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R. ARNOLD

ELECTRIC WATER HEATER

Original Filed August 11, 1924

Fig. 1.

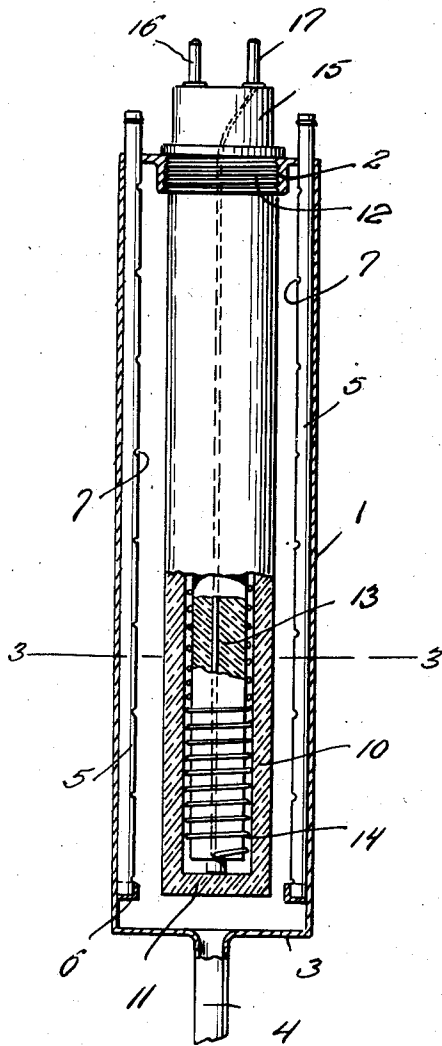


Fig. 2.

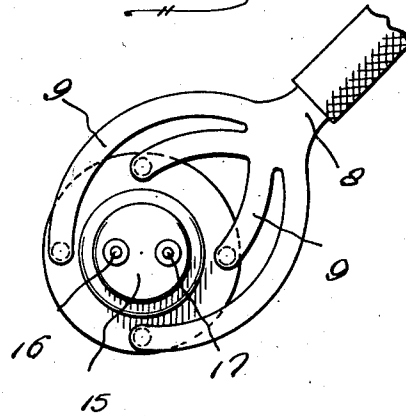
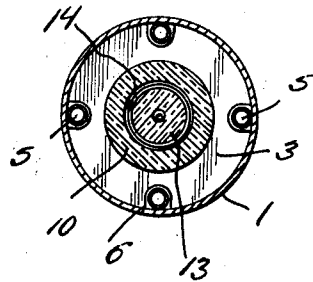


Fig. 3.



Rulon Arnold
Inventor

By *Clarence A. Brown*
Attorney

UNITED STATES PATENT OFFICE.

RULON ARNOLD, OF SALT LAKE CITY, UTAH, ASSIGNOR OF ONE-THIRD TO THOMAS DUMAYNE AND ONE-THIRD TO ARTHUR M. TRUMAN, BOTH OF SALT LAKE CITY, UTAH.

ELECTRIC WATER HEATER.

Application filed August 11, 1924, Serial No. 731,389. Renewed November 19, 1925.

This invention relates to improvements in water heaters and has for its principal object to provide a means for electrically heating water in a casing rapidly upon the discharge of the water from the supply pipe into the casing.

A further object of the invention is to provide a rapidly electric water heater of the above mentioned character, which will at all times be positive and efficient in its operation, the parts being so arranged as to enable the same to be readily and easily assembled for use.

A further object of the invention is to provide an electric water heater wherein a plurality of spray pipes are arranged within the casing for directing the flow of water therethrough onto the heating element whereby the water may be rapidly heated and discharged from the casing.

A still further object of the invention is to provide a water heater of the above mentioned character, which is simple in construction, inexpensive, strong and durable, and furthermore adapted for the purposes for which it is designated.

Other objects and advantages of this invention will become apparent during the course of the following description.

In the accompanying drawing forming a part of this specification and in which like numerals designate like parts throughout the same:

Figure 1 is a view partly in side elevation and partly in section of my improved electric water heater.

Figure 2 is a top plan view thereof, and

Figure 3 is a sectional view taken approximately on line 3—3 of Figure 1.

