March 7, 1950 F. D. FINLEY 2,499,636

HOT WATER HEATER

Filed May 2, 1946

Fig. 4.

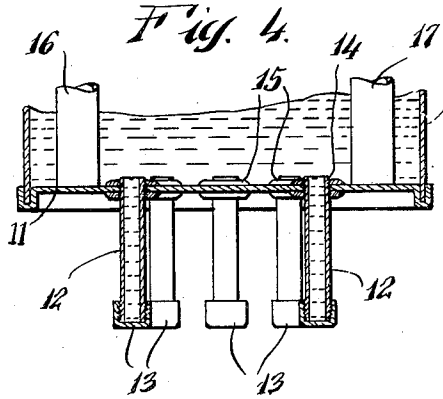


Fig. 2.

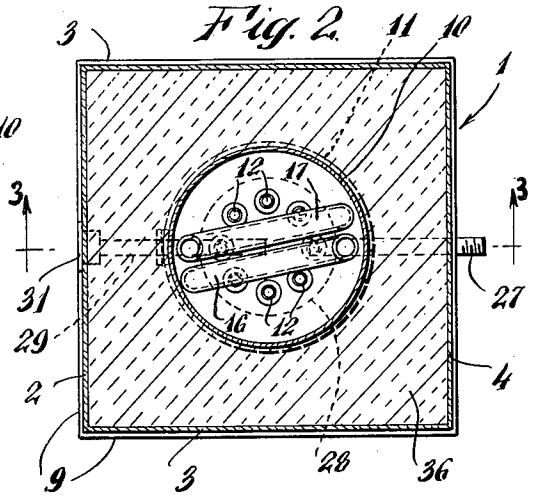


Fig. 1.

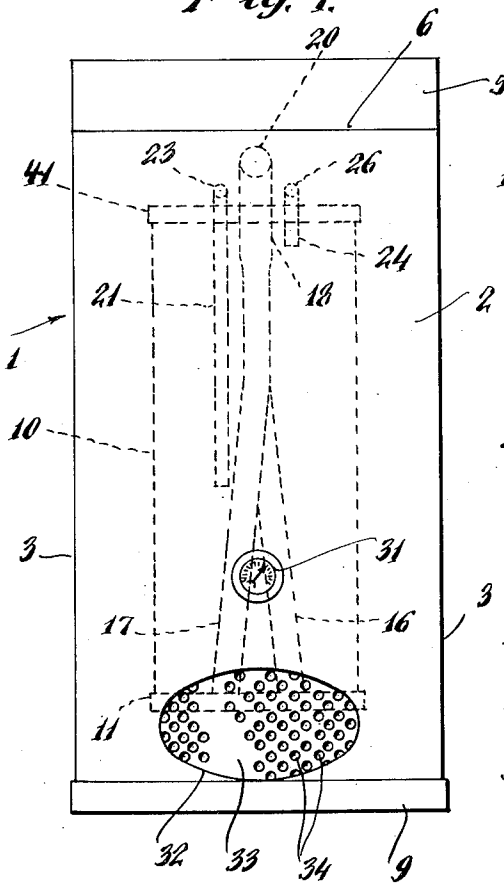
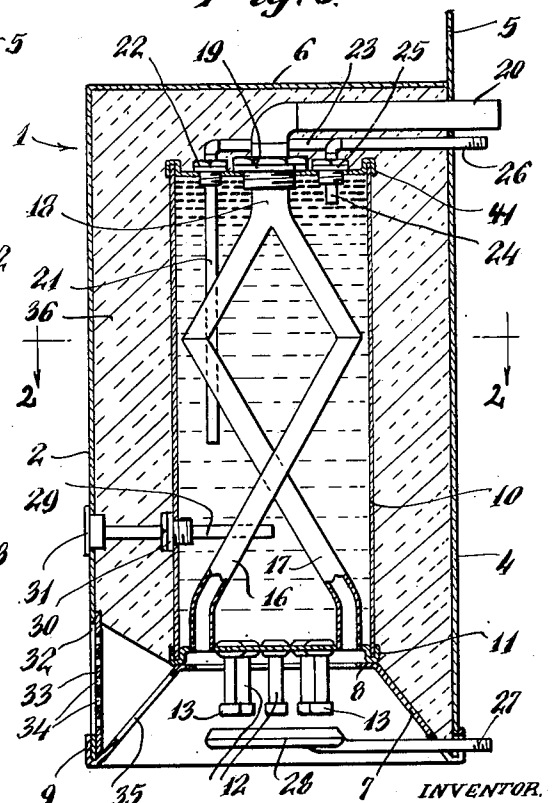


Fig. 3.



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HOT-WATER HEATER

Frank D. Finley, Houston, Tex.

Application May 2, 1946, Serial No. 668,744

1 Claim. (Cl. 122—17)

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This invention relates to water heaters and particularly to that type of heater in which the water is heated in a boiler having a relatively large capacity, said boiler being surrounded with a housing or jacket which is spaced therefrom, with insulating material packed in the space therebetween, and it is among the objects thereof to provide a heater of the above-designated character, which shall be especially adapted for use in modern kitchens and the like, where compactness and economy of gas and space is a primary consideration.

