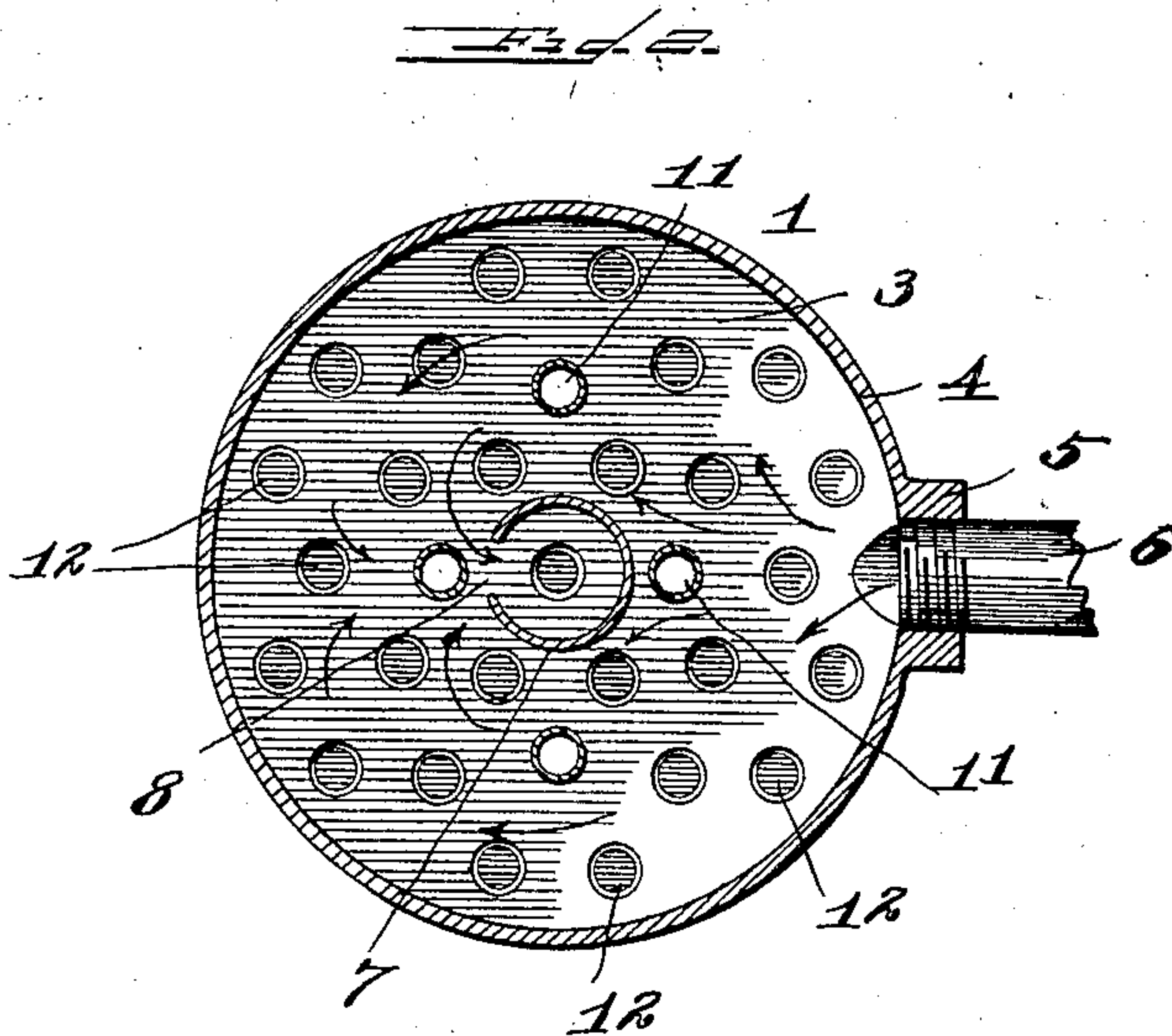
