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L. L. ROWE

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VALVE

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Fig. 1.

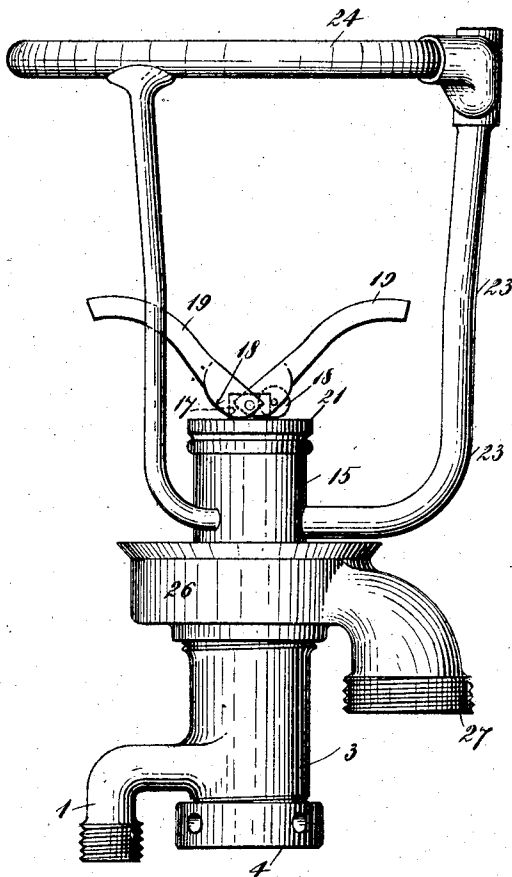


Fig. 3.

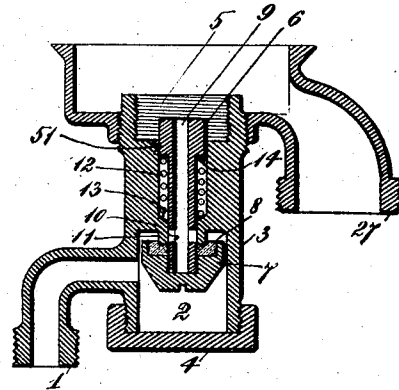
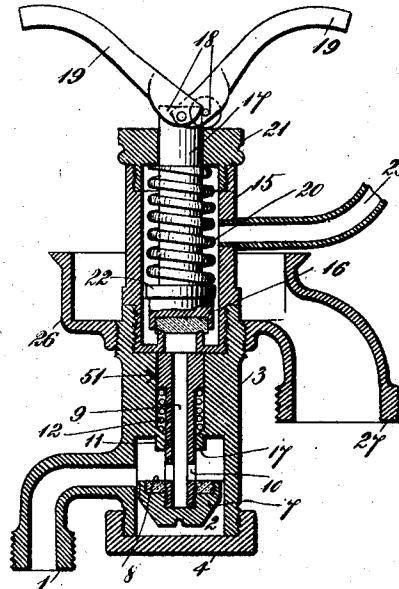


Fig. 2.



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VALVE.

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My invention relates more particularly to apparatus for washing tumblers and the like such as is used at soda fountains. In order to keep apparatus of this kind clean it is necessary that it be easily taken apart and as such apparatus is usually constructed the water must first be shut off from the supply by turning a valve. My present apparatus relates to an arrangement whereby whenever the washer is in place the main valve will be open and when the washer is removed the main valve will be automatically shut.

In describing my invention I have referred to it in association with a tumbler washer, but in using that term I do not mean to imply that it has not other uses.

My invention will be understood by means of the drawings in which it is shown in its preferred form.

Figure 1 is an elevation of one embodiment of my invention to which the usual washer is attached;

Fig. 2 being a vertical section through the valve mechanism showing the mechanism in position and the washer ready for use.

Fig. 3 is a vertical section showing the main valve in closed position.

1 is the pipe leading from the water supply. It leads into a chamber 2 formed at the lower end of a casting 3, the bottom of which is closed by a cap 4. This chamber gives clearance room for my valve and also serves as a clean-out. The casting 3 has a passage 51 through it the upper end of which is open and threaded as at 5 to screw on a coupling and to receive and support the washer which includes the valve for operating it. The passage 51 is extended downward at a smaller diameter below the threaded portion and receives the valve stem 6 carrying at its lower end the valve 7 which is provided with a packing 8 and moves in the chamber 2. Through the centre of this valve stem 6 is a passage 9 and through the walls of the stem are passages 10 which connect the passage 9 with the chamber 2. The casting 3 has a valve seat 11 for the valve 7 and its packing 8 surrounding the end of the passage. Around a portion of the valve stem, which is reduced in diameter, is a spring 12 the lower end of which rests on a shoulder 13 within the passage 51, its upper end engaging the shoulder 14 on the valve stem. It will be seen from Figs. 2 and 3 that the depressing of the valve stem against

the force of the spring 12 will open the valve and allow the passage of water from the inlet 1 into the chamber 2 and thence through the valve stem openings 10 and passage 9. It will also be seen from Fig. 3 that unless pressure is applied to the upper end of the valve stem the spring will hold the valve closed against the seat 11 as there shown so that water cannot escape from the chamber 2.

