig. 5 is a face view of the rear flue-sheet. Fig. 6 is a section of the same on the line 6 6 of Fig. 5, and Fig. 7 is a sectional perspective view of part of the flue-chamber.

35 The improved boiler is provided with an outer shell A made U-shaped; as is plainly illustrated in Fig. 1, and closed by the heads B and C, of which the former carries the usual breeching and stack for carrying off the smoke and gases. In the head B is also formed the fire box door, leading to the fire box C', which terminates at its rear end in the flue chamber D, as is plainly indicated in Fig. 2. Within the shell A is also formed the water compartment E, containing the water to be heated to form the steam which gathers in the dome attached in the usual manner to the top of the shell A. The fire box C' is formed by two sides C² having their upper ends curved inward to form the flanges C³, riveted on the
50

semi-circular crown sheet F, fastened at its ends to the shell A, so that part of the water compartment E is circular, as will be understood by reference to Fig. 1.

The bottom part of the invertedly curved crown sheet F is connected by rivets at its rear end with a forwardly extending flange G' conforming to the shape of the crown sheet F and projecting from the flue sheet G supporting the rear ends of the flues H, extending through the water compartment E and the front head B, to discharge the smoke and gases into the breeching and stack.

The rear ends of the flues H open into the flue chamber D previously mentioned, the latter being formed by the U-shaped crown sheet D² and a rear head D³, while its front, upper portion is formed by the flue sheet G. The latter is provided on its sides and top with a rearwardly extending flange G² riveted to parts of the sides and the top of the sheet D² forming part of the flue chamber D. The head D³ is likewise riveted at its sides and top to the crown sheet D², as will be readily understood by reference to Figs. 2 and 4. The crown sheet D² for the flue chamber D, as well as the head D³, are connected by stay-bolts I, with the shell A and head C respectively, so that the said chamber D is properly supported and water can circulate around
80 the same.

By the construction described, part of the crown sheet F extends through the water compartment E, so that the water is on both sides of the upper portion of this crown sheet F. See Fig. 1.

By the construction described, the boiler can be very cheaply manufactured, and at the same time presents a very large heating surface within a comparatively small sized shell.

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

1. In a steam boiler, the combination of a shell having parallel sides, a curved crown-sheet riveted at its ends to the opposite sides of the shell, and fire box sides secured at their lower ends to the inner faces of the sides of the shell and spaced away therefrom to form

water chambers and having at their upper ends flanged connections with the crown sheet, substantially as set forth.

2. In a steam boiler, the combination of a
5 shell having a curved central portion and parallel sides, and a curved crown sheet riveted at its ends to the inner faces of the parallel sides whereby a water chamber is formed at the top of the shell and a fire box at the
10 bottom thereof, substantially as set forth.

3. In a steam boiler, the combination of a shell having a U-shape in cross section, a curved crown-sheet connected at its ends to the inner sides of said shell, and fire-box sides
15 extending parallel to the extremities of said shell and having flanged connections with the crown sheet at their upper ends, substantially as set forth.

4. A boiler comprising a shell, heads for
20 the ends of the said shell, a fire box having a crown sheet extending into the water compartment of the boiler and connected at its sides with the said shell, fire box sides having curved flanges at their upper ends to connect
25 with the said crown sheet, a flue sheet having a forwardly extending flange connected with the said crown sheet, and a flue chamber sus-

ended in the said shell and having its front formed by the flue sheet, substantially as shown and described.

5. In a steam boiler, the combination, of a
30 shell having a U-shape in cross section, a curved crown-sheet connected at its ends to the inner sides of said shell, fire-box sides extending parallel to the extremities of the
35 shell and having flanged connections with the crown-sheet at their upper ends, and a tube sheet having a flange projecting from its lower edge and adapted to be secured to the said crown sheet, substantially as set forth. 40

6. A steam boiler provided with fire box sides having curved flanges at their upper ends, a semi-circular crown sheet connected with the said flanges of the fire box sides, and a flue sheet having a forwardly extending
45 flange at its lower edge, the said flange being riveted to part of the rear end of the said crown sheet, substantially as shown and described.

RICHARD REEVES. [L. S.]

Witnesses:

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