

P. A. MAHONEY.
 DEVICE FOR MAINTAINING A UNIFORM DELIVERY OF WATER UNDER VARYING PRESSURE.
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1,007,714.

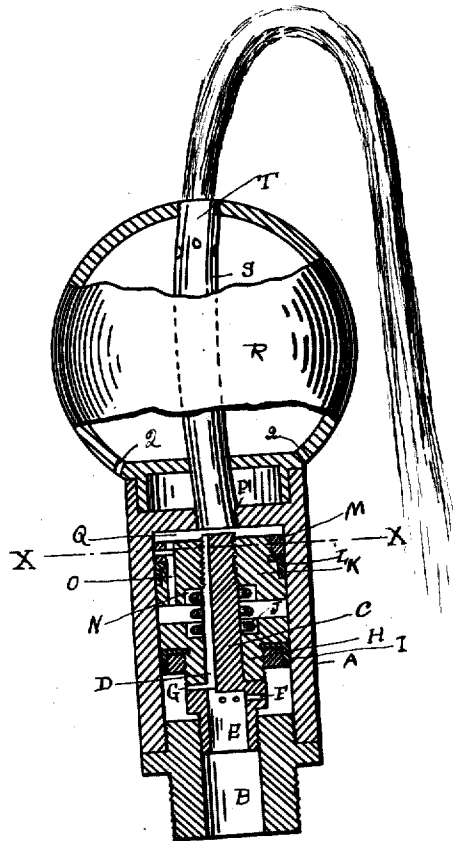


Fig. 2-

Fig. 1-

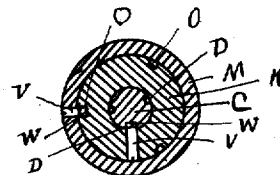


Fig. 3-

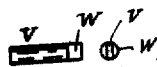


Fig. 4-

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DEVICE FOR MAINTAINING A UNIFORM DELIVERY OF WATER UNDER VARYING PRESSURE.

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To all whom it may concern:

Be it known that I, PATRICK A. MAHONEY, a citizen of the United States, residing at Portland, in the county of Cumberland and State of Maine, have invented certain new and useful Improvements in Devices for Maintaining a Uniform Delivery of Water Under Varying Pressure, of which the following is a specification.

My invention relates to improvements in devices for maintaining a uniform delivery of water under varying pressure, and I have illustrated the same as applied to what is popularly called sanitary drinking fountains, but the use of the apparatus is not limited to this purpose and applicant does not intend to limit its use in any way other than as is hereinafter set out in the claims.

In the drawings herewith accompanying and forming a part of this application, Figure 1 is a sectional view, partly in elevation of my improved apparatus; Fig. 2 is a detail section showing the means for preventing the water from spraying when the delivery end of the nozzle is closed; Fig. 3 is a transverse sectional view taken on line X—X, Fig. 1, and Fig. 4 is a detail showing side and end views of one of the regulating valves.

The same reference characters indicate like parts in the several figures.

In an apparatus for the delivery of water from a supply under pressure, which pressure is subject to variations due to any cause, and especially in drinking fountains of the class designed for the drinker to take the water directly into the mouth from a column of water, it is found to be advantageous to provide means for maintaining the column of water at a substantially uniform pressure. Applicant's device is especially designed for this purpose. To this end, it consists of a housing A, a coupling B adapted to connect it with a water supply, a vertical spindle C mounted in said coupling and provided with one or more vertical ports D. The lower end of the spindle is cup-shaped, as seen at E, and leading thereout are ports F in the vertical walls thereof and in the top are ports G opening into the ports D in the spindle, the lower portion of the ports D is of greater capacity than the upper portion. Surrounding and slidable upon the spindle C is a ring H provided with a packing I and a spring receiving

recess J in the top thereof. Above the ring H and surrounding spindle C is a stop K having a packing L held in place by a packing ring M. It has vertical ports O and in its lower end a spring receiving recess N. The housing A has a delivery opening P in the top thereof leading out of a chamber Q above the top of the spindle. Any suitable delivery nozzle may be inserted in the opening P in the top of the housing. I have illustrated it to be used in connection with a sanitary drinking fountain, and to this end I have provided a globe-shaped terminal R and a delivery nozzle S extending from the opening P through the terminal R. If the nozzle S is vertical, the water would fall back upon the terminal R and cause more or less spattering. To avoid this objection, I cause the nozzle S to be deflected somewhat from the vertical line, as seen at T, so that the water issuing therefrom will also be deflected from the vertical line sufficiently to fall just outside the terminal. The amount of water to be delivered through the ports D in the spindle and through the ports O in the stop may be varied at will by suitable adjusting devices. As shown, I have provided the stop K and spindle C with adjusting screws V having on their inner ends thin blades W adapted to project into the ports in the stop and spindle respectively, whereby the turning of said screws causes the blades W to close more or less of the ports, according to the extent said screws are turned.

To prevent water from spattering if the end of the nozzle is closed I provide the nozzle S inside the housing with ports 1 extending diagonally upwardly. This does not interfere with the delivery of the water through the end of the nozzle and if the nozzle is closed, instead of the water squirting out, it flows back through the openings 1 into the terminal R and thence through the ports 2 to the outside.

The operation of my improved device is as follows: The water entering the chamber through ports F passes thence into the ports in the spindle and, when the pressure is normal, the floating ring H is moved upwardly against the stop K so as to close the ports O in the stop and then all the water delivered will be through the ports D in the spindle. If the normal pressure is disturbed, the spring U forces the floating stop

A downwardly, thus opening the ports O so that water will be delivered to the nozzle, not only through the ports D in the spindle but through the ports O in the stop.

5 Having thus described my invention and its use, I claim:

1. In a device of the character described, a housing, a spindle mounted therein and provided with vertical ports, a stop secured to the top of the spindle and provided with vertical ports, a floating ring positioned below said stop, and a spring interposed between said stop and ring and tending normally to hold them apart, said floating ring being adapted to be held against the stop and to close the ports therein when the pressure is normal and to be forced away to open said ports when the pressure is diminished.
- 20 2. In a device of the character described, a housing, a spindle mounted therein and provided with vertical ports tapering upwardly, a stop secured to the top of the spindle and provided with vertical ports, a floating ring positioned below said stop, and a spring interposed between said stop

and ring and tending normally to hold them apart, said floating ring being adapted to be held against the stop and to close the ports therein when the pressure is normal and to be forced away to open said ports when the pressure is diminished.

3. In a device of the character described, a housing, a spindle mounted therein and provided with vertical ports, a stop secured to the top of the spindle and provided with vertical ports, a floating ring positioned below said stop, a spring interposed between said stop and ring and tending normally to hold them apart, said floating ring being adapted to be held against the stop and to close the ports therein when the pressure is normal and to be forced away to open said ports when the pressure is diminished, and means for regulating the capacity of the ports in the spindle and in the stop.

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