

No. 773,687.

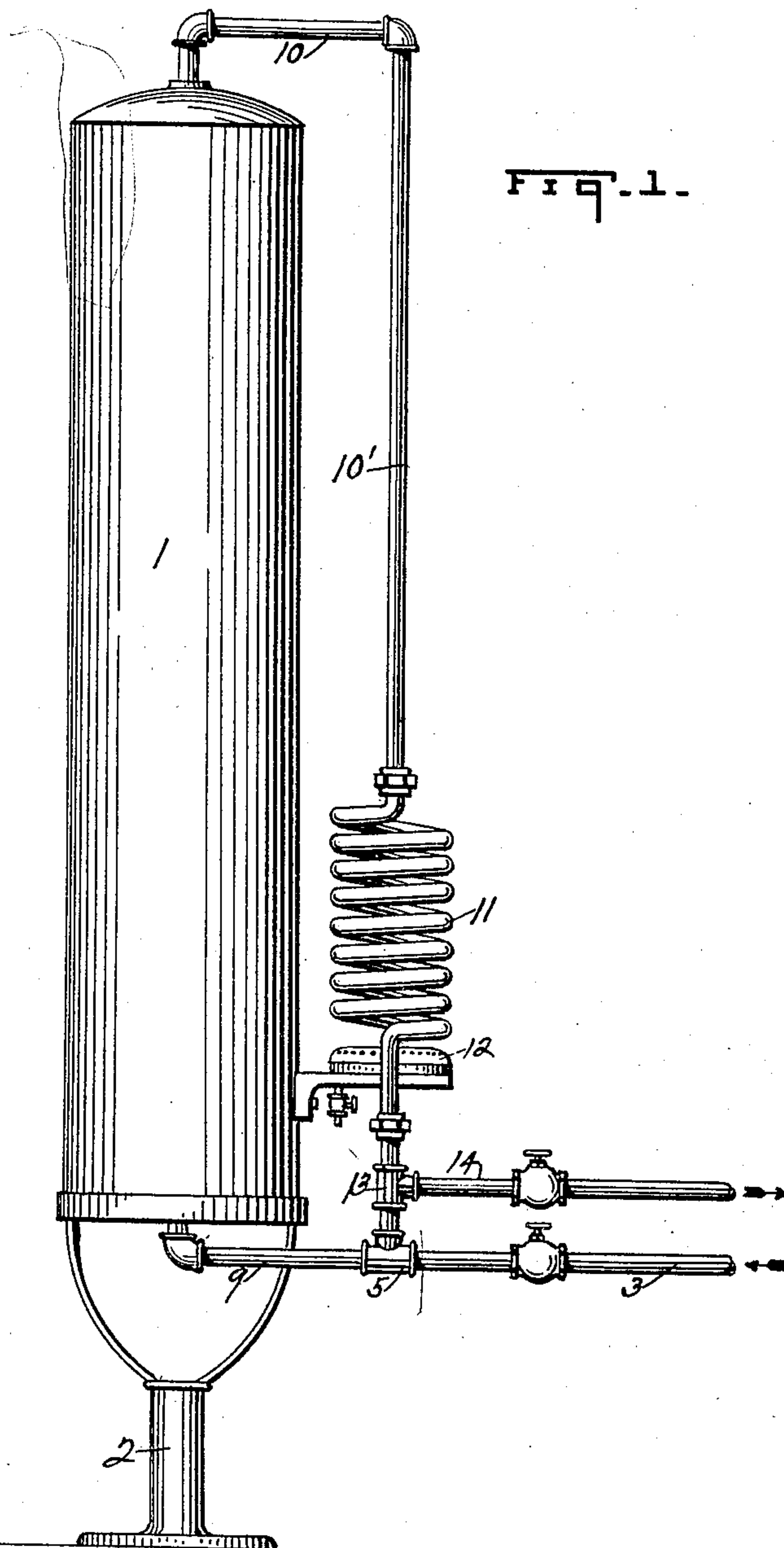
PATENTED NOV. 1, 1904.

