

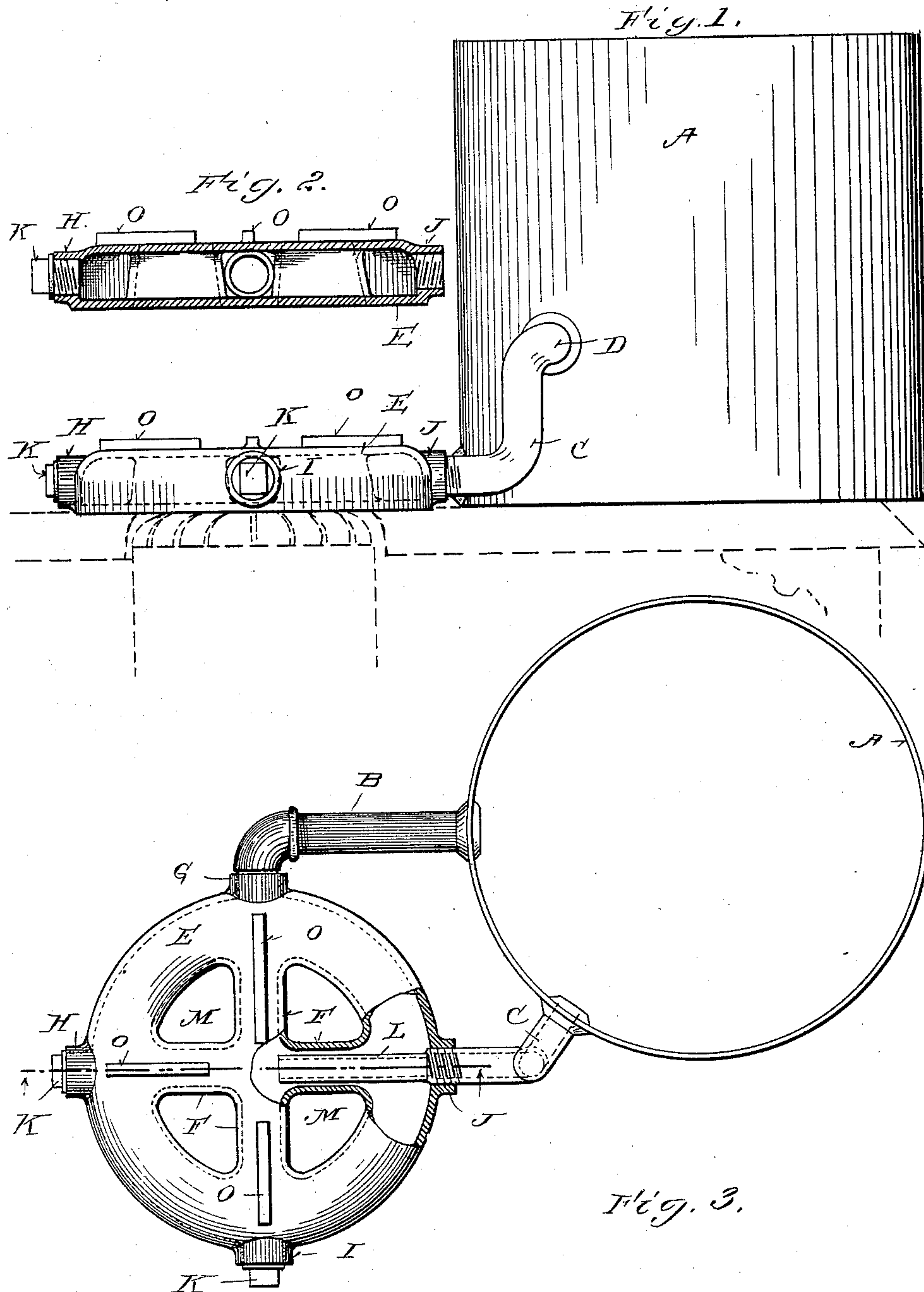
No. 609,866.

Patented Aug. 30, 1898.

J. E. BAKER.  
WATER HEATER.

(Application filed June 1, 1897.)

(No Model.)



Witnesses  
Jas. C. Hawley,  
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# UNITED STATES PATENT OFFICE.

JAMES E. BAKER, OF MADISON, WISCONSIN, ASSIGNOR OF ONE-HALF TO  
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## WATER-HEATER.

SPECIFICATION forming part of Letters Patent No. 609,866, dated August 30, 1898.

Application filed June 1, 1897. Serial No. 638,912. (No model.)

