

W. E. MORROW.  
 WATER HEATER.  
 APPLICATION FILED SEPT. 22, 1908.

936,014.

Patented Oct. 5, 1909.

Fig. 1.

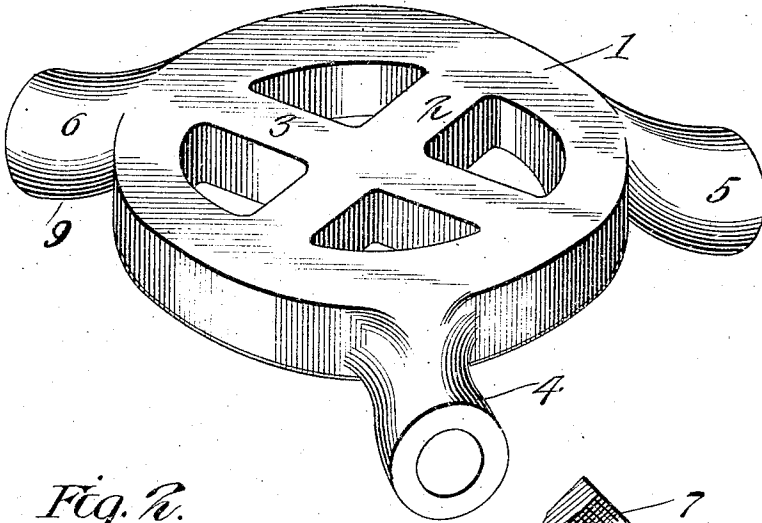


Fig. 2.

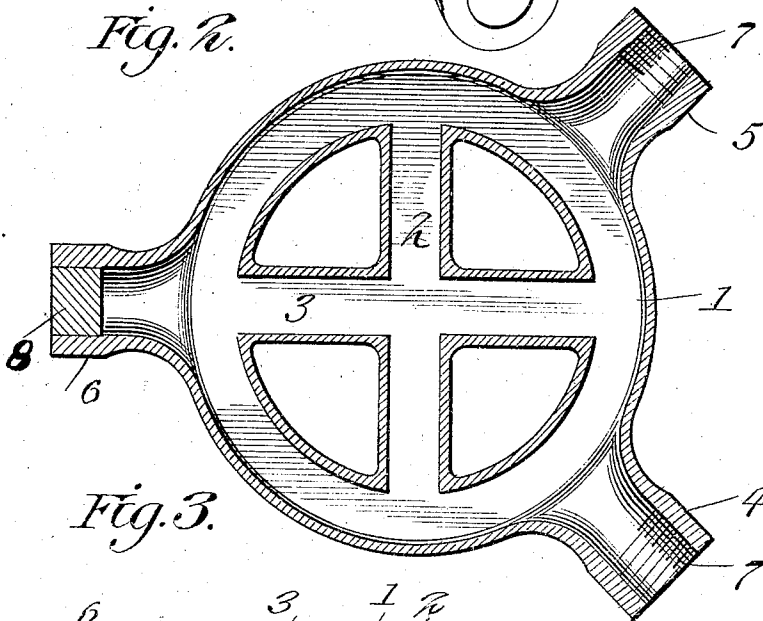
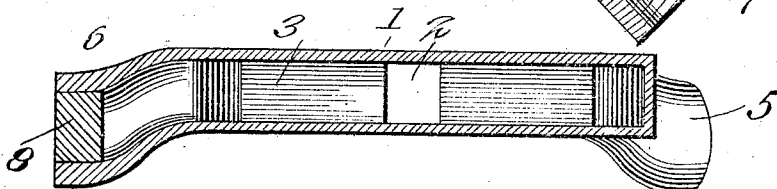


Fig. 3.



Inventor

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Witnesses  
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# UNITED STATES PATENT OFFICE.

WILLIAM E. MORROW, OF EAST CLEVELAND, OHIO.

## WATER-HEATER.

936,014.

Specification of Letters Patent.

Patented Oct. 5, 1909.

Application filed September 22, 1908. Serial No. 454,251.

To all whom it may concern:

Be it known that I, WILLIAM E. MORROW, a citizen of the United States, residing at East Cleveland, in the county of Cuyahoga and State of Ohio, have invented certain new and useful Improvements in Water-Heaters, of which the following is a specification.

