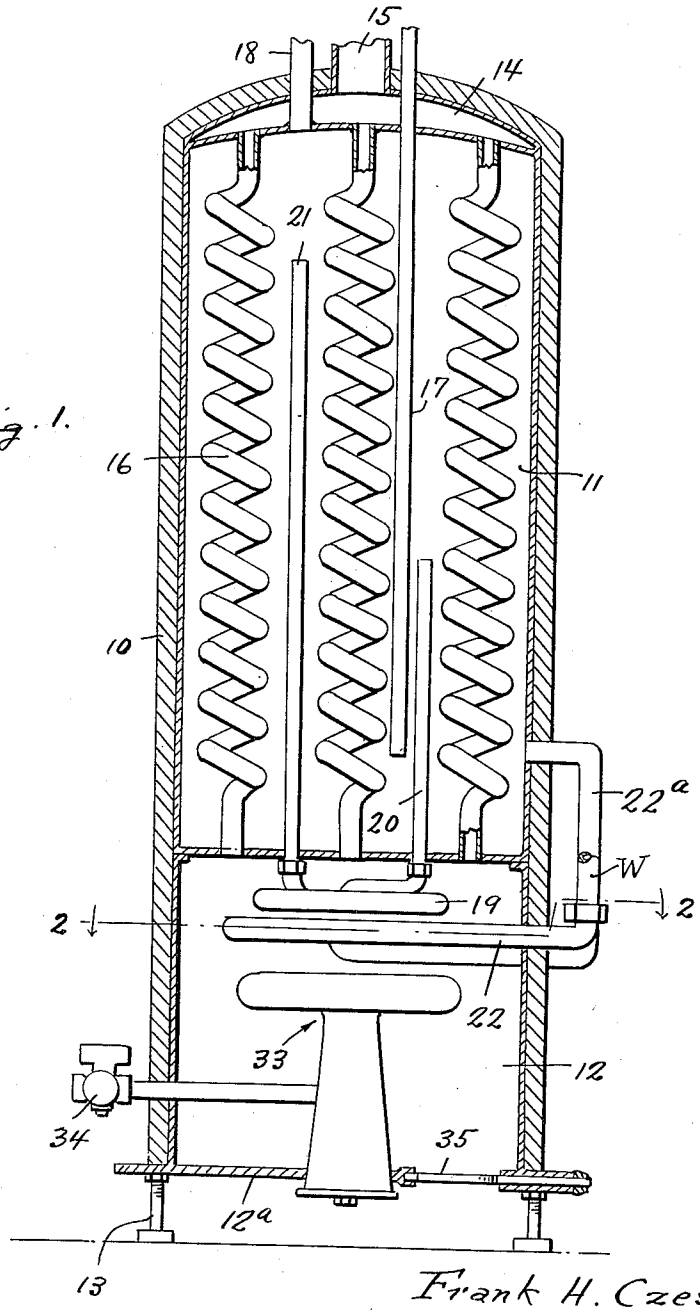
Aug. 10, 1937. F. H. CZESCHIN 2,089,734

HOT WATER HEATER

Filed March 22, 1935 2 Sheets-Sheet 1

Fig. 1.



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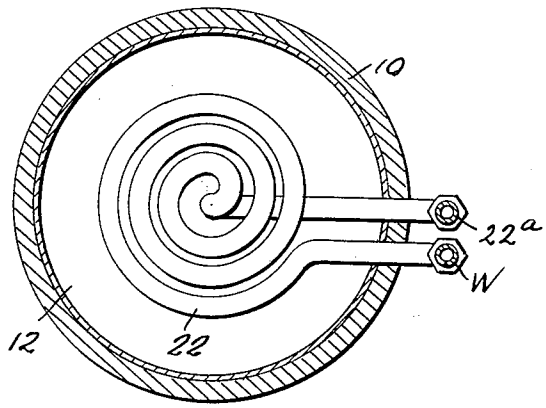
Attorney

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HOT WATER HEATER

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Fig. 2.



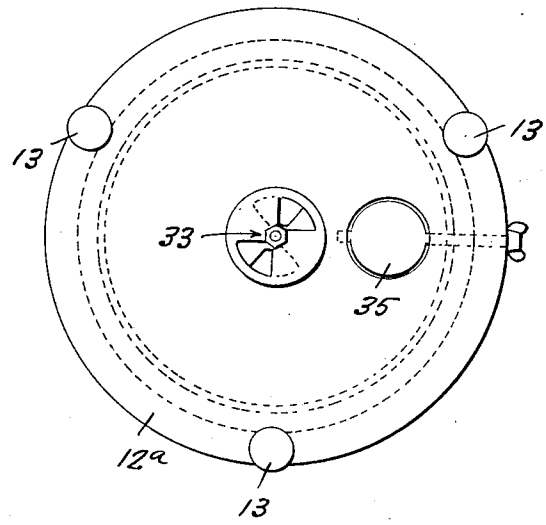


Fig. 3.