It is a further object of the invention to provide hot water heating and storage systems of a construction to efficiently and economically heat water by providing maximum area for heat absorption within a minimum space, and which will constitute a fixture to be added to built-in kitchens.

Another object of the invention is the provision of a water heating system comprising an outer and inner housing, in which the inner housing that constitutes a water boiler is intimately engaged by a simple tube arrangement which functions as a vent and by means of which the heat of the fumes of a source of heat is transferred to the water within the boiler.

Still another object of the present invention is the provision of a device of the character described which is of a pleasant outer appearance and whose interior can be cleaned easily, and which is simple in construction so that it can be manufactured at a relatively low cost.

Further objects of the instant invention reside in any novel feature of construction or operation or novel combination of parts present in the embodiment of the invention described and shown in the accompanying drawing within the scope of the appended claim and irrespective of other specific statements as to the scope of the invention contained herein.

In the drawing:

Figure 1 is a front elevation of a preferred embodiment of my invention;

Figure 2 is a cross-sectional view on the line 2—2 of Figure 3;

Figure 3 is a vertical sectional view on the line 3—3 of Figure 2; and

Figure 4 is a fractional vertical sectional view of a detail which will be explained hereinafter.

Similar reference characters refer to similar parts throughout the several views.

In the drawing the numeral 1 denotes an outer jacket or housing which is preferably rectangular and which has a front wall 2, side walls 3, a rear

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wall 4 and a table top 6. It is about four feet high and designed to match built-in kitchen equipment such as sinks, table top stoves, and the like. When my new and improved water heater is manufactured for installation in new kitchens together with other built-in equipment, one or both of the side walls 3 and/or the rear wall 4 may be omitted, but they are naturally necessary when the device is to be sold as a single unit. A portion 5 of the rear wall 4 is preferably upwardly extended above the surface of the table top when the device is made as a single unit. The outer portion 7 of the bottom of the housing 1 is preferably upwardly inclined and is formed as a unit with the horizontal frame member 8, which carries the inner jacket or boiler 10. A bottom rim 9 is preferably secured to the outer side of the lower edge of the front wall 2 and the side and rear walls.

The bottom 11 of the boiler 10 is perforated, and from each perforation extends downwardly a short pipe 12 whose lower extremity is closed by a cap 13 or by any other suitable closure means. The pipes 12, which may be made as one by six inch nipples, are removable, so that the entire bottom 11 of the boiler 10 can be cleaned easily and thoroughly. The pipes 12, which preferably are screwed into ring members 15 that are welded to the bottom 11, are open at the top 14 (Figure 4), so that they are normally filled with water, and they extend like fingers into the path of the flame of a burner 28, which may be a gas burner or any other suitable source of heat.

At least two open curved pipes 16 and 17 are extended through the bottom 11 into the boiler 10 in such a manner that they cross each other therein at angles of about sixty degrees, and their upper portions are joined to a single duct 18 to which a vent pipe 20 is secured at 19, as may be seen in Figure 3. Besides the duct 18 there are extended through the top 41 of the boiler 10 a cold water inlet pipe 21 and a hot water outlet pipe 24, the former being joined at 22 to a cold water line 23 and the latter at 25 to a hot water line 26. The pipes 20, 23 and 26 as well as the gas pipe 27, which leads to the heater 28, are preferably extended through the rear wall 4 of the housing 1, so that their continuations are concealed by the plaster of the kitchen wall (not shown).

A pipe 29 leads to an indicating thermometer 31, that is visible through a perforation in the front wall 2, is laterally extended into the boiler 10 and is secured to the boiler wall by means of a pipe coupling 31 or the like. In the lower por-

tion of the front wall 2 of the housing 1 there is a large perforation 32 which is normally closed by a removable plate or a door 33 that is provided with perforations 34 through which air has access to the burner 28. The oblique front section of the bottom portion 7 is also provided with a large perforation 35 in order to make the heater 28 and the bottom 11 of the boiler 10 accessible after opening the door 33. Heat-insulating material 36 is packed in the space between the boiler 10 and walls 2, 3, 4 and the top 6 of the housing 1 in a well known manner.

Since certain changes may be made in the above article and different embodiments of the invention could be made without departing from the scope thereof, it is intended that all matter contained in the above description or shown in the accompanying drawing shall be interpreted as illustrative and not in a limiting sense.

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

A hot water heater comprising a rectangular housing having a perforated lower front portion, an inwardly and upwardly tapering perforated bottom, and a table top, and the perforations in said housing and tapering bottom being in register; a water boiler encompassed by said housing, being supported by the upper portion of said tapering bottom and heat insulated from the top, side and rear walls of said housing as well as from that portion of the front wall which is above the perforated lower front portion of the housing; curved open pipes extended into said boiler through the boiler bottom and crossing each other within the boiler and terminating therein into a single duct which is connected to a vent pipe; and means forming a source of heat mounted in the space encompassed by the upwardly tapering bottom of said housing; the open lower ends of said pipes being exposed to the heat passing through said tapering perforated bottom and emanating from said means forming a source of heat.

FRANK D. FINLEY.

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