Dec. 3, 1929. L. SCHLESINGER ET AL 1,737,734

COMBINATION VALVE AND SWING SPOUT

Filed Nov. 25, 1927

Fig. 1.

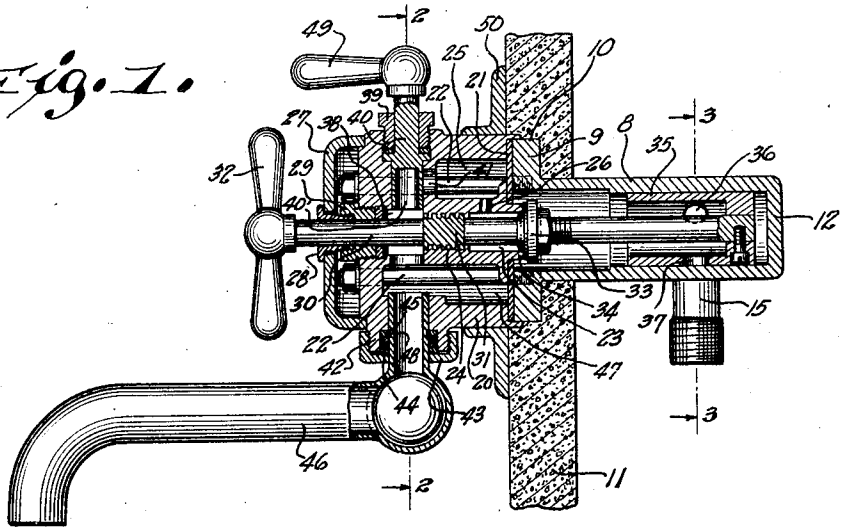


Fig. 2.

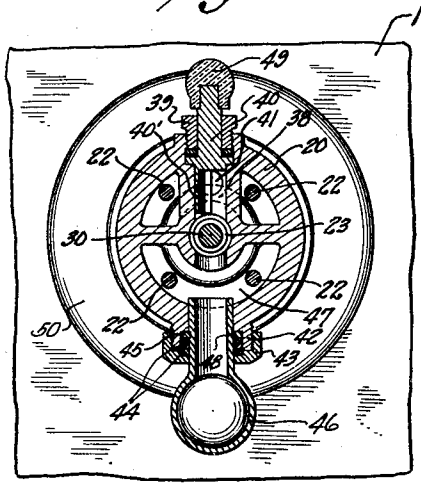


Fig. 4.

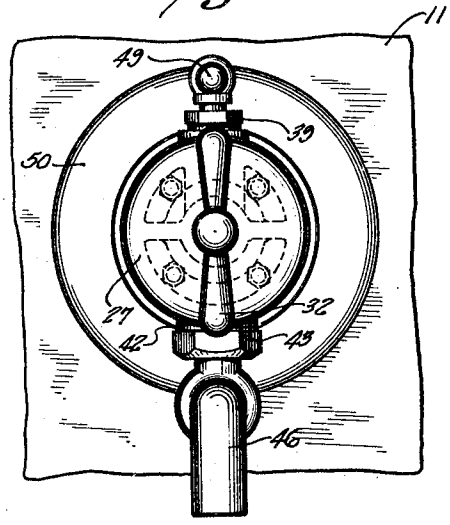
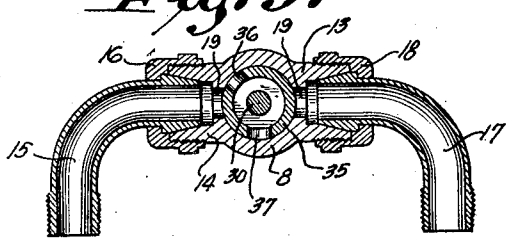


Fig. 3.



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UNITED STATES PATENT OFFICE

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COMBINATION VALVE AND SWING SPOUT

Application filed November 25, 1927. Serial No. 235,593.

This invention relates to improvements in combination valves and swing spouts, particularly adapted for use with sinks.