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2,089,734

HOT WATER HEATER

Frank H. Czeschin, Washington, Mo.

Application March 22, 1935, Serial No. 12,509

1 Claim. (Cl. 122—18)

This invention relates to device for heating water and more particularly to a hot water heater employing as a fuel either gas, natural or artificial, gasoline or fuel oil.

A general object of the invention is to improve gas hot water heaters now in general use, and the invention consists in the combination and arrangement of parts as hereinafter more specifically set out, being illustrated in the drawings, described in the accompanying specification, and as specifically pointed out in the appended claim.

The invention together with its objects and advantages will be best understood from a study of the following description taken in connection with the accompanying drawings wherein:

Figure 1 is a vertical sectional view through the heater.

Figure 2 is a horizontal sectional view taken substantially on the line 2—2 of Figure 1.

Figure 3 is a bottom plan view of the heater.

Referring to the drawings by reference numerals it will be seen that the hot water heater comprises a casing having an outer jacket 10 of insulating material, an upper elongated heating chamber 11 and a lower shorter chamber 12. Legs 13 of any suitable type may be provided for the heater.

At the top of the chamber 11 there is manifold chamber 14 to which is connected a flue pipe 15 extending through the top of the casing.

Arranged in the chamber 11 and opening at one end into the chamber 12, and at an opposite or upper end into a manifold chamber 14 are vertically disposed suitably arranged heating coils 16 through which the hot gases from the chamber 12 pass upwardly to exit through the flue 15, and for the purpose of heating the water within the chamber 11.

Extending downwardly into the water chamber 11 through the top of the heater, and terminating in spaced relation to the bottom of the chamber 11 is a cold water supply pipe 17. A hot water pipe 18 for drawing off the hot water from the chamber 11 has an end extending through the top of the heater and connected with the top or dome of the chamber 11 as shown in Figure 1. Thus it will be seen that cold water entering the chamber 11 through the pipe 17 will be heated and can be drawn off through the pipe 18.

Suitably mounted within the chamber 12 immediately beneath the bottom of the chamber 11 is a water coil 19 one end of which is connected with a vertical intake pipe 20 that extends upwardly into the chamber 11 through the bottom of the chamber 11, while the other end of the coil 19 is connected with a longer pipe 21 that also extends upwardly into the chamber 11 through the bottom thereof. Thus it will be seen that certain of the water from the chamber 11 may circulate through the coil 19 entering the coil through the pipe 20 and returning to the chamber 11 through the pipe 21 thus adding to the capacity of the heater.

While hot water drawn from the chamber 11 through the pipe 18 may be used for heating purposes hot water may also be drawn from the chamber 11 for other domestic use through the medium of a pipe 22a, coil 22 connected with the pipe and faucets (not shown) connected with the coil 22. In this connection it will be noted that one end of pipe 22a is tapped into the heater to communicate or connect with the chamber 11, while the other end of the pipe 22a, exteriorly of the heater is connected with one end of the coil 22. The coil 22 is arranged in the chamber 12 of the heater between the coil 19 and the gas burner 23. Connected with the coil 22 is a water distributing line W serving to connect the coil with faucets throughout the house or building. Thus it will be seen that water will pass from the chamber 11 through the pipe 21 to circulate through the coil 22 where it is heated, and passing from the coil be carried off to the faucets. The gas burner 33 may be of any suitable construction and is provided with the usual valve 34. Access may be had to the burner 33 for igniting the same through a door or the like (not shown) provided for the chamber 12. This chamber 12, as clearly shown in Figure 1, is also provided with a bottom 12a equipped with a suitable draft damper 35 of the butterfly type for controlling the passage of air into the chamber 12 to promote combustion.

From the above it will be apparent that a heater comprising the features of the present invention can be economically constructed and maintained, and that the water heated thereby may be utilized for heating purposes and for other domestic uses.

Having thus described the invention, what is claimed as new is:

In a hot water heater, a casing provided with a water compartment, a manifold chamber above the water compartment, and a burner compartment below the water compartment, an exit flue extending from the top of said casing for carrying off the product of combustion from the manifold chamber, a cold water inlet pipe extending downwardly through the top of said casing

and through said manifold chamber, and terminating at its lower end in spaced relation upwardly from the bottom of the water compartment, a plurality of flue coils arranged in the water compartment, said coils having lower ends opening into the burner chamber and upper ends opening into the manifold chamber, a burner in said burner compartment, a water coil in said burner compartment above the burner, piping connecting one end of said coil with the water compartment, said coil having an opposite end adapted to be connected to faucets or the like for drawing off heated water from the coil, a second coil arranged within the burner compartment, long and short pipes respectively disposed vertically within the water compartment, each of said pipes having a lower end extending into the burner compartment, and the lower end of one of said pipes being connected with one end of the second coil, and the lower end of the other of said pipes being connected with a relatively opposite end of the second coil whereby to provide for a flow of water from the water compartment through the second coil back to the water compartment.

FRANK H. CZESCHIN.