The washer, which for purposes of general description will be called a fixture, may be of any well known construction. The fixture comprises the casing 15 the lower end of which is threaded so as to screw into the threaded opening 5 of the casting 3 and the upper end of which is closed by a plug 21. Within this casing 15 is contained a valve 16 and valve rod 17 which passes up through the plug 21. Cams 18 of well known construction form part of and are operated by levers 19, which are pivoted to the valve stem 17 and rest upon the upper surfaces of the plug so that the valve may be lifted by depressing the end of the levers. Around the valve stem is a spring 20 the upper end of which abuts against the under surface of the plug 21 and the lower end of which rests on a shoulder 22 on the valve stem. This valve as it is ordinarily utilized is operated by the pressure of the glass or other article to be washed upon the levers 19 which presses down their outer ends thus lifting the valve in a manner well known.

In Fig. 2 it will be seen that when this casing 15 is screwed home in the threaded portion of the opening 5 the valve stem 12 will be depressed by the lower end of the casing 15 so that water will pass up from the pipe 1 through the openings 10 and passage 9 until it strikes the under side of the valve 16. Upon depressing the levers 19 and thus lifting the valve 16 the water passes out through the pipe 23 and into the perforated tubular ring 24 until the pressure on the levers 19 is removed when the spring 20 closes the valve 16 and shuts off the water. Upon the unscrewing and removal of the fixture or casing 15 for cleaning the valve 7 controlling the main water supply from the pipe 1 automatically closes into the position shown in Fig. 3, thus automatically cutting off the water from pipe 1, but without the necessity of turning a valve.

26 is a saucerlike casting which is threaded onto the casting 3. It receives any drippings

from above and carries them off to the waste. 27 is a waste pipe which leads off from the interior of this saucer 26.

I have found the chamber 2 very useful because it is quite frequently the case, especially after a repair job has been done, that bits of solder or other material are carried into the apparatus by the water supply and in being carried on by the current of water may injure the valve. In the present case such heavy material falls from the pipe 1 into the chamber 2 and the screw cap may be removed from time to time and the chamber cleaned.

The advantage of this device will be readily understood. It not infrequently happens that when the usual washing device is used, the operator forgets to turn off the water from the main before he unscrews the fixture so that a stream of water under street pressure flows out from the coupling after the fixture is removed. As my controlling valve is automatic it gradually closes as the fixture is unscrewed so that when the fixture is removed, the valve being held in place by the water pressure of the main there can be no leakage. It will be evident to those skilled in the art that my invention may be otherwise embodied. It will be understood that a device embodying my invention need not necessarily be used in vertical position as shown so that the words "upper" and "lower" as used in the claims relate to the several parts as shown in the drawings where the device is in its normal vertical position.

What I claim as my invention is:—

1. The device above described comprising

a casting, a chamber therein having a water inlet and a passage from said chamber with a valve seat at its lower end, a valve to engage said valve seat, a spring controlled hollow valve stem to operate said valve, said valve stem being longer than said passage, a fixture normally mounted on said casting and having a chamber provided with a water outlet and an opening connecting said chamber with said passage, a spring controlled valve mounted to close said opening, said fixture when in place holding open said first named valve and allowing liquid to pass into said passage and means for operating said second spring controlled valve whereby water may pass to said outlet.

2. A device of the kind described comprising a casing having two chambers, the lower chamber having a water inlet and the upper chamber having a water outlet, a passage connecting said chambers, a valve seat located at each end of said passage, a valve having a hollow valve stem located in said passage, said valve being adapted to close the valve seat at the lower end of said passage, said valve stem being longer than said passage, a second spring controlled valve located in the upper chamber and adapted normally to close the valve seat at the upper end of said passage, the part comprising the upper chamber of said casing being detachable from the part comprising the lower chamber and when in place engaging the hollow valve stem and holding its valve open, in combination with a supporting means for an article to be washed.

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