It is one of the objects of the present invention to provide a combination valve fixture equipped with a swing spout.

A further object of the invention is to provide a unitary fixture including a swinging discharge spout and having water tempering means, and an independent volume regulating means.

A further object of the invention is to provide a combination valve and swing spout having but one positive shut off valve with a mixing valve connected thereto for joint operation, and an independent volume regulating valve.

A further object of the invention is to provide a combination valve and swing spout in which the volume regulating valve may be set for any desired quantity, and in which the temperature regulating valve may be manipulated independently thereof, without interfering with the flow, and further, the temperature regulating valve may be set for any desired temperature, and the volume regulating valve may be operated independently thereof without interfering with the temperature resulting from an adjustment of the temperature regulating valve.

A further object of the invention is to provide a combination valve and swing spout which is of very simple construction, is compact, is strong and durable and efficient in operation, and is well adapted for the purposes described.

With the above and other objects in view the invention consists of the improved combination valve and swing spout, and its parts and combinations as set forth in the claims, and all equivalents thereof.

In the accompanying drawing in which the same reference characters indicate the same parts in all of the views:

Fig. 1 is a vertical sectional view of the improved combination valve and swing spout showing it mounted through a portion of a wall;

Fig. 2 is a cross sectional view taken on line 2—2 of Fig. 1;

Fig. 3 is a cross sectional view taken on line 3—3 of Fig. 1; and

Fig. 4 is a front view of the device.

Referring now more particularly to the drawing it will appear that the numeral 8 indicates a tubular casing member having a flanged end portion 9 mounted within an annular recess 10 in a wall or support 11. The opposite end portion 12 of the tubular member 9 is closed and forms a mixing chamber from the sides of which extend a pair of opposed side extensions 13 and 14. An elbow 15, for connection with a hot water pipe, enters the extension 14 and is held thereto by a collar 16, while a similar elbow 17 for a cold water connection, enters the extension 13 and is held thereto by a collar 18. The extensions 13 and 14 have reduced openings 19 communicating with the interior of the mixing chamber.

A front casing member 20 enters the wall recess 10 and is separated from the adjacent end portion of the tubular casing 8 by a washer 21. The members 20 and 8 are secured together by a plurality of screws 22. Said front casing is provided with a central horizontal bore 23, an intermediate portion of which is threaded, as at 24. Within the casing member 20 is an inlet chamber 25 and one or more ports 26 connect said chamber and the inner portion of the bore 23.

The outer end portion of the front casing member 20 is covered by a removable cap 27 and extended through the mid-portion of said cap is a bushing 28 which is threaded into a second bushing 29, which in turn is threaded into the bore of the casing member 20. An elongated valve rod 30 extends through the bushings 28 and 29, the bore 23 and terminates adjacent the closed end portion 12 of the tubular casing 8. A medial portion of said valve rod is threaded, as at 31, to have a screw engagement with the threaded portion 24 of the bore 23. The forward outer end portion of the valve rod 30 carries an operating handle 32 for turning the valve rod, while an intermediate portion of the valve rod has mounted fast thereon a shut off valve 33 which is adapted to seat

against the ribbed termination 34 of the bore 23 and to control admission to said bore.

Mounted fast on the inner end portion of the valve rod 30 within the mixing chamber portion of the tubular member 8 is a cup-shaped mixing valve 35 provided with a pair of spaced ports 36 and 37 adapted to register with one or both of the openings 19, as desired.

The front casing member 20, forwardly of the inlet chamber 25, is provided with a diametrically extending, vertical opening 38 intersecting the bore 23. Threaded into the upper end portion of said opening 38 is a bushing 39 and extended through said bushing, and rotatable therein, is a volume regulating valve member 40 having a lower valve portion 40′ in the form of a half shell which is adapted to control a port 41 between the inlet chamber 25 and the vertical opening 38.

