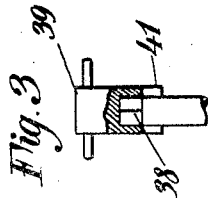
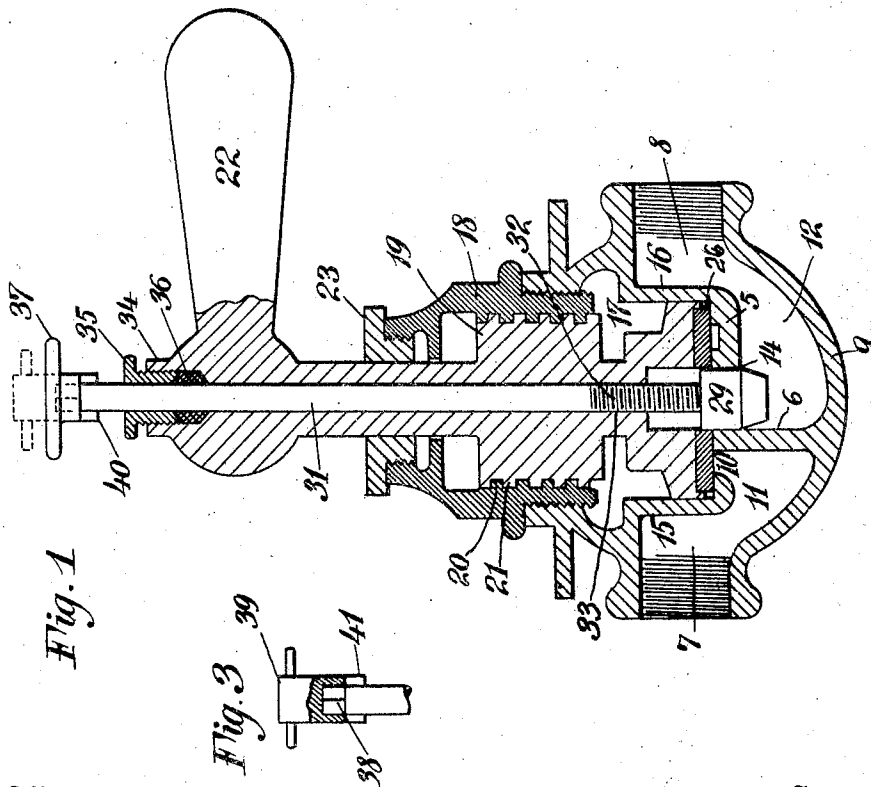
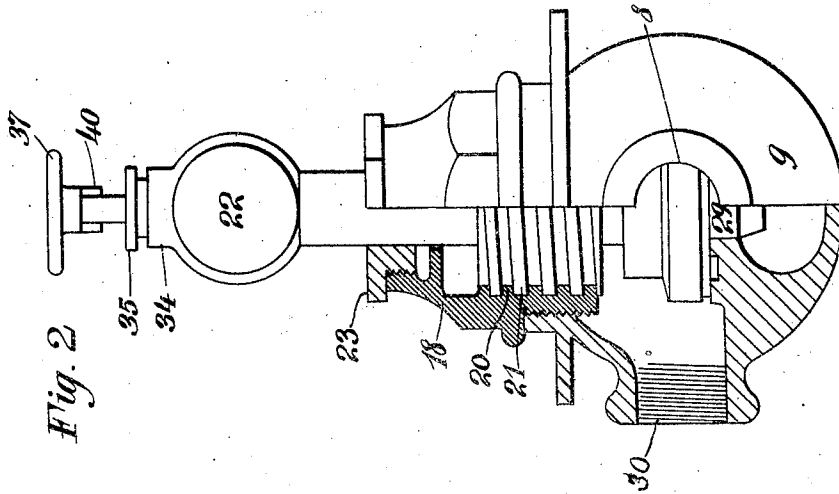


M. J. McCLOUD.
VALVE.
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1,056,432.

Patented Mar. 18, 1913.



