

L. GALLOWAY.
 COMBINED HEATING PLATE AND WATER HEATER.
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934,517.

Patented Sept. 21, 1909.

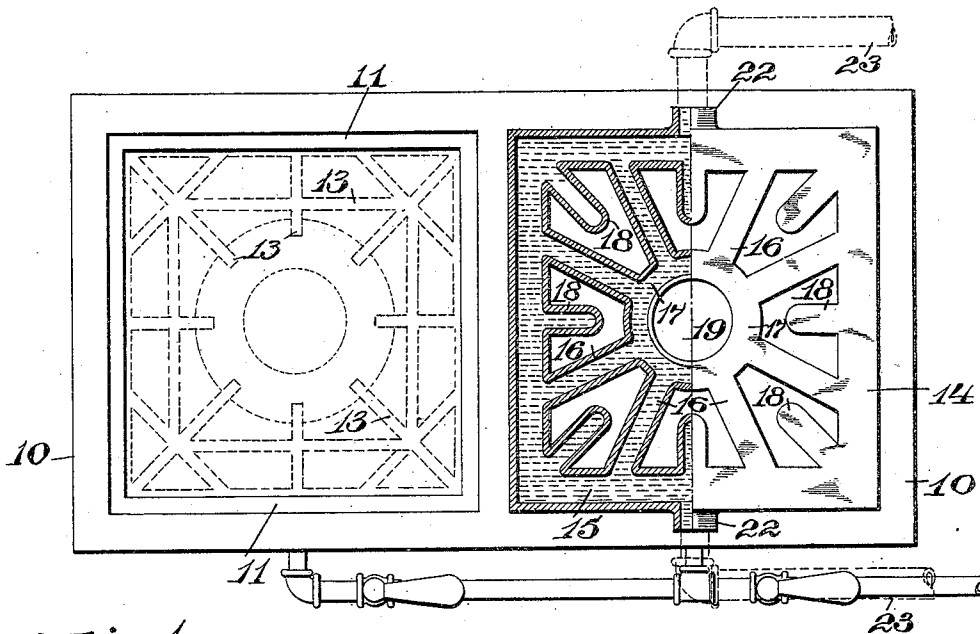


Fig. 1

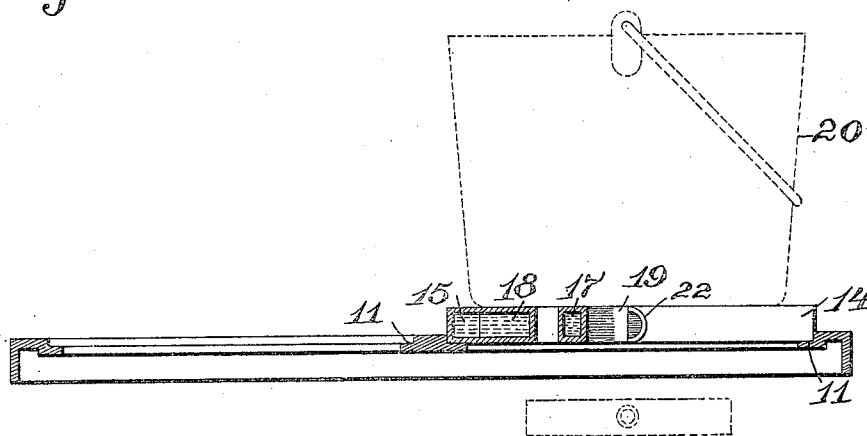


Fig. 2

WITNESSES:
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LEWIS GALLOWAY, OF MONTCLAIR, NEW JERSEY.

COMBINED HEATING-PLATE AND WATER-HEATER.

934,517.

Specification of Letters Patent. Patented Sept. 21, 1909.

Application filed November 20, 1908. Serial No. 463,535.