The lower portion of the casing 20 adjacent the end of the opening 38 is formed as an externally threaded boss 42 on which is threaded a collar 43 which retains a pair of spacing washers 44 and a ring 45. The vertical end portion of an angular swing or swivel spout 46 extends through said collar and washers, well into the opening 38 and communicates with a lower discharge chamber 47 in said casing 20. The internal portion of said swing spout is provided with an annular recess 48 entered by said ring 45 whereby said spout is free to be turned or swung within said ring, but is prevented from being withdrawn or vertically displaced.

The upper outer end portion of the volume regulating valve member 40 is provided with an operating handle 49, while the casing member 20, adjacent the wall 11, is surrounded by a collar member 50 to give the device a finished appearance.

The operation of the device is as follows: By turning the handle 32, the valve rod 30 is turned to disengage the shut off valve 33 from its seat. At the same time, the mixing valve 35 is rotated to allow one or both of its ports 36 and 37 to register with one or both of the openings 19 permitting a regulated amount of water to flow from either or both of the hot and cold water pipes into the mixing chamber. Thus, the exact temperature of water desired may be obtained. The mixed or tempered water will then flow through the tubular casing 8, and as the shut off valve 33 has been opened, the water is permitted to flow into the bore 23, through the port 26, and into the inlet chamber 25 of the front casing member 20. As previously mentioned, the shell portion 40′ of the volume regulating valve 40 controls the port 41 and said valve 40 may, at any time, be turned so as to form more or less of a restriction to said port 41 and thus, the volume of water to be ultimately discharged is regulated. The water flows through the opening afforded in the port 41 and into the vertical opening 38 to the outlet chamber 47, from whence it is discharged through the swing spout 46, which can be turned to direct its flow where desired.

It is obvious that this invention is primarily adapted for use with sinks, but is susceptible of use with bath tubs, showers, or other plumbing fixtures.

From the foregoing description it will be seen that the improved combination valve and swing spout is a unitary, compact fixture employing but one positive shut-off valve which controls the flow from both hot and cold water inlets. Also, the volume regulatory valve may be adjusted as desired at any time and the mixing or temperature regulating valve may be operated independently thereof, without interfering with the flow. Conversely, the mixing valve may be adjusted for any desired temperature and the volume regulating valve may be independently operated without affecting the temperature.

What is claimed as the invention is:

1. A plumbing fixture, comprising a casing having hot and cold water inlets and an outlet chamber, a spout swingably mounted in said casing and communicating with said outlet chamber, a single shut off valve within the casing intermediate the inlets and the outlet chamber, a mixing valve inwardly of said shut off valve and remote and distinct therefrom, and an independent volume regulating valve outwardly of said shut off valve and controlling the flow to said outlet chamber.

2. A combination valve and fixture, comprising a casing having a mixing chamber and inlet and outlet chambers, and hot and cold water connections communicating with said mixing chamber, a discharge spout swivelingly mounted in said casing and communicating directly with said outlet chamber, a shut off valve within the casing remote from the mixing chamber and controlling communication between said mixing chamber and said inlet chamber, a mixing valve within said mixing chamber and controlling admission from either or both of said hot and cold water connections, said mixing valve and said shut off valve being spaced from one another but connected for joint operation, and a volume regulating valve within said casing and controlling communication between said inlet and outlet chambers.

3. A combination valve and fixture, comprising a front casing and a rear casing connected together, said rear casing having a mixing chamber and a pair of inlet ports, a tubular mixing valve rotatable within said mixing chamber and provided with ports for registration with one or both of said inlet ports, said front casing being provided with a central bore, an end of which forms a shut off valve seat, said front casing also having an inlet chamber and an outlet chamber, there

being ports between the bore and the inlet chamber and between the inlet chamber and the outlet chamber, a discharge spout swivelingly mounted in said front casing and communicating directly with said outlet chamber, a valve rod rotatably extended through said central bore and into said rear casing and having an exterior front extension for manipulation, a shut off valve carried by said valve rod for engagement with said valve seat to control entrance to said inlet chamber, said valve rod also being connected with said mixing valve, and an exteriorly extending volume regulating valve within said front casing and movable to control the port between said inlet and outlet chambers.

In testimony whereof, we affix our signatures.

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