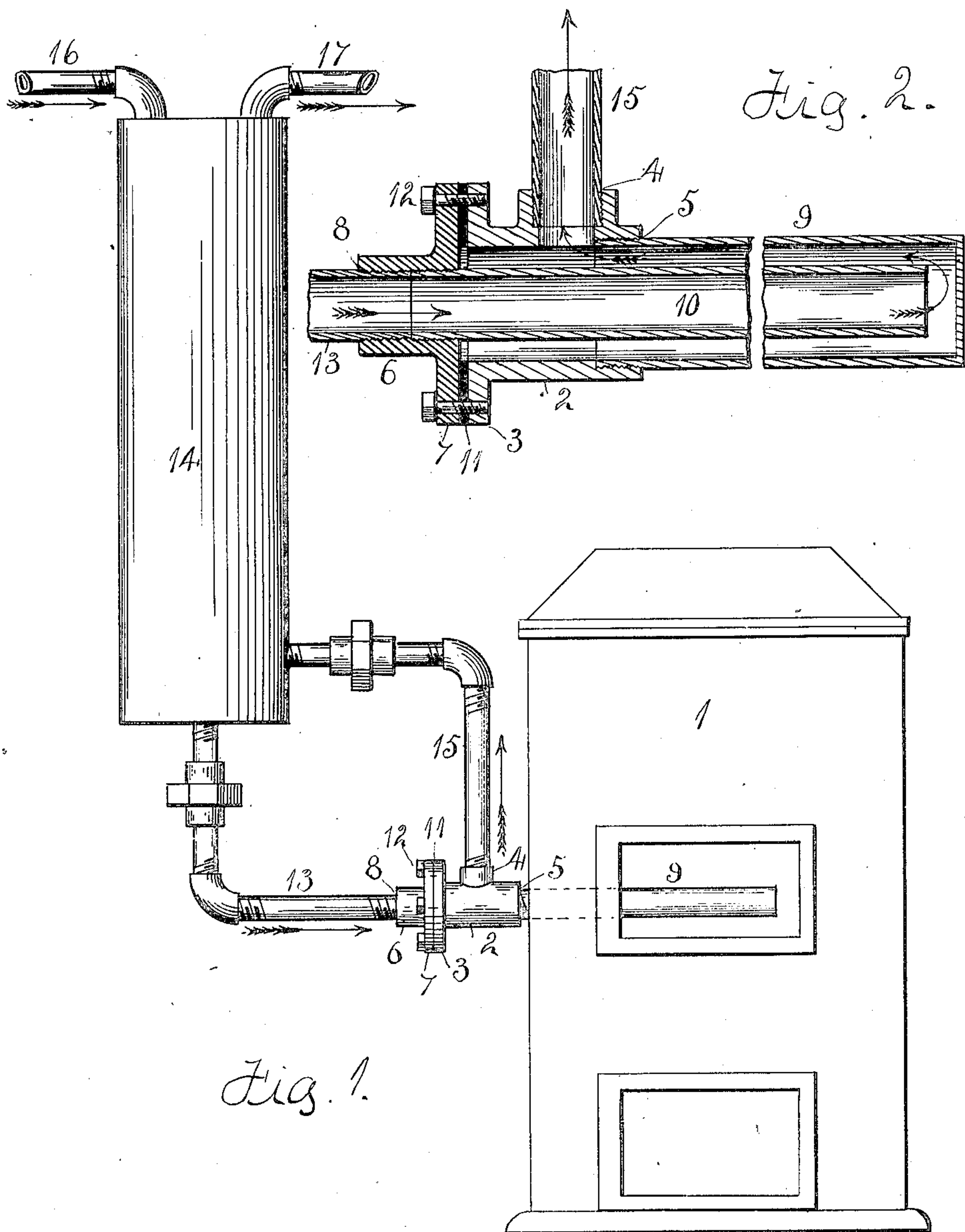


No. 874,991.

PATENTED DEC. 31, 1907.

R. B. PRIEN.  
WATER HEATER.

APPLICATION FILED MAR. 8, 1906.



Witnesses:  
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# UNITED STATES PATENT OFFICE.

RUDOLPH B. PRIEN, OF ROCKFORD, ILLINOIS.

## WATER-HEATER.

No. 374,991.

Specification of Letters Patent.

Patented Dec. 31, 1907.

Application filed March 8, 1905. Serial No. 249,130.

*To all whom it may concern:*

Be it known that I, RUDOLPH B. PRIEN, a citizen of the United States, residing at Rockford, in the county of Winnebago and State of Illinois, have invented certain new and useful Improvements in Water-Heaters, of which the following is a specification.

The object of this invention is to construct a water heater adapted to be placed in any furnace or fuel burner, easily removed therefrom and the parts capable of separation for the purpose of cleaning.

In the accompanying drawings. Figure 1 is an elevation of a furnace showing my improved water heater in connection therewith. Fig. 2 is a vertical section through the heater.

The furnace or other fuel burner 1 is of any ordinary construction and has an opening in one side.

My improved water heater comprises a body portion 2 provided with a flange 3 and screw-threaded openings 4 and 5. A cap portion 6 has a flange 7 and a screw-threaded opening 8. A section of pipe 9 has one end closed and its other end is externally screw-threaded and turned into engagement with the screw-threaded opening 5 of the body portion 2. A section of pipe 10 has a screw-thread connection with the opening 8 in the cap-portion 6. A packing 11 is placed between the flanges 3 and 7 and the flanges are held together by the bolts 12. A pipe 13 has a screw-thread connection with the opening 8 in the cap 6 and its other end connects with the tank 14. A pipe 15 has a screw-thread connection with the opening 4 in the body portion 2, and its other end connects with the tank 14. The tank has the usual cold water inlet pipe 16 and hot water pipe 17.

At Fig. 2 is shown a detail section of the water heater, and the arrows thereon indicate the direction of the flow of water. The water first passes through the pipes 13 and 10, thence by the pipe 9 along the outside of the pipe 10, and escaping by the pipe 15. The water circulates through the pipes 13 and 15 and the heater, and keeps the water in the tank at the required temperature.

The pipe 9 extends within the furnace over the fire and as the space between the pipes 9 and 10 is comparatively small, the water will be heated quickly.

This water heater can be placed in connection with any furnace or other fuel burner by simply making a hole in the side of the furnace or fuel burner and extending the pipe 9 through said hole so that the pipe will be located over the fire.

By making the cap portion separable from the body portion, the inner pipe 10 can be withdrawn and cleaned, and the main pipe 9 can be cleaned on its inside without removing the heater from the furnace.

I claim as my invention.

A water heater comprising a hollow body portion open at each end and having a peripheral flange at one end and at its other end having the inner face cut away, said cut-away portion provided with screw threads, said body portion further having intermediate its ends a screw threaded opening, an interiorly screw threaded flanged cap-piece connected to the flange of the body portion and of less diameter than the diameter of the body portion, a packing interposed between the flange of the cap-piece and the flange of the body portion, a pipe secured to the screw threaded opening of the body portion, a pipe secured to the screw threaded end of the body portion and having the inner face thereof flush with the inner face of the body portion, said pipe projecting from that end of the body portion to which it is secured and having its free end closed, an open pipe secured to the cap-piece and extending through the body portion and into that pipe secured to one end of the body portion, and a pipe secured to the cap piece, projecting outwardly therefrom and forming a continuation of the other pipe connected with the cap piece.

RUDOLPH B. PRIEN.

Witnesses:

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