To all whom it may concern:

Be it known that I, LEWIS GALLOWAY, a citizen of the United States, residing at Montclair, in the county of Essex and State of New Jersey, have invented certain new and useful Improvements in Combined Heating-Plates and Water-Heaters; and I do hereby 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 figures of reference marked thereon, which form a part of this specification.

This device is designed to provide a fixture for gas-stoves which is adapted to fit in the rectangular portion of a gas-stove in which the framework on which cooking utensils are supported is now seated, and is adapted to hold a utensil in a similar way, permitting the ready heating of the utensil being supported.

A further object of the invention is to provide a fixture of this kind which is hollow to receive a fluid, preferably water, and is designed to be provided with pipe connections, at opposite ends or sides, so that pipes can be led therefrom to a house heater so that hot water can be supplied, the water being heated whenever utensils are being heated on the gas-stove, or the heater can be used as a heater alone, heating water quickly by means of a small flame on the burner.

The device is further designed to provide a fixture of this kind that has two chambers or channels for water that are continuous circumferentially, but which are connected by radial passages, which radial passages can be supplemented by corrugations or "blind" passages to provide for a heating surface, and to also give a larger supporting surface for the support of a utensil to be heated, in addition to the water heater.

The invention is illustrated in the accompanying drawing, in which—

Figure 1 is a plan of a conventional gas-stove with one of my water heaters in position, the other burner being illustrated with an ordinary supporter for a utensil, which supporter is shown in dotted outline. Fig. 2 is a section of the stove with a part of the water heater in vertical section.

Any form of gas-stove 10 can be used in conjunction with my improved heater, the gas-stove having the usual rectangular de-

pressions 11 which form supporting surfaces for the frames 13 shown in dotted outline, which permit the flame to pass through and at the same time support the element or utensil to be heated. I provide a water heater 14 to fit in the recess 11, its outer surface being made to conform therewith. The water heater has a surrounding duct or passage 15 which is continuous and is provided with radially arranged arms 16 which are also hollow and act as channels or passages for the water, these radial arms 16 passing into an inner circulating chamber 17 which provides a ring or an equivalent structure having a continuous circumferential flow of water so that the circulation through the device is assured. To prevent the spaces formed between the arms 16 being too large, I provide small fingers or arms 18 which end "blind", but form an extra heating surface for the water. This structure forms a central opening 19 which, in conjunction with the spaces between the radial arms 16, permits the heat to pass through it into any utensil or element 20, shown in dotted outline in Fig. 2, so that the use of the gas-stove, as a gas-stove, is not interfered with in the least, and the heater when removed can be easily replaced by an ordinary supporting frame 13.

Pipe connections 22 are installed on opposite sides of the water heater, being connected with the pipes 23 which are adapted to be led off to any usual hot water boiler which is not shown herein, since anyone skilled in the art would know the method of connecting these pipes to a hot water boiler to insure circulation, it being only necessary that one be connected at a higher elevation than the other. The pipe connections 22 are each placed opposite a finger 18, forming a dead end, so that a division of the fluid circulating is forced by parting the current and forcing water around both sides and through the radial arms on both sides of the water heater 14. This, along with the circular water chamber 17, prevents a straight rapid flow of a small heated stream of water through the heater, and forces a larger body of water to be heated and get in circulation, thus heating a boiler of water in much less time than if the current were not broken up as it is, due to the peculiar conformation of my improved heater.

The heater is readily installed, since it sets down in the recess 11 of the frame of

the gas-stove by reason of its outer configuration which is rectangular, this being the accepted style of all gas-stoves at present made.

5 Having thus described my invention, what I claim is:—

10 A water heater consisting of a rectangular outer passage, an inner continuous water chamber, radiating arms connecting the water chamber and the outer passage, hollow fingers projecting inwardly from the passage

and being hollow to contain water, and pipe connections on opposite sides of the heater and in line with the hollow fingers.

In testimony, that I claim the foregoing, 15 I have hereunto set my hand this 19th day of November 1908.

LEWIS GALLOWAY.

Witnesses:

WM. H. CAMFIELD,
E. A. PELL.