In the drawing wherein for the purpose of illustration is shown the preferred embodiment of my invention, the numeral 1 designates a substantially cylindrical casing forming a part of my improved electric water heater, the upper end thereof being further provided with an inwardly disposed internally threaded neck 2, the purpose of which will be presently described. Communicating with the bottom 3 of the casing 1 is the outlet pipe 4.

Extending vertically within the cylindrical casing 1 and arranged in spaced relation with respect to each other are the spray pipes 5. The lower ends of the spray pipes

are supported in suitable sockets 6, extending from the inner wall of the casing adjacent the bottom 3, while the upper ends of the pipes extend through the top of the casing in the manner as illustrated more clearly in Figure 1. Any additional means may be provided for supporting the pipe in proper spaced relation with respect to each other within the casing and each of the pipes is provided with a plurality of vertically spaced jets 7, whereby the water flowing through the pipes will be directed out through the jets onto the heater disposed within the casing and the construction of which will be presently described.

A main supply pipe 8 communicates with the upper ends of the vertically extending spray pipes 5, by means of the branch pipes 9, and this construction is clearly illustrated in Figure 2 of the drawing. The opposite end of the main supply pipe 8 may be connected to any suitable water supply (not shown).

Extending centrally and vertically within the casing 1 is the hollow core 10 which may be constructed of any suitable non-conductive material, the bottom of the core being closed as illustrated at 11. The upper portion of the core is externally threaded as illustrated at 12 whereby the same may be supported in engagement with the internally threaded neck 2 formed in the top of the casing so that the bottom 11 of the core will be spaced from the bottom 3 of the casing.

An insulator 13 is disposed within the core 10 and is spaced therefrom and extending around the insulator 13 is the resistance wire 14. A plug 15 is associated with the upper end of the core and the contacts 16 and 17 thereof are adapted to be connected to the resistance 14 and a suitable source of electric supply respectively in the manner well known in the art.

When the plug 15 is attached to an electric socket, the current will flow through the resistance wire 14 heating the hollow core 10 and causing the same to maintain its heated condition as long as is desired. A supply of water is admitted to the spray pipes 5 from the supply pipe 8 and as the water passes through the pipes 5, the same will be discharged out through the jet 7 against the core 10 whereby the water will be heated and the heated water will be discharged from the casing out through the discharge pipe

4. In this manner, water may be heated rapidly in a simple and efficient manner and further at a very low cost.

The simplicity in which my improved electric water heater is constructed enables the parts to be readily assembled or disassembled and the heating means may be readily removed from the casing without the loss of any considerable length of time and labor.

10 While I have shown the preferred embodiment of my invention, it is to be understood that various changes in the size, shape and arrangement of parts may be resorted to without departing from the spirit of the invention and the scope of the appended claims.

Having thus described the invention, what I claim is:—

1. An electric water heater comprising a 20 cylindrical casing, an outlet pipe extending from the bottom thereof, a plurality of spaced water spray pipes extending vertically within the casing against the inner wall thereof, a supply pipe having means 25 for communicating with the upper ends of the spray pipes, said spray pipes having a series of vertically spaced jets, an electric heater supported centrally within the casing and against which the water from the spray

pipes through the jets comes in contact with 30 before being discharged through the outlet pipe in the bottom of the casing, said heater comprising a hollow core of insulated material supported in the casing, the bottom thereof being closed and spaced from the 35 bottom of the casing, and a heating element within the hollow core.

2. An electric water heater comprising a cylindrical casing, an outlet pipe extending from the bottom thereof, inwardly extend- 40 ing internally threaded neck in the top of the casing, a plurality of spaced water spray pipes extending vertically within the casing, a main supply pipe, branch pipes connecting the main supply pipe with the upper 45 ends of the spray pipes, each of spray pipes having a series of vertically spaced jets, and an electric heating member supported at its upper end in the internally threaded neck of the casing, the lower end of the heat- 50 ing member being spaced from the bottom of the casing, the water in the spray pipe adapted to be discharged through the jets onto the heating member before being discharged from the casing through the outlet 55 pipe.

In testimony whereof I affix my signature.
RULON ARNOLD.