

No. 772,972.

PATENTED OCT. 25, 1904.

F. E. STILWELL.
HOT WATER HEATER.
APPLICATION FILED AUG. 31, 1903.

NO MODEL.

Fig. 1.

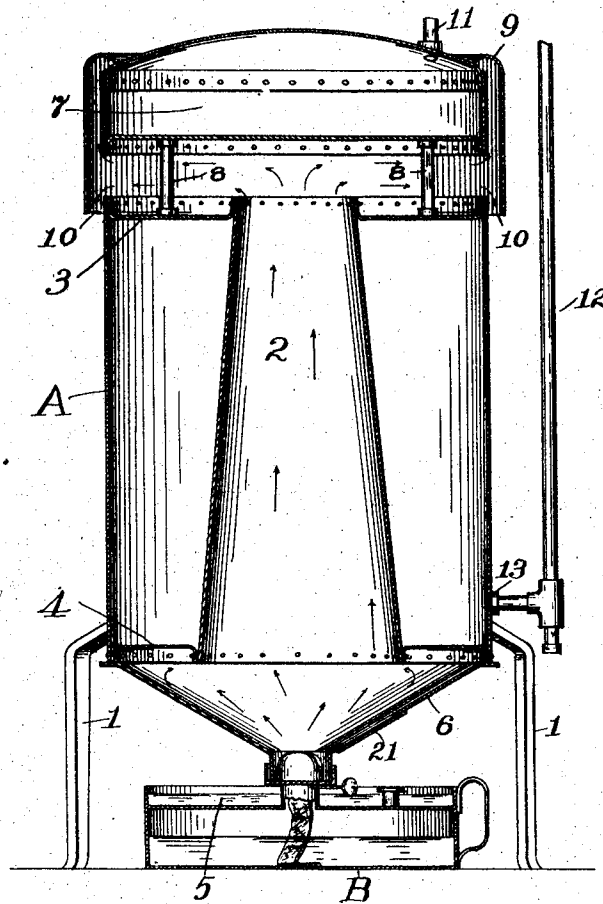


Fig. 2.

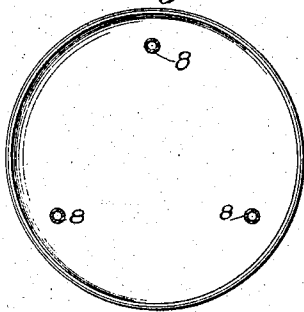


Fig. 3.

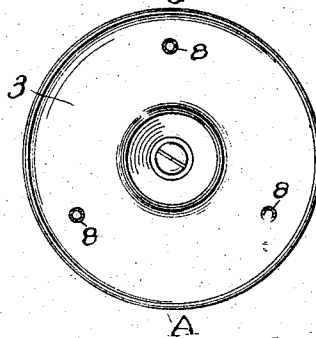
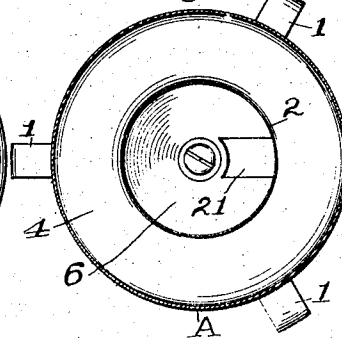


Fig. 4.



Witnesses
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UNITED STATES PATENT OFFICE.

FENTON E. STILWELL, OF MONTOUR FALLS, NEW YORK.

HOT-WATER HEATER.

SPECIFICATION forming part of Letters Patent No. 772,972, dated October 25, 1904.

Application filed August 31, 1903. Serial No. 171,429. (No model.)

To all whom it may concern:

Be it known that I, FENTON E. STILWELL, a citizen of the United States, and a resident of Montour Falls, in the county of Schuyler and State of New York, have invented a new and useful Improvement in Hot-Water Heaters, of which the following is a specification.

My invention relates to an improvement in hot-water heaters, the primary object being to provide an improved apparatus especially adapted for barber-shops or other places where it is desired to heat water quickly for the purpose of washing, sterilizing, or similar purposes.

Another object is to provide an apparatus which can be attached or coupled to the usual water system in order to facilitate its operation and insure a perfect circulation and adequate supply of water at all times.

