

No. 681,083.

Patented Aug. 20, 1901.

L. P. TREADWELL.
WATER METER.

(Application filed Apr. 20, 1901.)

(No Model.)

Fig. I.

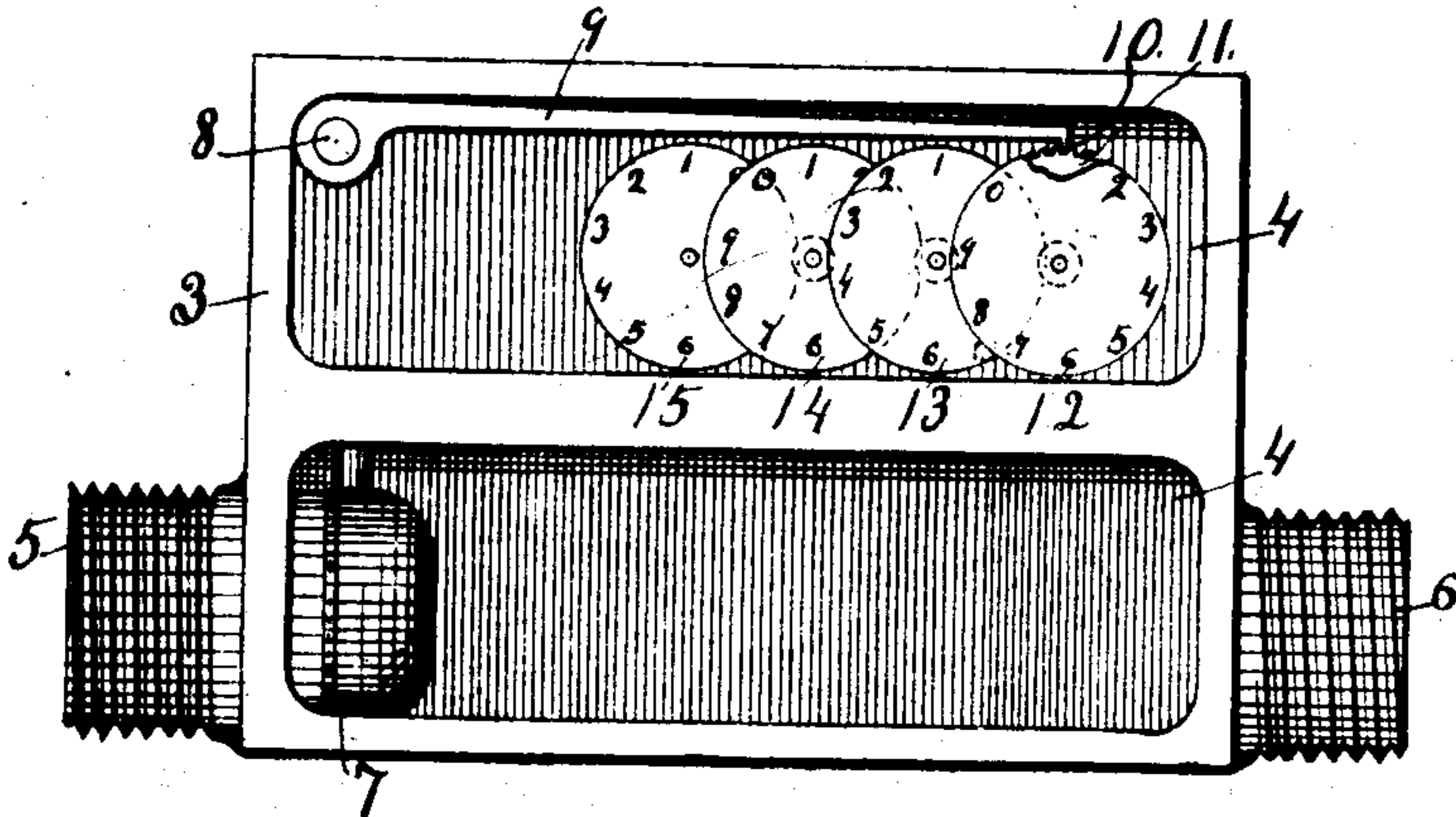
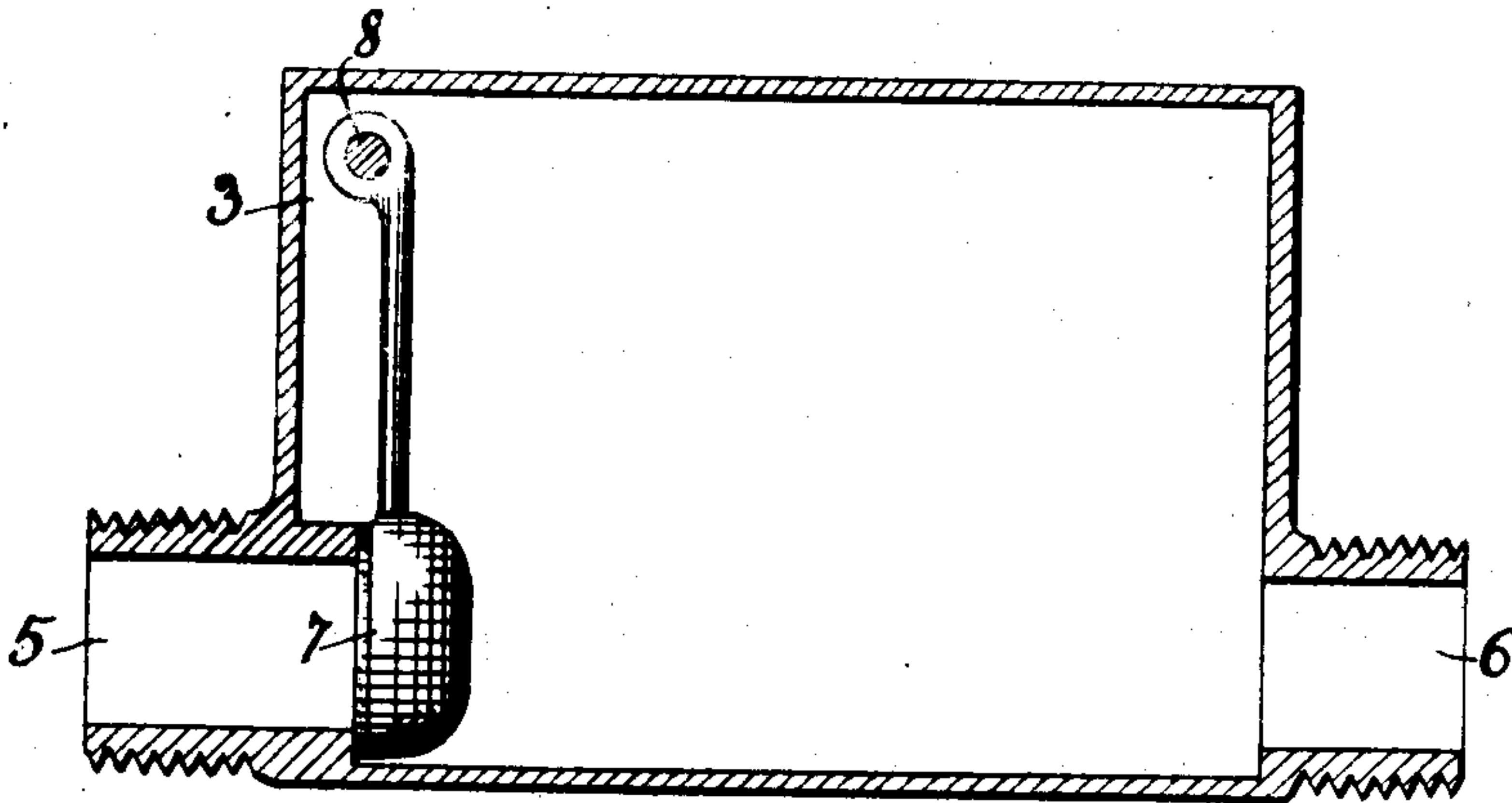