*To all whom it may concern:*

Be it known that I, JAMES E. BAKER, a citizen of the United States, residing at Madison, in the county of Dane and State of Wisconsin, have invented certain new and useful Improvements in Water-Heaters, of which the following is a specification, reference being had therein to the accompanying drawings.

This invention relates to certain new and useful improvements in water-heaters.

My invention is in the nature of an attachment, as distinguished from a fixture, to the ordinary gas or gasoline stoves, such as commonly found on the market.

There are two essential objects which I have in view—namely, first, such a combination of the heater, the water-tank, and the pipes which connect them together as that the water moving from the heater to the tank shall be taken from the hottest part of the water or heater, so that the circulation will be more effective and rapid, and, second, in the form and arrangement of the water-passages in the heater, to the end that they will be subjected to the most intense heat possible from the flames, yet at the same time will permit the flames to be utilized in cooking articles while still heating the water.

In the accompanying drawings, on which like reference-letters indicate corresponding parts, Figure 1 is a side elevation of my improved water-heater, shown in dotted lines, and a portion of a gas or gasoline stove and showing the adaptation of my heater thereto. Fig. 2 is a detail transverse sectional view of the heater proper, and Fig. 3 a plan view of the apparatus entire.

In dotted lines I have illustrated so much of an ordinary gas or gasoline stove and its burner as is necessary to clearly show how my water-heater is applicable to use therewith as an attachment therefor as distinguished from a fixture which forms a part of or enters into the stove structure itself.

The letter A designates a water tank or vessel capable of withstanding heat, of such size and form as best adapted for the particular use. This tank I connect with the heater proper by means of pipes, hollow branches, or

conduits B and C. The pipe B, I term the “outgoing” pipe, and I use this term relatively with the tank. The pipe C, I term the “ingoing” pipe relatively with said tank. The plane of the pipe B is near the bottom of the tank, while the plane of the pipe C at the point where entering the tank, as indicated at D, is well above the bottom—say about one-third the height of the tank, or it may be more or less.

The water passing from the vessel through the pipe B is to be heated and then returned to the vessel and is to be kept in circulation. For this purpose I provide what I term the “heater proper,” the same consisting of a hollow structure E, preferably circular in outline and provided with transverse or radial hollow portions F. This heater is preferably constructed of metal by the use of cores. It has bosses G H I J. A core-support extends through these bosses when forming the casting, and when the heater proper is fitted up for use the bosses H and I are closed with plugs, preferably screw-threaded, (marked K.) The bosses G and J receive the pipes B and C, and the connection is preferably made by means of a screw-thread, as shown. Pipe C has an extension L, which runs in to about the center of the heater proper, passing through one of the parts F. The water is hottest in this central portion, and as the extension L supplies the pipe C consequently the hot water is taken from the hottest part of the heater, and so the water thus taken is the hottest water within the apparatus. This has two effects—namely, it heats the water quicker in the vessel and it produces a more rapid circulation.

There are open spaces M between the rim portion and the cross portions of the heater proper for the passage of flames, so that while my attachment is in use the stove may be utilized for the other and ordinary uses. Rests O in the form of lugs or projections on the upper side of the heater proper are adapted to receive pots and pans, &c.

My apparatus is simple, is constructed of a few parts, and is consequently cheap, and, as I have ascertained by tests, is a practical



and efficient water-heater, and being applicable to any of the stoves of the kind stated now commonly on the market it is marketable as a utensil complete in itself and ready  
5 for use without any special stove.

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

1. In a water-heater, the combination with  
10 a heater proper consisting of a hollow body having a central opening, and a water-inlet pipe entering into one side of said body, and having hollow portions in said central opening, and an outlet pipe or passage extending  
15 from approximately the center of said hollow portions outward to and through one side of said body, whereby the outgoing water is taken from the hottest part of the heater and whereby also the flames are allowed to  
20 pass upward through this heater to be utilized for other purposes at the same time that

they are made to envelop the said hollow portions.

2. A water-heater consisting of an outer hollow portion and transverse hollow portions uniting near the center and forming at  
25 such point a water space or receptacle, and of two pipes, one of said pipes being connected with the outer hollow portion and extending thence outward, and the other of said  
30 pipes being connected with the outer portion and extended thence outward and thence inward across the outer portion and down through one of the transverse portions and terminating at or near the center.  
35

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

JAMES E. BAKER.

Witnesses:

LESLIE B. ROWLEY,  
LULIE CURTISS.