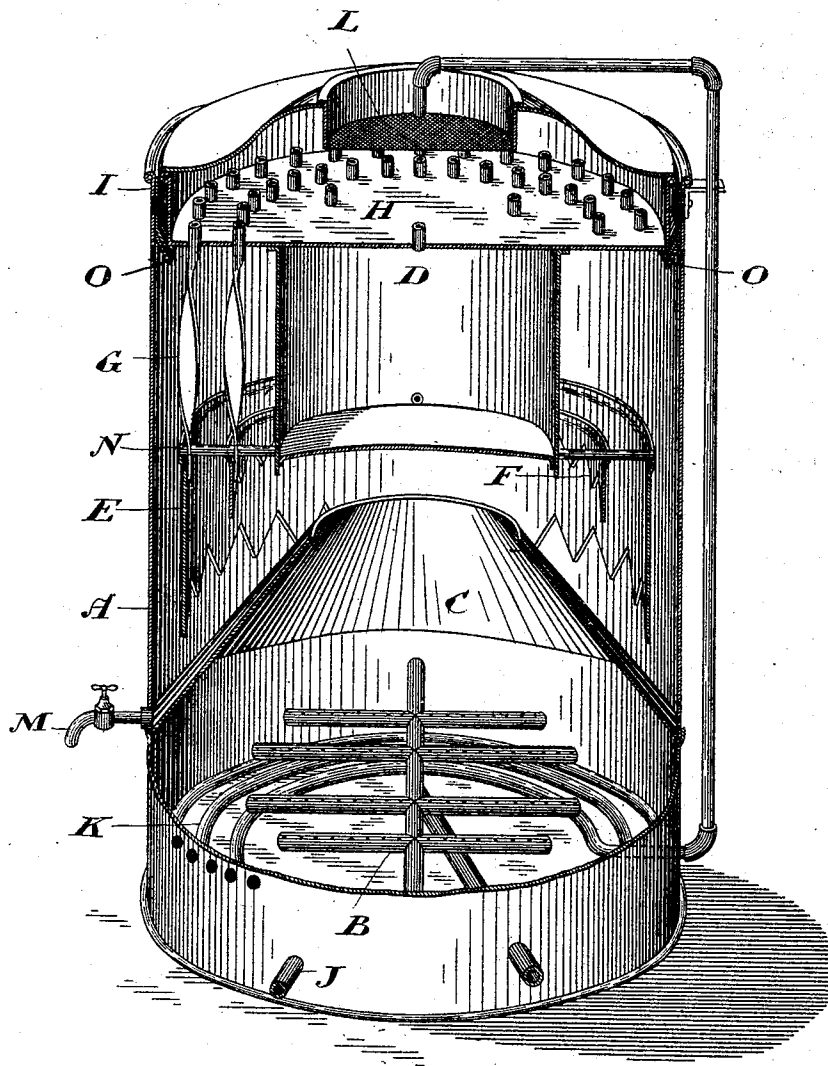


(No Model.)

G. LLOYD.
WATER HEATER.

No. 496,788.

Patented May 2, 1893.



Witnesses

H. C. McMillan

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UNITED STATES PATENT OFFICE.

GEORGE LLOYD, OF ST. CATHARINES, CANADA.

WATER-HEATER.

SPECIFICATION forming part of Letters Patent No. 496,788, dated May 2, 1892.

Application filed August 24, 1892. Serial No. 443,973. (No model.)

To all whom it may concern:

Be it known that I, GEORGE LLOYD, of the city of St. Catharines, in the county of Lincoln, in the Province of Ontario, Canada, have invented a certain new and Improved Water-Heater, of which the following is a specification.

The object of the invention is to construct a heater by which water may be raised to high temperature while flowing through the device, and it consists in the peculiar construction, arrangement and combinations of parts hereinafter more particularly described and then definitely claimed.

The drawing represents a sectional perspective view of my improved water heater.

My invention is specially designed as an attachment to a water pipe leading to a bath where it is desired that the water required for use may be rapidly heated to the required temperature at times when it is not convenient to light a fire in the stove.

By my invention I am able to secure the required quantity of water by simply turning on the gas and water, the construction of the device being such that the water passing through my heater will be heated to as high a temperature as required for bathing purposes.

A, represents a vessel preferably cylindrical in shape, in the bottom of which vessel I place a series of perforated pipes B, connected to the gas pipe.

C, represents a cone-shaped hood over the pipe B, the apex of the cone being removed for the purpose of exposing the bottom of the interior vessel D, to the action of the heat for the gas jets.

E, represents a skirt having its bottom edge scalloped or serrated as indicated.

F, is a skirt having a scalloped bottom edge similar to the skirt E, but preferably made narrower.

A series of twisted plates G, of which two only are shown in the drawing are connected to the skirts E, and F, and extend up through the crown sheet H, into the chamber I. Each twisted plate G, is formed so that if water is placed in the chamber I, it will trickle down each plate and finally reaching the skirt to

which the said twisted plate is connected, will travel down to the point of the scalloped or serrated edge and from there drop onto the hood C. The cold water enters at J, passes around the coil K, which may be made with as many coils as desired. The pipe is then carried to the top of the vessel, A, and extends over the center of the said vessel, as indicated, discharging into the sieve L, through which it is strained before entering the chamber I.

There are sufficient twisted plates G, to permit the escape of the water which enters through the pipe J. All the water which so enters percolates through the holes made in the sheet H, by the shanks of the plates G, trickling down the said plates and falls as before described onto the hood C. In this way the water which enters through the pipe J, is divided into a large number of small streams, which are quickly acted upon by the intense heat produced by the burning gas escaping from the pipes B, and in this way becomes heated immediately upon entering the vessel so that before escaping through the pipe M, it is intensely hot and may be run into a bath or other vessel where heated water is required. The crown sheet H, is also perforated immediately over the inner vessel D, through which perforation the water passes into the said vessel where it becomes heated before it passes through the horizontal pipes N, over the skirt E, and finally drops down onto the hood C.

The skirts E, and F, are connected by the twisted plates G, to the crown sheet H, to which crown sheet the vessel D, is also fastened as well as the side of the chamber I, which is made smaller in diameter than the vessel A, and rests upon a flaring flange O, within the vessel A. Should the water overflow the side of the chamber I, it flows into the vessel A, onto the hood C, where it becomes heated and flows out of the pipe M.

By connecting the parts described together and making them as one, detachable for the vessel A, the said vessel and the parts referred to can easily be got at and kept clean.

I refer to jets as the means by which I heat the water, but it will of course be under-

stood that other means may be adopted and I therefore do not confine myself to the use of gas jets for the purpose specified.

What I claim as my invention is—

- 5 1. In a water heater, a vessel A provided with a heating device, a cone located over said heating device, a crown sheet H near the top of the vessel, a series of twisted plates inserted in openings in the crown sheet and
10 projecting therefrom, and a skirt connected to said plates and having its bottom edge serrated or scalloped, in combination with a pipe entering the top of the vessel and adapted to deliver water in said vessel, substantially as
15 described.

2. In a water heater having a heating device and a cone, a flange O flaring inwardly

from said heater, in combination with a vessel I resting on said flange O and having openings made therein for the passage of water, substantially as described. 20

3. In a water heater, a vessel A, a heating device located near the bottom of said vessel, in combination with a coil of pipe placed under said heating device and having one of its
25 ends adapted to be connected to a water supply and its other extending outside said vessel and again entering said vessel at its top, substantially as described.

Toronto, August 5, 1892.

GEORGE LLOYD.

In presence of—

A. M. NEFF,

DONALD C. RIDOUT.