Witnesses:
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UNITED STATES PATENT OFFICE.

MICHAEL J. McCLOUD, OF BROOKLYN, NEW YORK, ASSIGNOR TO ISRAEL E. IKELHEIMER, OF NEW YORK, N. Y.

VALVE.

1,056,432.

Specification of Letters Patent.

Patented Mar. 18, 1913.

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To all whom it may concern:

Be it known that I, MICHAEL J. McCLOUD, a citizen of the United States of America, residing in the borough of Brooklyn, in the county of Kings and State of New York, have invented certain new and useful Improvements in Valves, of which the following is a specification.

My invention relates to valves and particularly to what are known as non-scalding valves; in which hot and cold water are mixed and from which they are delivered to a shower bath or other use. And it consists, essentially, in the arrangement of the hot water plug whereby the valve may be readily operated to cause more or less hot water to pass through the opening provided for it.

Figure 1 is a central vertical section through the valve and two inlets. Fig. 2, is a view, partly in full lines and partly in section, the sectional part taken at right angles to that of Fig. 1, in order to show the outlet. Fig. 3, is a detail view, partly in section, showing the upper part of the plug rod, so modified as to accommodate a key for operating it, instead of the thumb piece of Fig. 1, and also showing a key suitable for the purpose.

My valve is made preferably in the form of a globe, divided into three chambers by a diaphragm 5, and a partition 6. Below the diaphragm and at one side of the partition 6, is a cold water inlet 7, and, on the other side, the hot water inlet 8. The partition 6, projects downward substantially vertically from the diaphragm 5, to casing 9, being cast integrally with them, on a line a little at one side of the center. In the diaphragm 5, an opening 10, is provided leading into the cold water chamber 11. Preferably at the center, the diaphragm is pierced to form a hot water passage 14, leading to the hot water chamber 12. The diaphragm 5, is here shown as supported by depending walls 15 and 16 which extend downward from the upper level of the inlets to the location selected (though diaphragm 5, and walls 15 and 16 might all be horizontal) and its upper face is planed off smoothly to constitute a satisfactory valve seat. The mixing chamber 17, is closed by a screw cap 18, through which the plunger 19, of the valve extends and this cap is provided with a

quick acting screw thread 20. The plunger 55 also has a quick acting screw thread 21, and a handle 22, a separate follower 23 being provided to so pack the valve that it will not leak. At the lower end the plunger is provided with a washer 26, adapted to be seated smoothly and tightly on the valve seat formed on the upper face of diaphragm 5. Through the plunger I extend a rod 31. At the lower end it is provided with a plug 29, and above the plug 29, it has a screw thread 32, which takes in a corresponding screw thread 33, cut in the wall of the plunger. The lower end of the plug is tapered as shown. This plunger 19, above the handle portion is recessed to provide a stuffing box 34, in which a follower 35 is seated, which upon being screwed up will prevent any leak from the hot water chamber to the exterior of the valve, a suitable packing 36, being seated in the stuffing box below the follower. At the upper end the plug rod 31, is provided either with a thumb piece 37, or a triangular head 38 which may be operated by a key 39, adapted to fit said triangular head. The key 39 and the thumb piece 37 are provided with stops 40, and 41 respectively, to prevent the turning of the plug too far down within the hot water chamber 12.

The operation of this valve is as follows: 85 When properly connected with hot and cold water pipes, chamber 11 will be charged with cold water, chamber 12 with hot water, but if the valve be closed, no water can escape through it. Then by turning the handle 22 slightly to the right the valve is lifted sufficiently to free it from the valve seat immediately above passage 10 and permit cold water to flow into the mixing chamber 17. The plug 29, however, remains in the passage 14, and closes that against the inlet of hot water for the time being. If hot water is desired, the handle is turned a few degrees farther, when the quick acting threads will lift the valve sufficiently to draw the plug out of passage 14 to such a degree that the tapered portion will be at the level of the upper surface and hot water may enter chamber 17, through passage 14, and, commingling with the cold water already there, raise its temperature to the point desired. Further turning of the handle results in the admission of more water and a consequent

