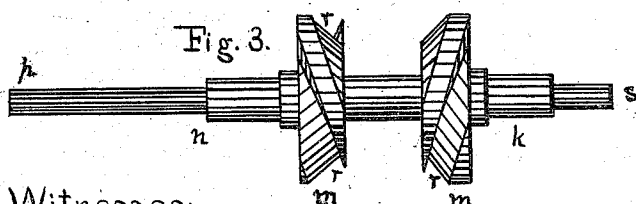
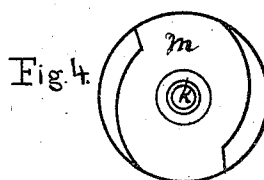
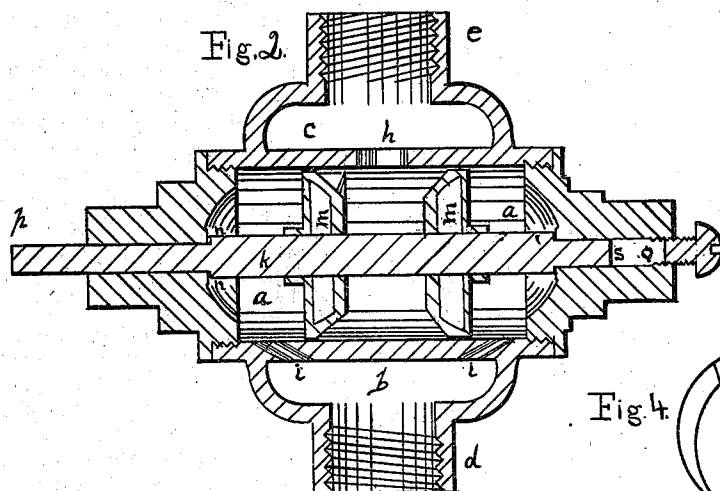
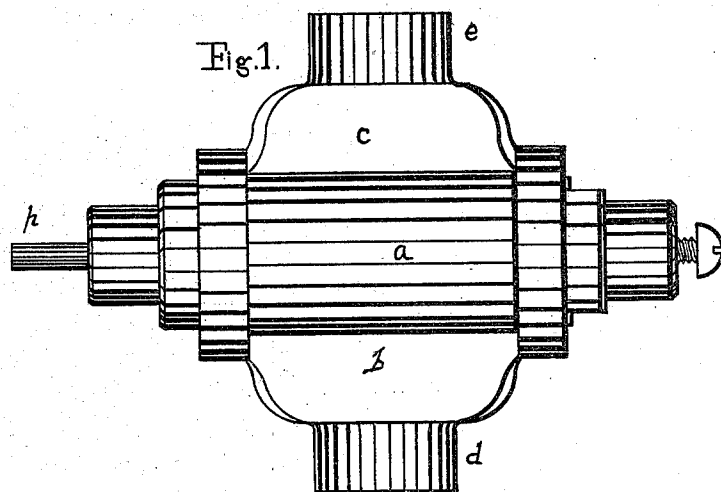


T. T. PROSSER.
Water-Meters.

No. 142,650.

Patented September 9, 1873.



Witnesses:
C. A. West.
O. W. Bond

Inventor:
Thos. T. Prosser

UNITED STATES PATENT OFFICE.

TREAT T. PROSSER, OF CHICAGO, ILLINOIS, ASSIGNOR OF ONE-HALF HIS
RIGHT TO GEORGE C. MORGAN, OF SAME PLACE.

IMPROVEMENT IN WATER-METERS.

Specification forming part of Letters Patent No. 142,650, dated September 9, 1873; application filed
March 24, 1873.

To all whom it may concern:

Be it known that I, TREAT T. PROSSER, of the city of Chicago, in the county of Cook and State of Illinois, have invented certain new and useful Improvements in Water-Meters, of which the following is a full description, reference being had to the accompanying drawings making a part of this specification, in which—

Figure 1 is an elevation; Fig. 2, a vertical section; Fig. 3, a detail, showing the shaft and screw sections thereon; and Fig. 4, an end view of the same.

My invention consists in providing a cylinder with a shaft on which are placed, a little distance apart, right and left hand double screw sections; in connecting with the cylinder two chambers, one of which communicates with the cylinder at points outside of the screw sections, the other communicates with the cylinder at a point between the two screw sections—to one of these chambers a receiving-pipe can be attached, and to the other a discharge-pipe; and in the devices and combinations hereinafter claimed.

In the drawings, *a* represents a cylinder; *b c*, two chambers, one located each side of the cylinder. An inlet-pipe, *d*, communicates with the chamber *b*, and an outlet-pipe, *e*, with the chamber *c*. From the chamber *b* there are two openings, *i*, into the cylinder *a*, which openings are outside of the screw sections. *h* is an opening from the chamber *c* into the cylinder *a*, which opening *h* is located between the two screw sections. *k* is a shaft on which the right and left hand double screw sections are placed, as shown in Figs. 2 and 3. This shaft revolves in bearings in the heads of the cylinder *a*, and one end, *p*, projects beyond the head of the cylinder, and may be connected with suitable clockwork to register the quantity of water flowing through the meter.

On the inside of the head, through which the shaft *k* passes, I form a small ground surface surrounding the shaft, and fit the shoulder *n* of the shaft thereto, so as to act as a packing-joint to prevent leakage. The pressure of the water upon the ends of the shaft *k* will keep the shaft and ground-joint mentioned in a proper place.

The screw sections *m* I make hollow, so

that they and the shaft may be as nearly water-balanced as possible, so as to facilitate the rotation of the same by the action of the water. The form and position of the channels *r* on these screw sections is clearly represented in Fig. 3. These sections *m* fit nicely in the cylinder, so that the water only passes through the channels *r*.

It is essential that the ends of those portions of the screw sections *m* which fit within the cylinder *a*, and which form the walls of the channels *r*, do not terminate opposite each other, but lap by, as shown in Fig. 3, so that the water cannot pass through the same without acting thereon.

In operation, water passes into the chamber *b*; thence through the opening *i* into the cylinder *a*; thence through the channels *r* in the sections *m* into the space between these sections; thence out through the opening *h* into the chamber *c*; and thence into the discharge-pipe *e*. The action of the water as it passes through the screw-sections *m*, rotating them and operating the registering devices connected with the shaft *k*.

The device might be so connected to the inlet and outlet pipes that the water should flow first into the chamber *c*, then through *h* into the space between the screw sections *m*; then through the sections and openings *i* into the chamber *b*, and out through the pipe *d*.

All the parts of the meter can be most conveniently made of metal.

The drawings represent a full-sized meter; but other sizes may be used.

The shaft *k* may be made hollow, if desired.

What I claim as new is as follows:

1. A fluid-meter consisting of the chamber or cylinder *a*, having mounted therein the shaft *k* with the screw-wheels *m*, having their spirals arranged in opposite directions, in combination with the auxiliary chamber *c* with its passage *h*, and the chamber *b* with its passages *i*, all constructed and arranged to operate substantially as described.

2. The arrangement of the cylinder *a* with its shaft *k*, and screw-wheels *m*, and the chambers *b* and *c*, all as herein set forth.

T. T. PROSSER.

Witnesses:

E. A. WEST,
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