No. 783,313. PATENTED FEB. 21, 1905.

E. J. ROBERTS.

WATER HEATING DEVICE.

APPLICATION FILED NOV. 24, 1903.

Fig. 1.

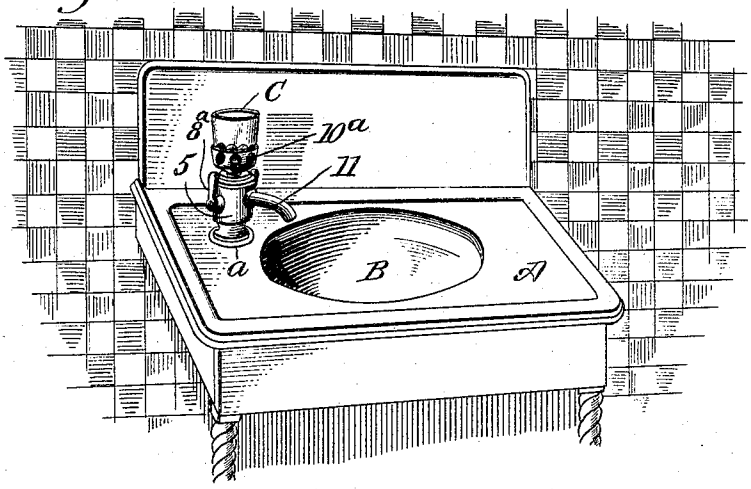
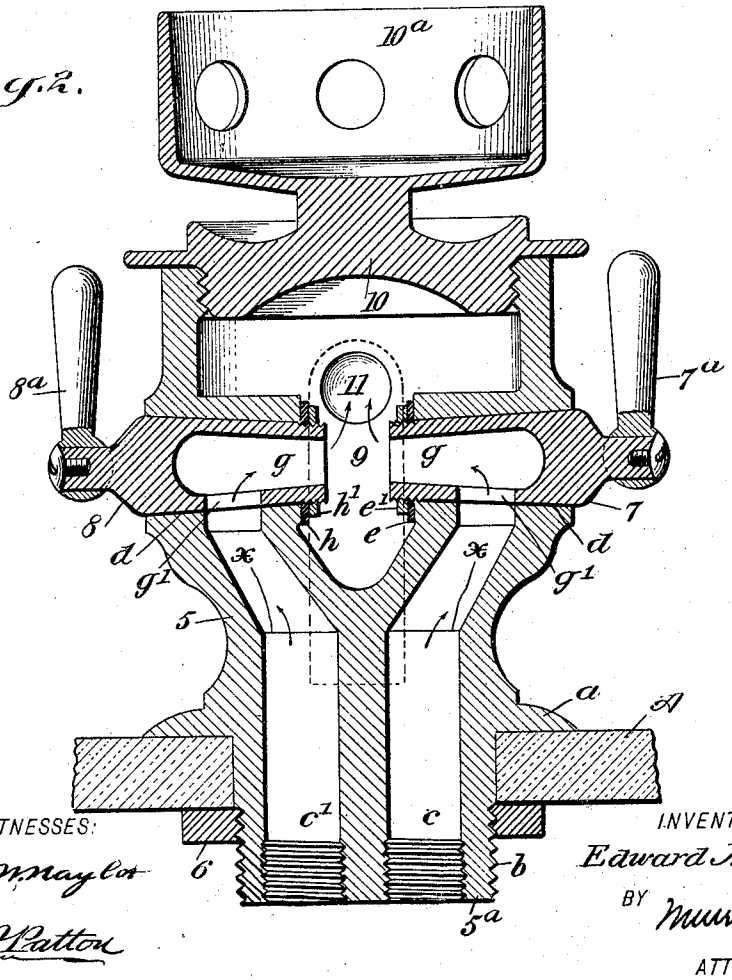


Fig. 2.



WITNESSES:

Geo. W. Naylor

Wm. P. Patton

INVENTOR

Edward J. Roberts

BY Munn & Co

ATTORNEYS.

No. 783,313. Patented February 21, 1905.

UNITED STATES PATENT OFFICE.

EDWARD JOHN ROBERTS, OF KEARSARGE, MICHIGAN.

WATER-HEATING DEVICE.

SPECIFICATION forming part of Letters Patent No. 783,313, dated February 21, 1905.

Application filed November 24, 1903. Serial No. 182,495.

To all whom it may concern:

Be it known that I, EDWARD JOHN ROBERTS, a citizen of the United States, and a resident of Kearsarge, in the county of Houghton and State of Michigan, have invented a new and Improved Water-Heating Device, of which the following is a full, clear, and exact description.

This invention relates to means for heating water for lavatory or other purposes, and has for its object to provide a novel simple attachment for a stationary washstand which will enable the instant heating of water by its intimate mixture with steam as the water is drawn into the washbowl for use.

The invention consists in the novel construction and combination of parts, as is hereinafter described, and defined in the appended claims.

Reference is to be had to the accompanying drawings, forming a part of this specification, in which similar characters of reference indicate corresponding parts in both figures.

Figure 1 is a perspective view of a washstand and of the improved heating device in position thereon for discharge of water as it is heated into the washbowl; and Fig. 2 is an enlarged vertical sectional view of the heater, taken through the longitudinal axis of the same.

