No. 736,754. PATENTED AUG. 18, 1903.

E. J. MARKEL.

WATER CONTROLLING DEVICE.

APPLICATION FILED MAY 25, 1903.

NO MODEL.

Fig. 1

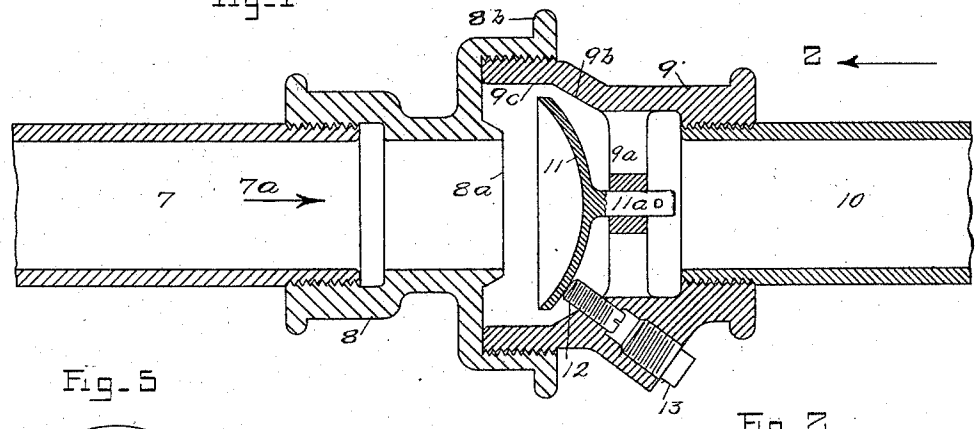


Fig. 5

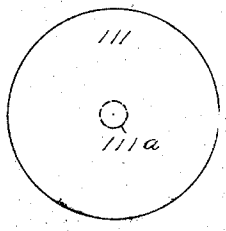


Fig. 3

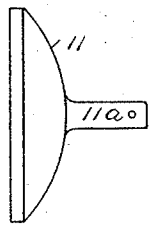


Fig. 2

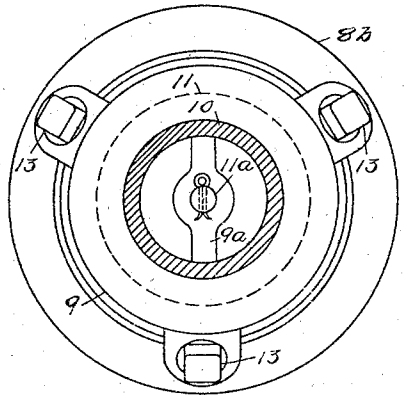


Fig. 6

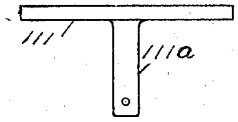
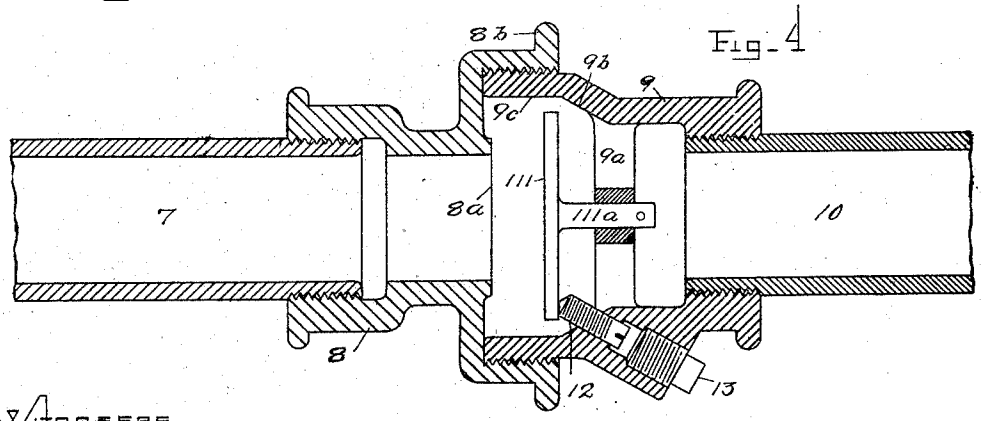


Fig. 4



Witnesses.

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No. 736,754. Patented August 18, 1903.

UNITED STATES PATENT OFFICE.

EMERICH J. MARKEL, OF HARTFORD, CONNECTICUT.

WATER-CONTROLLING DEVICE.

SPECIFICATION forming part of Letters Patent No. 736,754, dated August 18, 1903.

Application filed May 25, 1903. Serial No. 158,579. (No model.)

To all whom it may concern:

Be it known that I, EMERICH J. MARKEL, a citizen of the United States of America, and a resident of Hartford, in the county of Hartford and State of Connecticut, (with a post-office address in the above place,) have invented certain new and useful Improvements in Water-Controlling Devices, of which the following is a specification.

This invention relates to improvements in devices for controlling the flow of water delivered by the waterworks to the consumer, and is especially adapted for tenement-houses to regulate the flow of water as it passes from the main line through the meter into the tenement and is to be inserted immediately beyond the water-meter which registers the water-supply for the building.