With these objects in view my invention consists in certain novel features of construction and combinations of parts, which will be hereinafter described, and pointed out in the claims.

In the accompanying drawings, Figure 1 is a vertical section, parts being shown in elevation, and Figs. 2, 3, and 4 are details.

A represents the main cylinder of my improved water-heater. This is made of sheet metal and preferably mounted on legs 1 1, whereby it is supported at a suitable elevation above the floor or other means upon which it rests. Extending vertically through the cylinder from top to bottom is the cone-shaped chimney 2, and this is connected at the upper and lower ends to the upper and lower ends of the cylinder by means of flanged circular plates 3 and 4, the flanges of which are riveted or otherwise secured to the upper and lower edges of the cylinder and cone, as shown in Fig. 1. At the bottom the oil-lamp B is located, it being provided with a water-receptacle 5 on top, adapted to receive water whereby to prevent the oil from becoming overheated from the burner above. An inverted-cone-shaped cap 6 surrounds the burner and extends to the bottom of the cylinder, it being adapted to prevent the escape of heat from the burner and apply it to the bottom

of the cylinder and direct it upward through center of the cylinder by way of the cone-shaped chimney 2. Just above the cylinder water-tank 7 is located, it being sufficiently removed from the cylinder to admit of the free circulation of the heated air beneath it and between it and the top of the cylinder A, as well as around the tubes 8 8, which convey the water from the cylinder as it becomes heated to the tank 7 above. A jacket 9 of greater diameter than the tank and cylinder surrounds the latter, resting loosely at its upper edge upon the tank and depending at its lower edge beyond the upper edge of the cylinder. In this way the heat is made to circulate around both ends of the cylinder A, centrally through it, around the tubes 8 8, beneath the bottom and around the sides of tank 7, and around the upper end of cylinder A for a short distance, escaping downwardly at the outlet 10. In this way a maximum amount of heat is confined, directed, and concentrated over a maximum area of the surface of the cylinder and water-tank, so that the water is quickly and effectually heated and caused to circulate. The hot water may be drawn out through an ordinary faucet (not shown) into a stationary water-bowl or other receptacle (not shown) through pipe 11. Cold water is supplied from the service-pipe 12, it being discharged into the cylinder, as indicated at 13, somewhere near the lower end of the cylinder.

From the foregoing it will be seen that a simple and inexpensive apparatus is provided for heating water and sterilizing purposes, and the heating may be accomplished by the use of an ordinary oil-lamp. The apparatus may be connected with the water system or it might be self-contained and portable if preferred. Provision is made by means of a mica or glass panel 21 in the cap 6 by which to examine the condition of the flame from time to time without removing the lamp for that purpose. By the raising and lowering of the jacket 9 the opening for the outlet of the products of combustion might be adjusted. It will also be observed from the disclosure made that the entire amount of heat is utilized, applied, and distributed, so as to heat

and circulate the water and maintain the heat while the lamp is lighted.

It is evident that slight changes might be resorted to in the form and arrangement of the several parts described without departing from the spirit and scope of my invention, and hence I do not wish to limit myself to the exact construction herein set forth; but,

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

1. The combination with a cylinder having a passage therethrough for products of combustion, a tank and pipes connecting the two and spacing them apart whereby a circulating-chamber is provided between them, of a jacket supported on the tank, inclosing the latter and the upper end of the cylinder and spaced from the tank and cylinder whereby the products of combustion extending up through the cylinder are caused to circulate through the space between the cylinder and tank, around the communicating tubes and the sides of the tank and

to discharge downwardly around the upper end of the cylinder.

2. The combination with a cylinder having a chimney therethrough, a lamp and a cap which latter extends from the burner and embraces the bottom of the cylinder throwing the heat in contact with the bottom of said cylinder and the walls of the chimney, of a tank located a short distance above the upper end of the chimney and top of the cylinder, said tank in communication with the cylinder and a jacket which rests loosely upon and surrounds and is spaced from the tank whereby to direct heat from the chimney to the outer surfaces of the tank and to prevent its surface from being chilled from the outside.

In testimony whereof I have signed this specification in the presence of two subscribing witnesses.

FENTON E. STILWELL.

Witnesses:

J. M. MORRIS,
C. B. BELL.