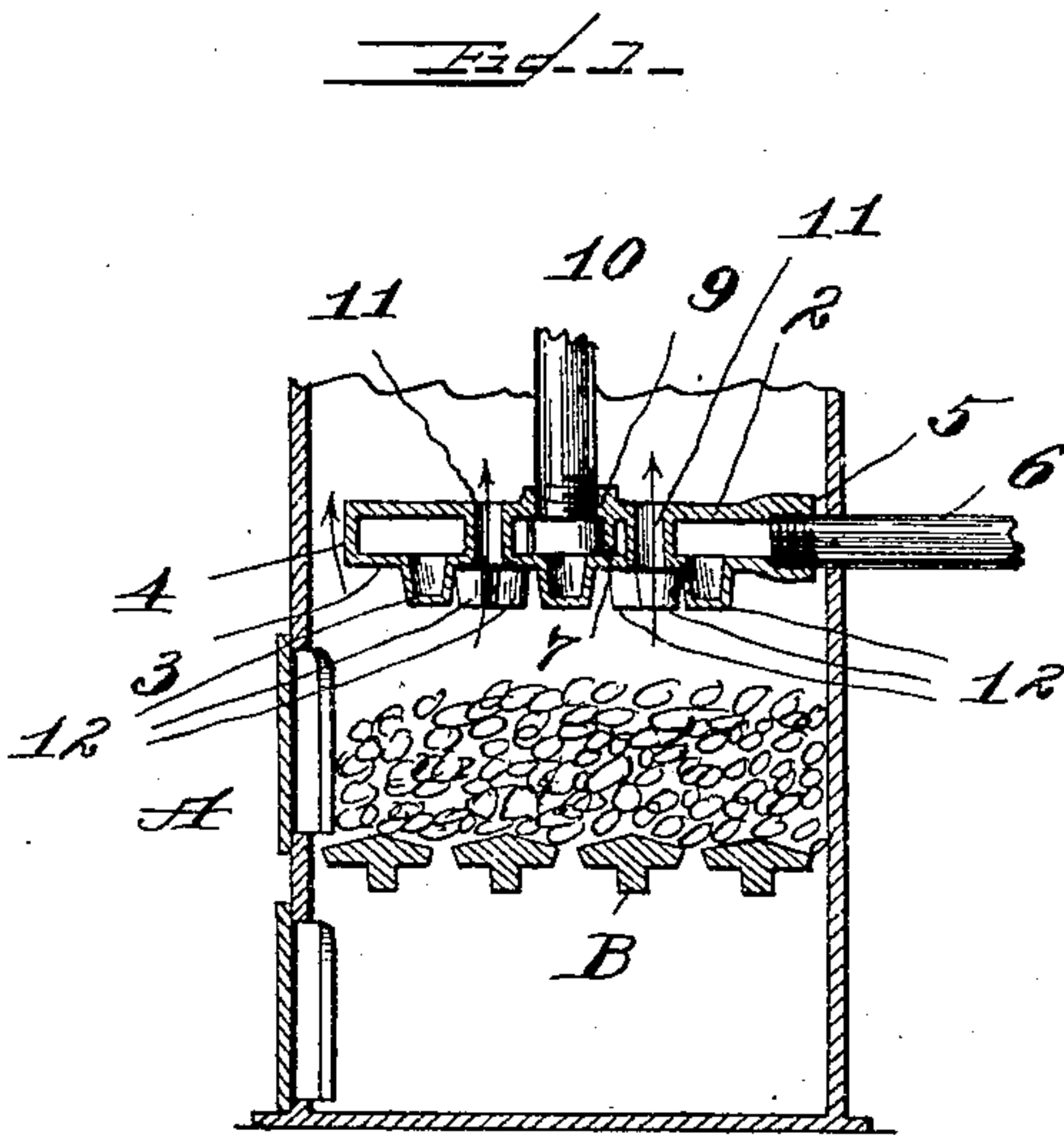


