

Sept. 15, 1931.

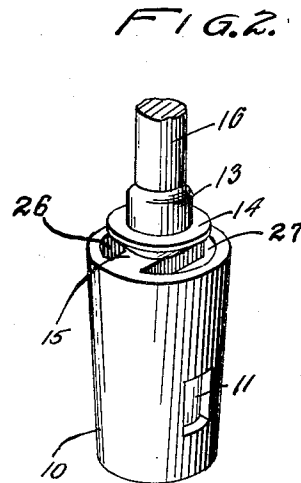
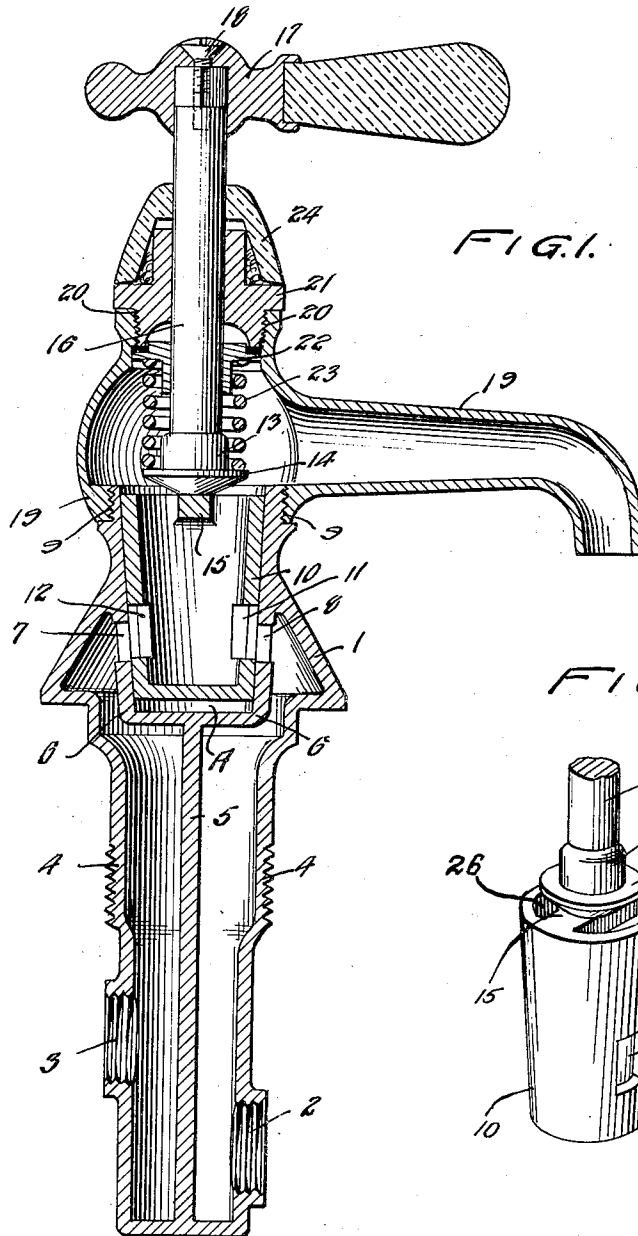
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1,823,599

SINGLE CONTROL COMBINATION HOT AND COLD WATER SUPPLY FAUCET

Filed May 26, 1926

2 Sheets-Sheet 1



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FIG. 3.