Fig. II.



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WATER-METER.

SPECIFICATION forming part of Letters Patent No. 681,083, dated August 20, 1901.

Application filed April 29, 1901. Serial No. 58,042. (No model.)

To all whom it may concern:

Be it known that I, LEVI PENFIELD TREADWELL, a citizen of the United States, residing at Danbury, in the county of Fairfield and State of Connecticut, have invented a new and useful Improvement in Water-Meters; and I do hereby declare the following to be a full, clear, and exact description of the same.

This invention relates in general to that class of devices by means of which fluids are measured during their passage through or from conducting-pipes, and more particularly to water-meters. Heretofore various devices have been designed to measure the actual quantity of water which passed through the pipes; but owing to the greatly-varying pressure at different times and places, to leaky faucets, leaks in pipes, and other conditions the result is not always satisfactory; and the object of this invention is to measure the time that water is permitted to pass through the meter, whether it be from legitimate service or from a leaky faucet.

To this end my invention consists in the construction and combination of parts forming a water-meter, hereinafter more fully described, and particularly set forth in the claim, reference being had to the accompanying drawings, in which—

Figure I is a side view of a water-meter according to my invention. Fig. II represents the same in longitudinal vertical section.

Let numeral 3 represent the chamber of the meter. This may be box-shaped, as shown, or it may be cylindrical, spherical, or of any other suitable form. There may be windows 4 in the sides for inspection of the interior works and nipples 5 and 6 for the attachment of the water-pipes, 5 representing the inlet and 6 the outlet to the meter. The nipple 5 should be attached to the supply-pipe and the nipple 6 be connected with one or more service-faucets. The outlet-passage 6 is always open; but the inlet-passage 5 is closed by a valve 7, that is hung upon a pivot 8 to swing in the direction of the entering current, it being actuated by the pressure thereof against the surface of the valve where it covers the inlet.

9 is a lever fixed upon the pivotal shaft 8 to be oscillated thereby and having a tooth 10 to engage the teeth of a clock-wheel 11 and

hold it normally from revolving. This invention does not cover the details of the clock mechanism. That may be of any style suitable to indicate the full amount of time it is permitted to run and adapted to start and run whenever the lever 9 takes its tooth 10 out of engagement with the clock-wheel 11 or with some suitable part of the clockworks to operate, as described. I have shown a series of disks 12 13 14 15, which might be geared together ten to one, and each disk marked with numerals from "0" to "9" to be read with the units on one disk, the tens on the next one, and so on, in a manner similar to that of some gas-meters.

In operation the valve 7 is held normally closed against the inlet by means of the lever 9, acting by gravity or by a spring, so long as there is no open outlet for water from the chamber 3; but the instant that any faucet connected with the outlet 6 is opened so that any water can escape the pressure on the inner side of the valve will be less than the pressure on its outer side, and the water that flows out at 6 will be replaced by water coming in at 5, and at the instant the valve 7 opens it raises the arm 9 and tooth 10, permitting the clock to start running, and as long as a faucet is open, whether little or much, and as long as a leak is permitted at a faucet or anywhere in the delivery-pipes that are connected with the outlet 6 the valve 7 will stay open and its arm 9 will continue raised, thus permitting the clock to run and record the time against the consumer; but when the flow of water is stopped the pressure on the two faces of the valve will become equal and the valve will be entirely free to be closed by gravity, and the clock will be stopped, as described. The consumer will very quickly realize that it is to his interest to turn on the full flow of water until he receives the amount required and then to shut it off tight. The water rates might be graded proportional to the size of the service-pipes, the actual delivery at full flow of each size in a unit of time having been measured, and a fair allowance might be made to each consumer for probable shortage of full delivery on account of partly-opened faucets. By means of this meter and system of measurement the amount of water wasted would

be reduced to the minimum and the consumer would be at liberty to draw his money's worth. This meter is entirely reliable and at the same time very simple and inexpensive.

5 Having thus fully described my invention, what I believe to be new, and desire to secure by Letters Patent, is the following:

10 In water-meters, a chamber having an inlet and an outlet passage for water; a valve hung to swing against the face of the inlet-passage; clockwork adapted to register time, and a lever connected with the valve and hav-

ing a tooth to engage a toothed wheel of the clockwork, substantially as described whereby the opening of the valve much or little 15 will cause the registry of the full time of the opening.

In testimony whereof I affix my signature in presence of two witnesses.

LEVI PENFIELD TREADWELL.

Witnesses:

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