further raising of the temperature of the contents of the mixing chamber which are discharged from the outlet 30 to the shower or other use. Heretofore I have been accustomed to alter the proportion of water which might pass through the hot water passage in relation to that which might pass through the cold water passage by removing a locally secured plug, like 29 and replacing it with another. But this is found to be very inconvenient and necessitates the attendance of a skilled person in order to accomplish the object sought. In the present device by extending the shank of the plug entirely through the plunger and providing it at the outer end with a thumb piece or key seat I have produced a device which may be operated by any one. If too much hot water is being admitted to the mixing chamber then with the thumb piece, if equipped with that, or with the key, if equipped with that, the plug 29, may be turned so as to extend farther down into the passage 14 thereby decreasing the quantity of water which would enter through that passage into the mixing chamber. If that plug has already been turned down so that the proportion of hot water admitted is too little, then by reversing the action just described, the plug is raised to such a point that the quantity of hot water admitted will reach the desired proportion and all this may be done without the removal of any portion of the valve or its equipment. The stops mentioned are provided to insure that in turning the plug down, it shall not be turned so far as to entirely disengage the thread on its rod, from the thread cut on the interior of the plunger.

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

1. A valve composed of a shell divided into a hot water chamber, a cold water chamber and a mixing chamber by a diaphragm and a partition extending to said diaphragm on one side of the center of the shell, a passage from the hot water chamber to the mixing chamber, a passage from the cold water chamber to the mixing chamber, a plunger provided with a valve adapted to be seated over both passages to the mixing chamber, from the hot and cold water chambers, said plunger having a recess facing the hot water chamber, a plug extending into the passage from the mixing chamber to the hot water chamber and normally closing the passage, the plug having an extended cylindrical portion to fit said recess in the plunger and the passage from the hot water chamber and provided with a rod which is threaded in and extends up through the plunger and has means for op-

erating it, located beyond the limit of said plunger, all substantially as set forth.

2. A valve composed of a shell divided into a hot water chamber, a cold water chamber and a mixing chamber by a diaphragm and a partition extending to said diaphragm on one side of the center of the shell, a passage from the hot water chamber to the mixing chamber, a passage from the cold water chamber to the mixing chamber, a plunger provided with a valve adapted to be seated over both passages to the mixing chamber, from the hot and cold water chambers, said plunger having a recess facing the hot water chamber, a plug extending into the passage from the mixing chamber to the hot water chamber and normally closing the passage, the plug having an extended cylindrical portion to fit said recess in the plunger and the passage from the hot water chamber and is provided with a rod which is threaded in and extends up through the plunger and has means for operating it, located beyond the limit of said plunger, and a stop limiting the downward movement of the plug, all substantially as set forth.

3. A valve composed of a shell divided into a hot water chamber, a cold water chamber and a mixing chamber by a diaphragm and a partition extending to said diaphragm on one side of the center of the shell, a passage from the hot water chamber to the mixing chamber, a passage from the cold water chamber to the mixing chamber, a plunger provided with a valve adapted to be seated over both passages to the mixing chamber, from the hot and cold water chambers, said plunger having a recess facing the hot water chamber, a plug extending into the passage from the mixing chamber to the hot water chamber and normally closing the passage, the plug having an extended cylindrical portion to fit said recess in the plunger and the passage from the hot water chamber and provided with a rod which is threaded in and extends up through the plunger and has means for operating it, located beyond the limits of said plunger, including a key seat at the upper end of the plunger-rod, and a key therefor and a stop adapted to limit the downward movement of the key and plug, all substantially as set forth.

In testimony whereof, I have signed my name to this specification in the presence of two subscribing witnesses, this 22d day of December 1910.

MICHAEL J. McCLOUD.

Witnesses:

JAMES A. DONEGAN,
A. G. N. VERMILYA.