The invention, in brief, consists of a metal body adapted for seated attachment upon the top of a washstand and containing two independent passages, one for live steam and the other for water under pressure, said passages being controlled by separate valves and discharging into a steam and water mixing chamber having an outlet-nozzle pipe that conveys the water as it is heated by admixture with the steam into a washbasin or other receptacle for use.

In the drawings, A represents the top of a fixed washstand, and B the washbowl held thereon, as usual.

The body portion 5 of the water-heater is flanged, as at *a*, near the lower end thereof, the portion 5^a below the flange having cylindrical form and a circumferential thread *b*, whereon a clamping-nut 6 is screwed after the part 5^a is passed down through a perforation in the top A, whereby the body 5 is secured in an upright position by means of the flange *a* and nut 6.

The body 5 is preferably increased in diameter a short distance above the flange *a* and may be given any desired exterior ornamental shape.

From the lower end of the body portion 5^a two passages *c c'* extend upward in parallel planes to a point *x*, where the increase in diameter of the body 5 commences, and from said point *x* the passages *c c'* diverge, each passage trending upward and outward.

The passage *c* at its upper end intersects a transverse bore *d*, formed in the body 5 and adapted to receive a slightly-tapered plug-valve 7, provided at the end which projects exteriorly of the body 5 with a handle-lever 7^a or other means for turning said plug-valve, which at its inner end is loosely secured from withdrawal by a washer *e* and nut *e'*.

It will be seen in Fig. 2 that the plug-valve 7 is hollow for a portion of its length, is open at the inner end, and has an opening *g'* in the side wall thereof that affords communication from the passage *c* into the hollow portion *g* of the valve.

The passage *c'* in a like manner communicates with the interior passage *g* of the plug-valve 8, similar to the plug-valve 7, and held in place at the open inner end by a washer *h* and nut *h'*, the projecting outer end of said valve 8 having a handle-lever 8^a or equivalent means for effecting its rotatable adjustment.

A mixing-chamber 9 is formed in the body 5 and extends around the defining-walls of the bores wherein the plug-valves 7 8 are positioned; but said chamber does not have direct communication with the passages *c c'*, being separated therefrom by the inner walls of these passages where they diverge at their upper ends.

It will be seen that the inner ends of the plug-valves 7 8 are spaced apart and that the respective passages *g* therein will form extensions of the passages *c c'* when the handle-levers 7^a 8^a are adjusted to open the orifices *g'* in the side walls of the valves, as shown in Fig. 2.

The preferably cylindrical defining side wall

of the chamber 9, that projects above the plug-valves 7 8, is closed at the upper end by a cap-block 10, having threaded engagement therewith and adapted to effect a steam and water tight closure. Preferably the cap-block 10 is given cup form at the upper end, as shown at 10^a, and the wall of the cup may be perforated to lighten it and permit escape of liquid that may enter the same.

In the side of the mixing-chamber 9 an opening is formed from which extends the nozzle-pipe 11, preferably bent to discharge liquid from the mixing-chamber into the bowl B.

The lower ends of the passages *c c'* are interiorly threaded to receive the threaded ends of water and steam pipes, respectively, these pipes (not shown) supplying water under pressure and live steam for mixture in the chamber 9.

At any time hot water is needed for toilet or other purposes it is only necessary to open the passages *c c'* by an adjustment of the plug-valves 7 and 8, and obviously the volume and temperature of the water which is heated by the steam in the chamber 9 and flows from the pipe 11 may be graduated as desired by opening the valves more or less.

The cup 10^a may be used as a holder for a drinking-cup C or to receive a piece of soap while water is being used for washing purposes.

In case a supply of steam is not available the improvement may be used to discharge hot and cold water, the passage *c'* having connection with a hot-water-supply pipe.

The improvement is available for supplying hot water of any desired temperature to a sink-basin or for a hot-water-supply device wherever it is needed, and steam or a hot-water supply may be conducted thereto.

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

1. A heating device comprising a hollow body, oppositely-disposed plugs rotatably mounted in said body, said plugs having openings leading into the same, means for delivering steam and water respectively to said plugs, the inner ends of said plugs lying adjacent to deliver the jets of steam and water in opposite directions at the same point, and an outlet from said body.

2. A heating device comprising a hollow body having a mixing-chamber with an outlet therefrom, a pair of oppositely-disposed rotatable taper-plug valves the inner ends whereof are disposed adjacent to the body to deliver opposing currents within said mixing-chamber, said plugs having inlets in the side walls thereof, and means for delivering steam and water respectively to said inlets.

3. A heater device, comprising a body-piece securable on a stable support and having two upwardly-trending passages extended from its lower end, two adjustable hollow plug-valves open at their inner ends, held to rock in transverse bores in the body, and having each a lateral opening that may by adjustment of the plug-valve be made to communicate with a respective passage, a sealing cap-block, a chamber above the plug-valves, communicating therewith and closed at the upper end by said cap-block, and a nozzle-pipe tapping the chamber for discharge of liquid therefrom.

In testimony whereof I have signed my name to this specification in the presence of two subscribing witnesses.

EDWARD JOHN ROBERTS.

Witnesses:

HARRY A. GOLDSMITH,

PETER CHARRIN.