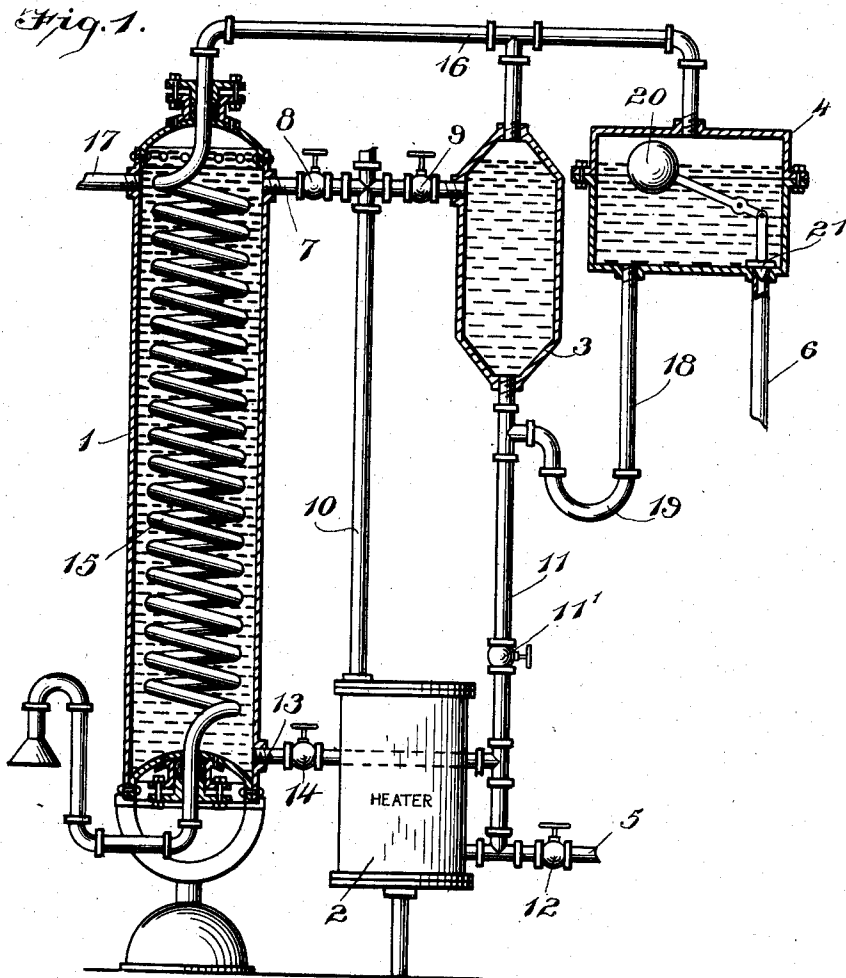


D. W. DALEY.
 COMBINED HOT WATER HEATER AND STILL.
 APPLICATION FILED NOV. 14, 1906.

902,277.

Patented Oct. 27, 1908.



WITNESSES:

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UNITED STATES PATENT OFFICE.

DENNIS WILLIAM DALEY, OF PITTSBURG, PENNSYLVANIA.

COMBINED HOT-WATER HEATER AND STILL.

No. 902,277.

Specification of Letters Patent.

Patented Oct. 27, 1908.

Application filed November 14, 1906. Serial No. 343,391.

To all whom it may concern:

Be it known that I, DENNIS WILLIAM DALEY, a citizen of the United States, residing at Pittsburg, in the county of Allegheny and State of Pennsylvania, have invented certain new and useful Improvements in a Combined Hot-Water Heater and Still; and I do declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same, reference being had to the accompanying drawings, and to the letters and figures of reference marked thereon, which form a part of this specification.

My invention relates to a combined hot water heater and still, and has for its object to provide a device of this class particularly for domestic purposes and which is so constructed and arranged that it can be employed for distilling water or as a simple domestic heater.

A further object of my invention is to provide a device of this class which is so arranged that a small quantity of water under pressure can be quickly heated and supplied to the fixtures without first passing through the usual domestic boiler.

A further object of my invention is to provide a device of this class which is particularly simple in its construction, cheap and easy to install, durable and efficient.

With these objects in view, my invention consists in the novel construction of the steam tank.

My invention also consists in the novel arrangement of the pipe lines.

My invention also consists in the trap located between the float chamber and the steam tank for keeping the hot water from the steam tank from entering the float chamber.

My invention also consists in certain other novel features of construction and in combinations of parts which will be first fully described and afterwards specifically pointed out in the appended claims.

Referring to the accompanying drawing: The figure is an elevation partly in vertical section of the system.

1 indicates the domestic boiler, 2 the heater, 3 the steam tank and 4 the float chamber.