The object of my invention is to provide a device which controls the flow of the water delivered to the house and which may be regulated and adjusted to any extent desired without interfering with the making of repairs by the plumber, as he shuts off the water by the valve known in practice as the "drip and waste cock," which is either turned on full or closed entirely.

Another object of this invention is to provide a device whereby it will be impossible for the meter to register a greater supply of water than actually passes through the meter, as is the case when a great number of faucets are opened and a number of them closed simultaneously and the flow of water checked so suddenly that the momentum attained by the parts of the meter continues, and therefore registers more than the amount of water actually passing through the meter. The amount of a single overregistration is not large; but the yearly aggregate forms quite an item.

It is a well-known fact that the pressure in the water-mains is very high in order to force the water to the top of tenements and the highest office-buildings, and therefore the same high pressure exists in all smaller buildings as well throughout the city, and there is, consequently, an unnecessarily rapid flow of water in all the closet-valves, and it is well known to property owners that these valves must be renewed frequently, as the water wears out the seats of the valves, and this is obviated by reducing the flow of water, but still maintaining the same ultimate pressure. It is also well known that tenants in the discharge of their household duties exercise little or no care in saving water, but keep it running at full force as long as they are using water, particularly in rinsing dishes, &c., the results of which appear in the property-owner's semi-annual water-bills, and it is therefore to his interest not only to watch the controller, but to prevent a useless waste of water, especially in summer, when the water-supply is often not abundant.

The device embodying the structural peculiarities of my invention in its preferred construction is illustrated in the accompanying drawings, in which—

Figure 1 is a longitudinal sectional elevation taken on a line passing through the center of my improved water-controlling device. Fig. 2 is an end elevation of what is shown in Fig. 1 and looking in the direction toward which the arrow 2 points. Fig. 3 is an outside view of the baffle-plate in its preferred construction. Fig. 4 is a modification of what is shown in Fig. 1, but using a flat disk for a baffle-plate instead of the hollow spherical segment. Figs. 5 and 6 are respectively a plan and end view of the disk-like baffle-plate, as indicated in the modification of Fig. 4.

In the preferred construction herein shown and described the water-controlling device consists of a coupling having a nozzle integral therewith, a baffle-plate mounted directly opposite the nozzle and provided with a stem supported in the bridge of the head, means for connecting the head to the coupling, and means for adjusting the baffle-plate away from or toward the nozzle of the coupling.

The numeral 7 indicates the water-pipe leading from the water-meter and to which is securely screwed the coupling 8, which is provided on its inner end with the nozzle 8^a, directly rearward of which the coupling enlarges to the hub 8^b, which is provided with an internal thread into which is screwed the head 9, which is connected at the right-hand side with the water-pipe 10, leading to the building. The head is again provided with a

bridge 9^a, in the hub of which is fitted the stem 11^a of the baffle-plate 11. In the preferred construction I have shown the baffle-plate as a hollow spherical segment, as clearly shown in Figs. 1 and 3, to deflect the water as it comes through the pipe 7 in the direction of the arrow 7^a, and the water then passes through the annular opening between the baffle-plate 11 and the straight inner side 9^c of the head 9, and the area of that annular opening is equal to the area of the pipe 7 or 10. A certain portion of the inner side of the head 9 is conical, as indicated by the numeral 9^b, and to decrease the annular opening formed between the outer circumference of the baffle-plate and the inside of the head 9 in order to further restrict the flow of the water I have arranged for the adjustment of the baffle-plate the set-screws 12, which are supported and tightly threaded in the head 9, and the ends of those screws bear against the baffle-plate 11. I have preferably shown three of the adjusting-screws 12; but any number could be employed. To prevent leakage of water around the threaded portion of the adjusting-screws, I have provided over each screw 12 the water-tight plug 13.

It will be observed that the stem, and thereby the baffle-plate, the head 9 with its cone-shaped seat, the coupling with its nozzle, and the pipes 7 and 10 are all in axial alinement.

In the modification of Fig. 4 the construction is identical except that the baffle-plate is a flat disk instead of the hollow spherical segment.

Having thus described my invention, what I claim as new, and desire to secure by Letters Patent, is—

1. In a water-controlling device, the combination of the coupling 8, the water-pipe 7 threaded to one end, the nozzle at the other end and integral with the coupling, the head 9 threaded to the coupling and provided on its inner side with a cone-shaped seat, the spherical segment-shaped baffle-plate, the inner side of which is cupped for deflecting the flow of water, the pipe 10 threaded to the head all in axial alinement with one another and means for adjusting the baffle-plate substantially as described.

2. In a water-controlling device, the combination of the coupling, the nozzle integral with the coupling, the head provided on its inner side with a cone-shaped seat, the baffle-plate mounted concentrical with the head and means for adjusting the baffle-plate consisting of a series of set-screws 12.

3. In a water-controlling device, the combination of the coupling, the nozzle integral with the coupling, the head provided on its inner side with a cone-shaped seat, the baffle plate mounted concentrical with the head and means for adjusting the baffle-plate consisting of a series of set-screws 12, and the plugs 13 forming a water-tight joint for the set-screws.

Signed by me at Hartford, Connecticut, this 23d day of May, 1903.

EMERICH J. MARKEL.

Witnesses:

SYLVESTER BARBOUR,

HARRY M. BURKE.