

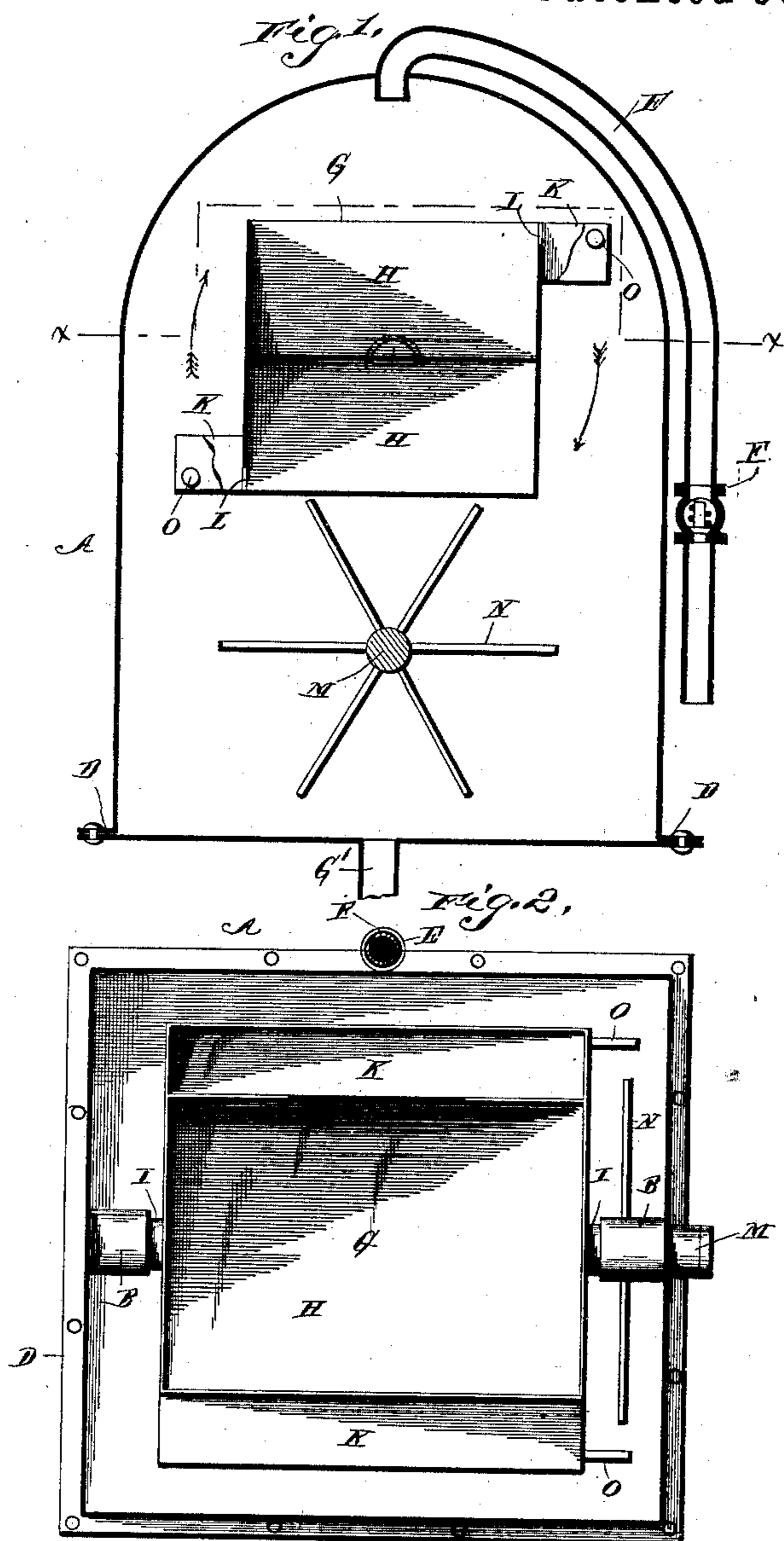
(No Model.)

S. L. SHUFFLETON.

ROTARY WATER METER.

No. 375,899.

Patented Jan. 3, 1888.



Witnesses
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UNITED STATES PATENT OFFICE.

SAMUEL L. SHUFFLETON, OF EUREKA, CALIFORNIA.

ROTARY WATER-METER.

SPECIFICATION forming part of Letters Patent No. 375,899, dated January 3, 1888.

Application filed June 30, 1887. Serial No. 243,010. (No model.)