No. 835,395.

PATENTED NOV. 6, 1906.

W. G. BURR.  
WATER HEATER.

APPLICATION FILED JUNE 20, 1904.



WITNESSES.

*J. A. Paulschmidt*  
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*By Luther L. Miller*

Att.

# UNITED STATES PATENT OFFICE.

WILLIAM G. BURR, OF KENOSHA, WISCONSIN.

## WATER-HEATER.

No. 835,395.

Specification of Letters Patent.

Patented Nov. 6, 1906.

Application filed June 20, 1904. Serial No. 213,226.

*To all whom it may concern:*

Be it known that I, WILLIAM G. BURR, a citizen of the United States, residing at Kenosha, in the county of Kenosha and State of Wisconsin, have invented certain new and useful Improvements in Water-Heaters, of which the following is a specification.

The object of this invention is the production of an improved water-heater adapted to be operated in connection with an ordinary furnace.

In the accompanying drawings, Figure 1 is a vertical central section through a furnace, showing this improved water-heater applied thereto. Fig. 2 is a horizontal central section through said water-heater.

A refers to a furnace of ordinary construction, and B to the grate therein.

In the construction of a water-heater embodying the features of this invention I provide an integral hollow body portion 1, comprising the top plate 2, the bottom plate 3, and the peripheral side walls 4. At one side of the body portion is formed a tubular internally-screw-threaded boss 5, the bore of which communicates with the interior of said body portion, said boss being adapted to receive the externally-screw-threaded end of the inlet-pipe 6. In practice this inlet-pipe extends through a suitable opening in the wall of the furnace A and provides a means for supporting the heater at a proper distance above the grate B.

Centrally within the body portion 1 is a curved deflecting-plate 7, extending between the top plate 2 and the bottom plate 3 and providing an opening 8 between its ends. The deflecting-plate 7 is formed integral with the body portion 1 or is secured therein in any other suitable way. An outlet-opening 9 in the top plate 2 coincides in position with the deflector 7 and is adapted to receive the end of the outlet-pipe 10.

Flues 11 for the passage of smoke and flame extend vertically through the body portion 1 and are preferably formed integral therewith. These flues also serve to strengthen the structure by uniting the top plate 2 and the bottom plate 3.

Upon the under side of the bottom plate 3

are formed integral downwardly-extending hollow bosses 12, closed at their lower ends, said bosses communicating with the interior of the body portion 1 and serving to increase the heating-surface of said body portion.

In operation the current of water flowing into the heater through the inlet-pipe 6 strikes the deflector 7 and is deflected to all parts of the heater, finally passing through the openings 8 and 9 into the outlet-pipe 10. The gaseous products of combustion pass upwardly around the sides of the heater and through the flues 11. Being spread out in a comparatively thin sheet and brought into proximity with the fire at numerous points by means of the bosses 12 and the flues 11, the water flowing through the body portion 1 is quickly raised to a high temperature.

I claim as my invention—

1. In a water-heater, in combination, a hollow body portion having an inlet in one of its sides and a central outlet in its upper portion; and a curved deflecting-plate partially surrounding said outlet, the convex side of said plate facing said inlet, a space being provided between the ends of said plate through which the heated water passes before reaching the outlet.

2. In a water-heater, in combination, a hollow body portion in disk form, comparatively thin in cross-section, having an inlet in one of its sides, a central outlet in its upper portion, flues extending through said body portion and a plurality of hollow bosses upon its under side communicating with the interior of said body portion; and a deflector comprising a curved plate partially surrounding said outlet and extending from top to bottom of the body portion, said plate being located opposite said inlet, with its convex side facing said inlet and adapted to break up the stream of water entering therethrough, the water entering the space within said curved plate through the space between the adjacent ends of the said plate, and passing through the outlet.

WILLIAM G. BURR.

Witnesses:

R. H. BURR,

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