J. A. STEVENSON.

HYDRO-SIPHON VALVE FOR WATER HEATERS.

APPLICATION FILED FEB. 11, 1904.

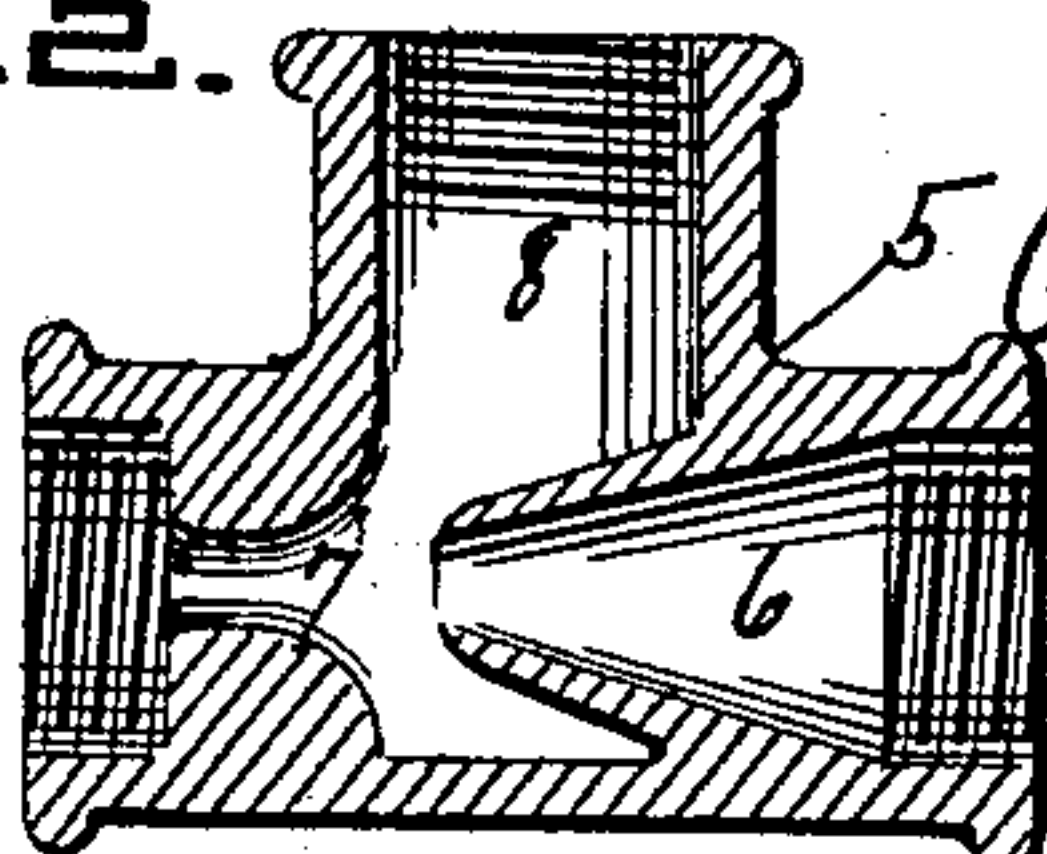
NO MODEL.



Witnesses:

J. R. Appleman, F
H. W. Stevenson

Fig. 2.



Inventor

James A. Stevenson,
by J. H. Stevenson,
Att'y.

UNITED STATES PATENT OFFICE.

JAMES A. STEVENSON, OF NEWCASTLE, PENNSYLVANIA.

HYDROSIPHON-VALVE FOR WATER-HEATERS.

SPECIFICATION forming part of Letters Patent No. 773,687, dated November 1, 1904.

Application filed February 11, 1904. Serial No. 193,130. (No model.)