To all whom it may concern:

Be it known that I, SAMUEL L. SHUFFLETON, a citizen of the United States, residing at Eureka, in the county of Humboldt and State of California, have invented a new and useful Improvement in Liquid-Meters, of which the following is a specification.

My invention relates to an improvement in liquid-meters; and it consists in the peculiar construction and combination of devices, that will be more fully set forth hereinafter, and particularly pointed out in the claims.

In the drawings, Figure 1 is a vertical transverse sectional view of a liquid-meter embodying my improvements. Fig. 2 is a horizontal longitudinal sectional view of the same, taken on the line *xx* of Fig. 1. Fig. 3 is a detail view of the bearing-box and journal.

A represents an inclosing case, which is preferably made of metal and has its upper side rounded, as shown. From the inner side of the end walls of the case project bearings or ears B, the inner ends of which are recessed. The lower sides of the said recesses are flat or horizontal, and the upper sides thereof are rounded or semicircular in form, as shown. The lower side of the case A is provided with a lateral outwardly-projecting flange, D, and the bottom of the case is provided with a similar projecting flange, which is bolted to the flange D.

E represents the inlet-pipe, which communicates with the upper side of the case and is provided with a check-valve, F. An outlet-pipe, G', communicates with and extends from the lower side of the case.

G represents a rectangular revoluble trough, which is open on opposite sides, and thereby forms compartments H, which are of the same size. From the ends of this trough, at the center thereof, project trunnions I, which are flattened on opposite sides and enter the recesses in the opposing sides of the ears or bearings B. As the said trunnions are flattened, it will be readily understood that they will cause the revoluble trough to stop at each semi-revolution and support the trough in a horizontal position. Each compartment H of the trough is provided with a bucket, K, which buckets are arranged on opposite sides of the trough and at the outer edges of the compartments thereof. The walls between the said com-

partments and the said buckets are partly cut away, as shown at L.

M represents a shaft, which extends through and is journaled in a stuffing-box in one of the end walls of the case A. The outer end of this shaft is adapted to be geared to a suitable registering or recording device, such as are commonly employed in meters of this class, and the inner end of the said shaft is provided with a series of radial tappet-arms, N. The buckets K are each provided at one end with a projecting tappet-pin, O.

The operation of my invention is as follows: Water or other liquid is forced through the inlet-pipe under pressure, and a quantity of air is maintained in the case A at a pressure corresponding to that of the liquid. As the liquid enters the upper side of the case, it pours into the upper compartment of the revoluble tank until the said compartment is filled, and it then flows into the projecting bucket on the outer side of the compartment. While the compartment is filling, the trough is maintained in a horizontal position by reason of its flattened trunnions and the horizontal lower side of the bearing-recesses. When the bucket at the outer side of the upper compartment becomes filled, it destroys the equilibrium of the trough and causes the same to turn through half a revolution in the direction indicated by the arrow in Fig. 1. As the trough turns, one of the tappet-pins O comes in contact with one of the tappet-arms N, and thereby partly rotates the shaft N, and correspondingly moves the recording mechanism. The liquid of course is discharged from the upper compartment and its bucket when the trough turns, and the operation before described is then repeated, the trough being caused to partly rotate as soon as each of its buckets becomes filled.

The compressed air in the case is prevented from escaping by reason of the valve F, and this air serves a useful purpose when the liquid becomes frozen in the case in cold weather, as it then partly fills the case and leaves room for the liquid to expand when thawing, and thereby prevents it from bursting the case.

A liquid-meter thus constructed is extremely cheap and simple, is very durable, is not likely to get out of order, and is sufficiently accurate for ordinary purposes.

Having thus described my invention, I claim—

1. In a liquid-meter, the revoluble trough having the buckets projecting from opposite sides and having the flattened trunnions bearing in similar recesses, for the purpose set forth, substantially as described.

2. In a liquid-meter, the combination of the case having the bearings flattened on the lower side, the revoluble trough having the flattened trunnions arranged in the flattened bearings and provided with the buckets projecting from opposite sides, and the tappet-pins O, and the rotating shaft M, having the radial tappet arms arranged in the path of the tappet-pins, substantially as described.

3. In a liquid-meter, the combination of the

case A, having the inlet and outlet pipes, the former being provided with the check-valve E, the ears or bearings in the end walls of the case, having the recesses in their opposing sides, which recesses have the flattened lower sides, and the revoluble trough having the flattened trunnions bearing in the recesses and provided with the buckets K to receive the overflow from the trough, substantially as described.

In testimony that I claim the foregoing as my own I have hereto affixed my signature in presence of two witnesses.

SAMUEL L. SHUFFLETON.

Witnesses:

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