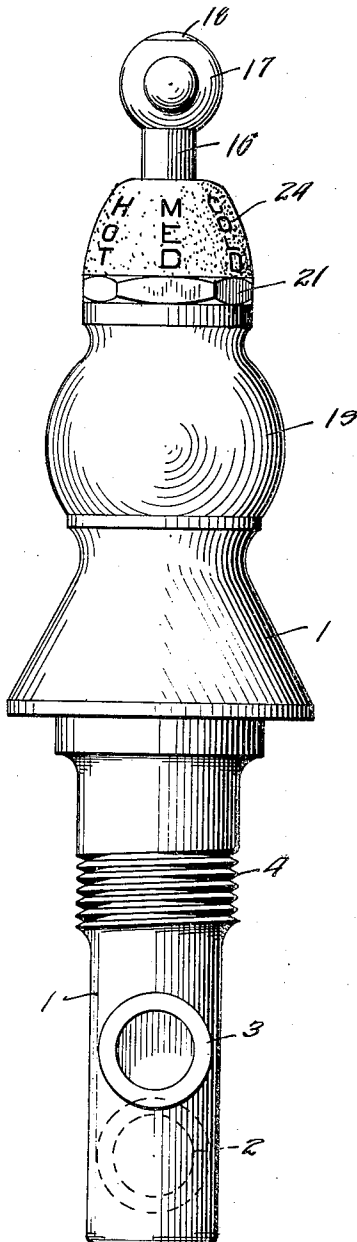


FIG. 4.

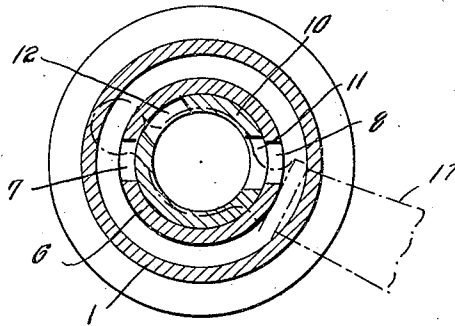


FIG. 5.

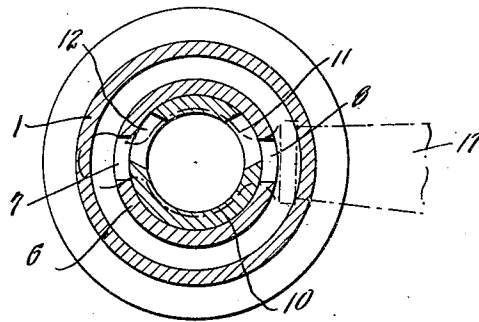
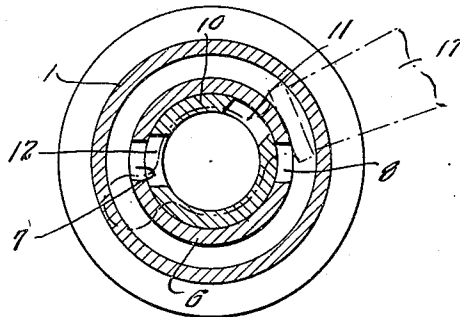


FIG. 6.



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SINGLE CONTROL COMBINATION HOT AND COLD WATER SUPPLY FAUCET

Application filed May 26, 1926. Serial No. 111,732.

This invention relates to faucets and more particularly to a single control faucet designed to dispense water in varying degrees of temperature.

Faucets of this character heretofore employed in the art have proved generally unsatisfactory in that they have been accompanied by leakage due to disintegration of the customary packing material and under the strain of the excessive usage to which they are customarily placed, have previously to this time tended to become generally inefficient if not totally inoperative, due to the resultant wear on the mechanism.

It is an object of this invention to provide a faucet, the mechanism of which is composed entirely of metallic elements thus precluding as a source of leakage worn packing members.

Another object of this invention is to provide a faucet having the operative mechanism so designed that wear incurred in the course of usage will not materially decrease the maximum efficiency.

A further object of this invention is to provide a faucet so constructed that in the event of foreign matter becoming lodged in the mechanism it may readily be taken apart to remove the same and easily reassembled.

With these and other objects in view which may be incident to my improvements, the invention consists in the parts and combinations to be hereinafter set forth and claimed, with the understanding that the several necessary elements comprising my invention, may be varied in construction, proportions and arrangement, without departing from the spirit and scope of the appended claims.

In order to make my invention more clearly understood, I have shown in the accompanying drawings means for carrying the same into practical effect, without limiting the improvements in their useful applications to the particular constructions, which for the purpose of explanation, have been made the subject of illustration.