The invention relates generally to liquid heaters and specifically to an improvement in a portable and detachable one-piece water heater adapted for use with the burner or heating surface of any stove of ordinary construction using as fuel any of the usual heating mediums.

The main object of the invention is the production of a heater such as above described which, while performing its function of furnishing hot water, is adapted to permit the use of the same burner or heated surface for the cooking of food, the heater in such instance serving as a support for the food container, such adaptability resulting in the saving of so much of the fuel as would otherwise be used to cook the food separately.

Another object of the invention is to produce a heater which can be casted or molded in a single piece of material, thereby lessening the cost of manufacture, reducing the liability of displacement or disarrangement of separate parts and injury to the heater, and providing a device easily cleaned and cared for.

With these and other objects in view, the invention will now be described in the following specification, taken in connection with the accompanying drawings, and then more particularly pointed out in the claim.

In the drawings, Figure 1 is a perspective of my improved heater. Fig. 2 is a central horizontal section, and Fig. 3 is a central vertical section.

Referring now to the drawings, wherein is embodied the preferred details of my invention and wherein like reference numerals refer to like parts throughout the several views, 1 denotes the body of the burner comprising a tubular member, of equal bore throughout its length and of approximately circular form, from the inner circumference of which extend cross tubes 2 and 3, formed integral with the body member 1 and similarly bored throughout their lengths, the bores of said tubes of course crossing at their central

points and at their ends opening into the bore of the body member, thus providing a system of intercommunicating channels for the circulation, under the influence of heat, of the water or other liquid to be heated. An ingress tube, formed integral with body 1 and through which the water or other liquid to be heated is designed to enter the circulating system of the heater, is denoted by 4 and comprises a hollow member disposed in a slightly downward direction and adapted for connection by any well-known means, as a conduit pipe or the like, to the source of water supply, while 5 indicates the exit tube, in construction and relative position similar to tube 4 and is adapted to lead the heated water to the receptacle desired to be filled therewith. 6 denotes a core tube, also formed integral with body member 1 and generally similar in form to tubes 4 and 5, said latter tubes being provided with interior screw threads for convenient connection to the respective supply and discharge pipes. Pipe 6 is provided with a removable plug 8, held to its place by friction, said tube having the function of providing means for removing the core employed in casting the heater. Tubes 4, 5, and 6 are so formed and positioned in relation to the body member 1 that their lowest point 9 forms a bearing for the support of the heater when it is in operative position on a stove, as will be obvious.

The operation will be readily understood from the foregoing to be as follows; the water or other liquid to be heated entering tube 4 from the source of supply and becoming heated, under influence of the ignited fuel, will circulate through the tubes to the point of exit at tube 5, its temperature being raised to the desired point in its course of movement, a valve of any ordinary construction (not shown) being positioned at a convenient point in the exit tube or its pipe connection to permit of regulation of the circulating rate of flow, if desired, and thence from tube 5 to the tank designed to hold the heated water.

As will be understood, the open work construction of my improved heater permits practically free passage of the heat from its source of supply to a cooking vessel placed above it should such supplementary cooking or heating be desired; the heater acting in this event as a support for such vessel, while

at the same time receiving the full caloric energy from said supply of heat, the large heating surface presented by the construction insuring rapid heating of the contained  
5 water and its consequent rapid circulation through the system and replacement by unheated water.

From the above it will be seen that I have provided a simple, durable, one-piece heater  
10 adapted to effectively perform its function in connection with any type of stove without any modification whatever of the latter or provision of any particular kind of fuel and which will simultaneously furnish heated  
15 water and permit uninterrupted passage of heat to a superimposed cooking vessel. It is also obvious that the device can be easily cleaned, if desired, by the passage there-  
20 through, under the influence of heat, of any cleansing liquid.

Having thus described my invention, what

I claim as new and desire to secure by Letters Patent, is:—

A liquid heater comprising an annular, tubular body member, a plurality of integral, 25 tubular members disposed within the circumference of the body member, and three nipples equally spaced circumferentially of the body member and projecting radially there-  
30 from, one of said nipples serving as an inlet and another of said nipples serving as an outlet, all of said nipples being bent into a plane below the said body member, whereby to provide three points of support for the body and space the latter from a heating  
35 flame when in operative position.

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

WILLIAM E. MORROW.

Witnesses:

DAVID A. SAGE,  
GEO. F. WATERS.