Referring to the figure it will be seen that the supply pipe 5 enters the heater 2, while a supply pipe 6 also leads to the float chamber

4. Connecting the boiler 1 and steam tank 3 is a pipe line 7, and entering said line 7 between the two valves 8 and 9 is a pipe 10 from the heater which pipe 10 could be extended for any purpose desired. Connecting the steam tank 3 with the heater 2 and supply pipe 5 is a pipe 11, a valve 12 being arranged in the said supply pipe 5 and a valve 11' in the pipe 11. Connecting the boiler 1 at the bottom thereof with the pipe 11 leading from the steam tank 3 is a pipe 13 passing behind the heater, a valve 14 being located in said pipe 13. Arranged within the boiler 1 is a condensing coil 15, said coil being connected to the steam tank 3 and float chamber 4 by means of a pipe line 16. Leading from the boiler 1 near the top thereof is a pipe 17 to the domestic water fixtures, and connecting the float chamber 4 with the steam tank 3 is a feed pipe 18 in which is formed a trap 19.

As shown in the figure the float chamber 4 carries a float 20 and valve 21 actuated by said float.

Having thus fully described the several parts of my invention, its operation is as follows: In order to distil according to the arrangement shown in the figure the valves 12, 8 and 14 are closed which causes a direct circulation from the heater 2 through the pipe 10 to the steam tank 3 and back through the pipe 11 to the heater, the steam from the steam tank 3 passing into the condensing coil 15 where it is condensed by the water in the domestic boiler 1, passing out of said coil in the form of distilled water. The water in the float chamber 4 and steam tank 3 being at the same level the said steam tank is fed from the float chamber, said water passing through the trap 19, which trap effectually prevents the hot water from the steam tank 3 entering the float chamber on its return to the heater 2. In this connection the float chamber 4 becomes a means for supplying the steam tank 3 and heater 2 independent of the supply pipe 5. The pipe line 16 passing from the steam tank 3 to the float chamber 4 balances the pressure in the said steam tank and float chamber so as to insure proper feeding to the steam tank.

When not distilling, the valves 9 and 11' are closed and the valves 8 and 14 opened, which causes a direct circulation from the heater to the domestic boiler and back to the heater.

When it is desired to quickly heat a small

quantity of water to be supplied to the fixtures without first passing through the usual domestic boiler the valves 12, 8 and 14 are closed which confines the hot water to the steam tank and heater.

Having thus fully described my invention, what I claim as new and desire to secure by Letters Patent of the United States, is:—

1. In a device of the character described, the combination with a domestic boiler, a heater piped thereto for furnishing hot water to said boiler for usual domestic purposes, a steam tank piped to said heater, a valve in the pipe between said domestic boiler and heater for closing connection between said domestic boiler and heater to prevent passage of water from said heater to said boiler, means for supplying said heater and domestic boiler, independent means for supplying said heater and steam tank to keep the water in said steam tank at a uniform level, and means for condensing the steam passing from said steam tank, substantially as described.

2. In a device of the character described, the combination with a domestic boiler, of a heater piped thereto for furnishing hot water to said boiler for usual domestic purposes, a steam tank piped to said heater, a float chamber associated with said steam tank to feed said steam tank, a valve located in the pipe between said heater and said domestic boiler for closing connection between said heater and said domestic boiler to prevent passage of water from said heater to said domestic boiler, and means for condensing the steam passing from said steam tank, substantially as described.

3. In a device of the character described, the combination with a domestic boiler, of a heater piped thereto for furnishing hot water to said boiler for usual domestic purposes, a steam tank piped to said heater, a float chamber associated with said steam tank to feed

the same, and a trap located between said steam tank and said float chamber to prevent the entrance of hot water from said steam tank into the said float chamber, substantially as described.

4. In a device of the character described, the combination with a domestic boiler, of a heater piped thereto for furnishing hot water to said boiler for usual domestic purposes, a steam tank piped to said heater, a valve in the pipe between said heater and said steam tank to prevent passage of water from said heater to said steam tank, and for confining the circulation to said domestic boiler and said heater, a valve in the pipe between said heater and said domestic boiler to prevent the passage of water from said heater to said domestic boiler, and for confining the circulation to said heater and steam tank, and means for leading the steam from said steam tank through said domestic boiler to condense the same, substantially as described.

5. In a device of the character described, the combination of a domestic boiler, a heater piped thereto for furnishing hot water to said boiler for usual domestic purposes, a steam tank piped to said heater, a valve located in the pipe between said heater and said domestic boiler to prevent passage of water from said heater to said domestic boiler, and for confining circulation to said heater and steam tank and a condensing coil arranged in said domestic boiler and connected to said steam tank to condense the steam from said steam tank, substantially as described.

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

DENNIS WILLIAM DALEY.

Witnesses:

THOMAS McCaffrey,
ROBT. A. DALZELL.