Figure 1 is a vertical cross sectional view of the improved faucet;

Fig. 2 is a perspective view of the frusto conical valve member;

Fig. 3 is a back elevational view of the faucet;

Fig. 4 is a top view partly in section and plan illustrating the manner of obtaining hot water;

Fig. 5 is a top view partly in section and plan illustrating the manner of obtaining water of a medium temperature;

Fig. 6 is a top view partly in section and plan illustrating the manner of obtaining cold water.

Referring by numerals to the drawings, the same numerals denote the same elements. In Figure 1, 1 is a metallic casing comprising the body of the faucet, embodying conventional threaded inlet ports 2 and 3, having thereon a threaded portion 4. The casing is preferably integrally cast embodying therein a dividing partition 5 sustaining a seat 6. In the wall of the seat 6 are provided inlet ports 7 and 8. The top of the casing 1 is provided with a threaded portion 9.

A valve 10 comprising inlet ports 11, 12 is adapted to rest in the seat 6 provided in the casing 1. A bushing 13 having a collar 14 is secured to the valve on a cross piece 15 formed integral with the valve. A collar is formed with a downwardly extending tapered face, frusto conical in configuration. To the bushing is secured a stem 16 to which is attached in the usual manner a conventional handle 17 by means of a screw 18.

To the threaded portion 9 of the casing is secured an outlet duct 19, the top of which has an internally threaded portion 20. Secured to the outlet duct 19 by means of the internally threaded portion 20 is a collared bushing 21 having an aperture provided therein to admit the stem 16. The collared bushing 21 is adapted to act as the top of the valve and adapted to secure an additional collared bushing 22 also provided with an aperture to receive the stem 16, which supports one end of a spiral spring member 23, the other end resting on the collar 14 of the bushing 13. A cap 24 hav-

ing an aperture to admit the stem 16 is adapted to fit over the bushing 21.

In Figure 2, 10 is the valve member. The valve is of frusto conical configuration and so formed as to embody outlet ports 26 and 27 and a cross member 15 adapted to act as a means for securing the collared bushing 13.

In Figure 3, is shown the completed faucet embodying the casing 1, inlet ports 2 and 3, the threaded securing portion 4, the outlet duct member 19, the collar of the top bushing 21, the cap 24, the stem 16 and the handle 17.

In Figure 4 is shown the method of obtaining hot water. The inlet port 8 in the wall of the casing 1 is adapted to obtain hot water from the port 2. When the port 11 of the valve member coincides with the port 8 of the casing wall, ports 7 and 12 are so turned as to exclude cold water and hot water only flows.

In Figure 5 is shown the manner of obtaining water of a medium temperature. The ports 11 and 12 of the valve member meet the ports 8 and 7 of the casing wall thereby allowing an equal amount of hot and cold water. Any other desired degree of temperature may be had by varying the relation of the ports to change the relation of the port openings.

In Figure 6 is shown the manner of obtaining cold water. The inlet port 7 in the wall of the seat 6 is adapted to conduct cold water from the port 3. When the port 12 of the valve member coincides with the port 7, ports 8 and 11 are so turned as to exclude hot water and cold water only flows.

The casing 1 as previously stated is preferably integrally cast although it may be constructed in sections. The frusto conical receiving seat provided in the casing is so constructed as to be slightly smaller than the space required to fully seat the valve 10. The advantage of such construction is evident in that a space A will be left between the bottom of the valve member and the floor of the seat 6. As the mechanism becomes worn with use the connection between the seat and the valve will remain secure in that the spring 23 will hold the valve 10 firmly in the seat 6 and wear will only tend to decrease the space A provided between the bottom of the valve 10 and the valve seat 6.

Water initially mixed and issuing from the chamber in the valve 10 and passing through the outlets 26 and 27 on each side thereof formed with a cross bar 15, is directed against the frusto conical face of the collar 14, functioning as a conical deflector to direct water outward against the walls of the stationary inverted bowl in the mixing chamber.