To all whom it may concern:

Be it known that I, JAMES A. STEVENSON, a citizen of the United States, residing at Newcastle, in the county of Lawrence and State of Pennsylvania, have invented certain new and useful Improvements in Hydrosiphon-Valves for Water-Heaters, of which the following is a specification.

My invention relates to a new and useful process for heating the water in a boiler or tank, whereby quicker results are obtained and a material saving in the amount of fuel required to heat a given amount of water is accomplished.

My invention consists in the novel arrangement of inlet and outlet pipes with relation to the boiler in connection with the regulating device illustrated in the accompanying drawings, forming a part of this specification, in which—

Figure 1 is a vertical side view of an ordinary dwelling-house boiler, showing the arrangement of the pipes leading to and from the same, together with a heating device. Fig. 2 is a horizontal sectional view of the siphon-valve I employ in the supply-pipe to prevent the water in the bottom of the boiler from escaping back and mixing with the heated water being drawn off through the hot-water spigot.

The numerals of reference designate like parts throughout the several views, in which—

The numeral 1 is the boiler, and 2 the stand supporting the same.

3 is the cold-water inflow or supply pipe connected with the three-way siphon-valve joint 5, on the inside of which is formed the nozzle-shaped portion 6 and reduced opening 7, the two together forming a siphon.

8 is a straightway passage formed in the perpendicular upright of the joint.

9 is a pipe connecting the pipe 3 with the under side of the boiler.

10 is a pipe leading from the top of the boiler and connected with the pipe 10', which leads to the coil or any ordinary heating device 11.

12 is an ordinary burner.

13 is a three-way connecting-joint affording a straightway passage from the heating de-

vice to the siphon-valve connection at 8 and to the hot-water-outflow pipe 14.

The arrangement of pipes and connections shown in Fig. 1 is made to illustrate the means employed to facilitate heating the water in the boiler in an economical and speedy manner in connection with my siphon-valve shown in Fig. 2.

By means of the siphon-valve aforesaid I can obtain a greater amount of heated water in much less time than is now necessary by the methods in common use in the following manner: The boiler being first filled with water through the supply-pipes 3 and 9, heat is generated below the coil 11 and the water rises therein and in pipe 10', passing through pipe 10 to the boiler and down through the latter and past the siphon-valve and T 13 into coil 11. This circulation is continued as long as the heat is generated while no water is drawn. The instant the warm-water spigot is opened the course of circulation is reversed, and the cold water in the supply-pipe 3, taking the place of that drawn off, begins to siphon through the valve 5 and forces the water under a pressure from the nozzle-shaped portion 6 through the reduced opening 7 into the pipe 9 and thence into the boiler. The force of the water through the nozzle-shaped portion 6 and into the reduced opening 7 will prevent any water from the bottom of the boiler escaping back through the siphon-valve 5 and mingling with the heated water being drawn off through the outlet-pipe 14. It will therefore readily be seen that only the preheated water from the boiler will be drawn off at the hot-water spigot while the boiler is being refilled through the siphon-valve and connecting-pipes.

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

1. In a water-heater of the character described, a boiler, a supply-pipe leading thereto, a three-way siphon-valve having a nozzle portion and a reduced portion oppositely disposed thereto, connected with said supply-pipe, a pipe mounted in the top of the boiler, a heating device connected with the last-

named pipe, a three-way connecting member disposed between the heater and siphon-valve forming a straightway passage therebetween, and an outlet-pipe in communication with the
5 connecting member.

2. The combination in a water-heater of a boiler, a supply-pipe leading thereto, a three-way siphon-valve in communication with the supply-pipe, a heating device, a pipe leading
10 from the top of the boiler communicating with the heating device, a three-way connect-

ing member forming a straightway passage from the heater to the siphon-valve and an outlet-pipe leading from the three-way connection, substantially as described. 15

In testimony whereof I affix my signature in presence of two witnesses.

JAMES A. STEVENSON.

Witnesses:

H. A. WILKISON,
C. H. AKENS.