It will be noted that the outlet duct 19

comprises a hollow inverted bowl portion at the point where it is joined to the casing 9, adapted to receive the hot and cold water from the valve 10 through the ports 26 and 27, thus affording a plurality of mixing chambers within the body of the faucet. The hot and cold water is adapted to be fed separately into the valve 10 through the inlets 11 and 12 where they first mix, there to pass to the inverted bowl provided in the outlet duct 19 and issue from the spigot at the exact temperature desired.

The stationary mixing chamber provided by the inverted bowl portion of the casing 9 allows for the further intimate mixing of the hot and cold water first mixed in the valve 10. Inasmuch as the water is directed against the sides of the bowl at a considerable pressure, it will be appreciated that the deflection of the water therefrom will give rise to a turbulence therein to the end of thoroughly mixing the hot and cold water so that water issuing from the spigot will be uniformly heated according to the temperature desired, regulated by the proportion of hot and cold water admitted for initial mixing.

It is further evident that the hot and cold water pipes may be secured interchangeably to the inlet ports 2 and 3. The cap 24 fitted on the collared bushing 21 is adapted to be made of porcelain or some similar material and secured thereon by rubber cement or any suitable substance and is designed to have thereon lettering to designate the direction in which the handle should be turned to obtain the temperature of water desired.

There is accomplished by this invention a single control faucet that will dispense water in varying degrees of temperature, that will overcome disadvantages heretofore encountered in such faucets, in that as the mechanism is constructed of metallic elements only there will be precluded as a source of leakage, resilient parts that have become disintegrated which have heretofore been included in the construction of such faucets. Further a faucet is provided having the valve mechanism so constructed that wear will not detract from the original efficiency.

While I have shown and described the preferred embodiment of my invention, I wish it to be understood that I do not confine myself to the precise details of construction herein set forth, by way of illustration, as it is apparent that many changes and variations may be made therein, by those skilled in the art, without departing from the spirit of the invention, or exceeding the scope of the appended claims.

I claim:

1. A faucet for dispensing water at varying degrees of temperature comprising a casing longitudinally partitioned to form a plu-

ality of receiving chambers, a rotary frusto conical valve mixing chamber partially seated adjacent the receiving chambers and communicating therewith, and a conical deflector adjacent the mixing chamber adapted to direct the water against the walls of a supplemental mixing chamber to agitate the liquid issuing therefrom prior to discharge.

2. A faucet for dispensing water at various degrees of temperature, comprising a casing longitudinally partitioned to form a plurality of receiving chambers having oppositely disposed inlet and outlet ports, a rotary frusto conical valve mixing chamber having inlet ports adapted to register with the outlet ports of said receiving chambers, a nozzle communicating with the frusto conical valve mixing chamber, a conical deflector and a mixing chamber in the form of an inverted bowl interposed between the frusto conical valve mixing chamber and the nozzle, the conical deflector being adapted to direct liquid passing from the frusto conical mixing chamber against the walls of the inverted bowl mixing chamber to agitate and further mix hot and cold water passing therethrough prior to issue through the nozzle.

3. A faucet for dispensing water at varying degrees of temperature, comprising a casing longitudinally partitioned to form a plurality of receiving chambers having oppositely disposed inlet and outlet ports, a rotary frusto conical valve mixing chamber having inlet ports, partially seated in the casing adjacent the receiving chambers, said inlet ports being adapted to register with the outlet ports of the receiving chambers in varying degrees, a nozzle communicating with the frusto conical mixing chamber, a conical deflector and a stationary mixing chamber in the form of an inverted bowl, interposed between the mixing chamber and the nozzle, the conical deflector being adapted to direct water from the frusto conical mixing chamber against the walls of the inverted bowl mixing chamber to further agitate and mix hot and cold water passing therethrough for discharge from the nozzle at a uniform temperature.

In testimony whereof I affix my signature.
MOOSHY GEORGE.

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