

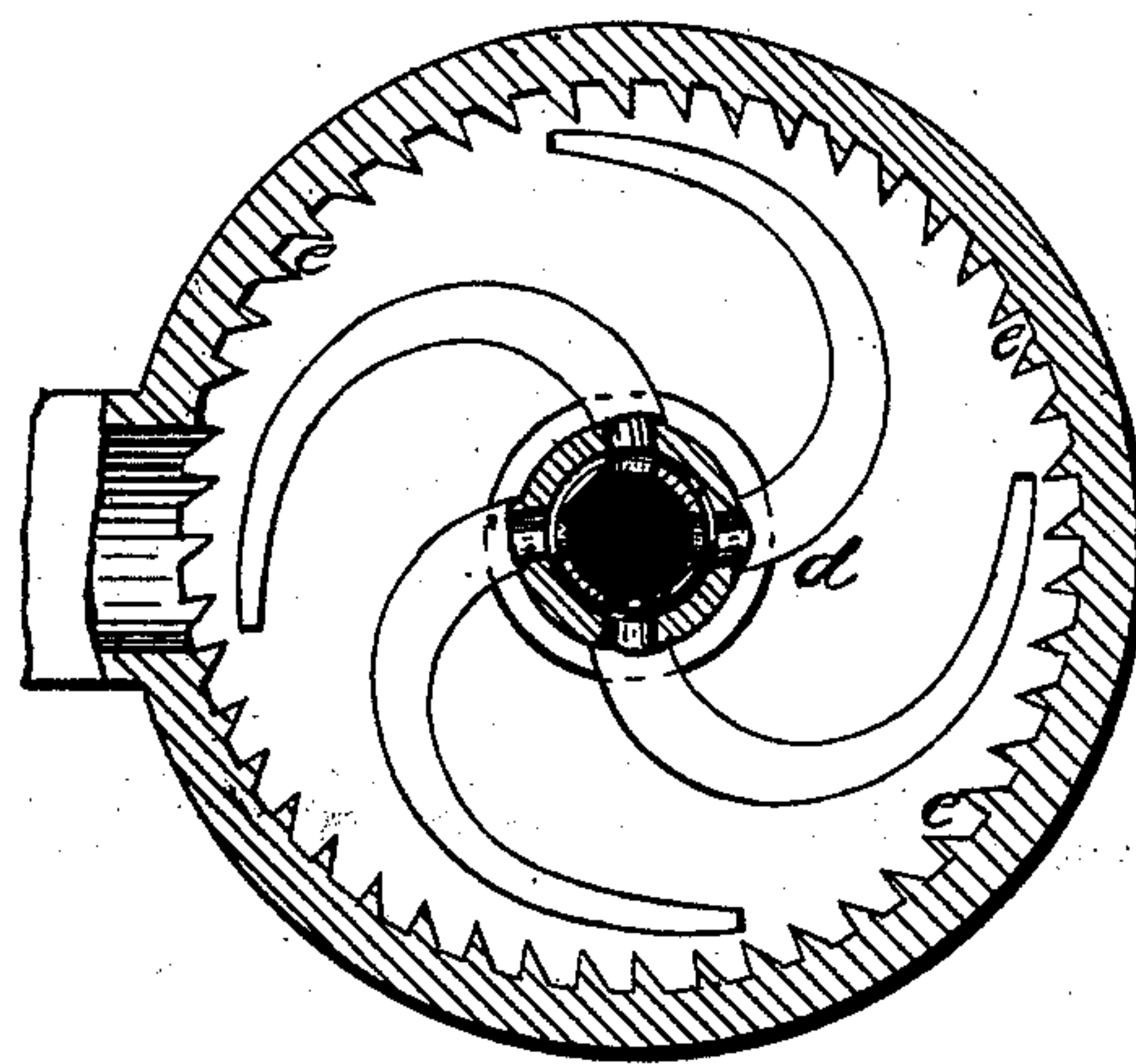
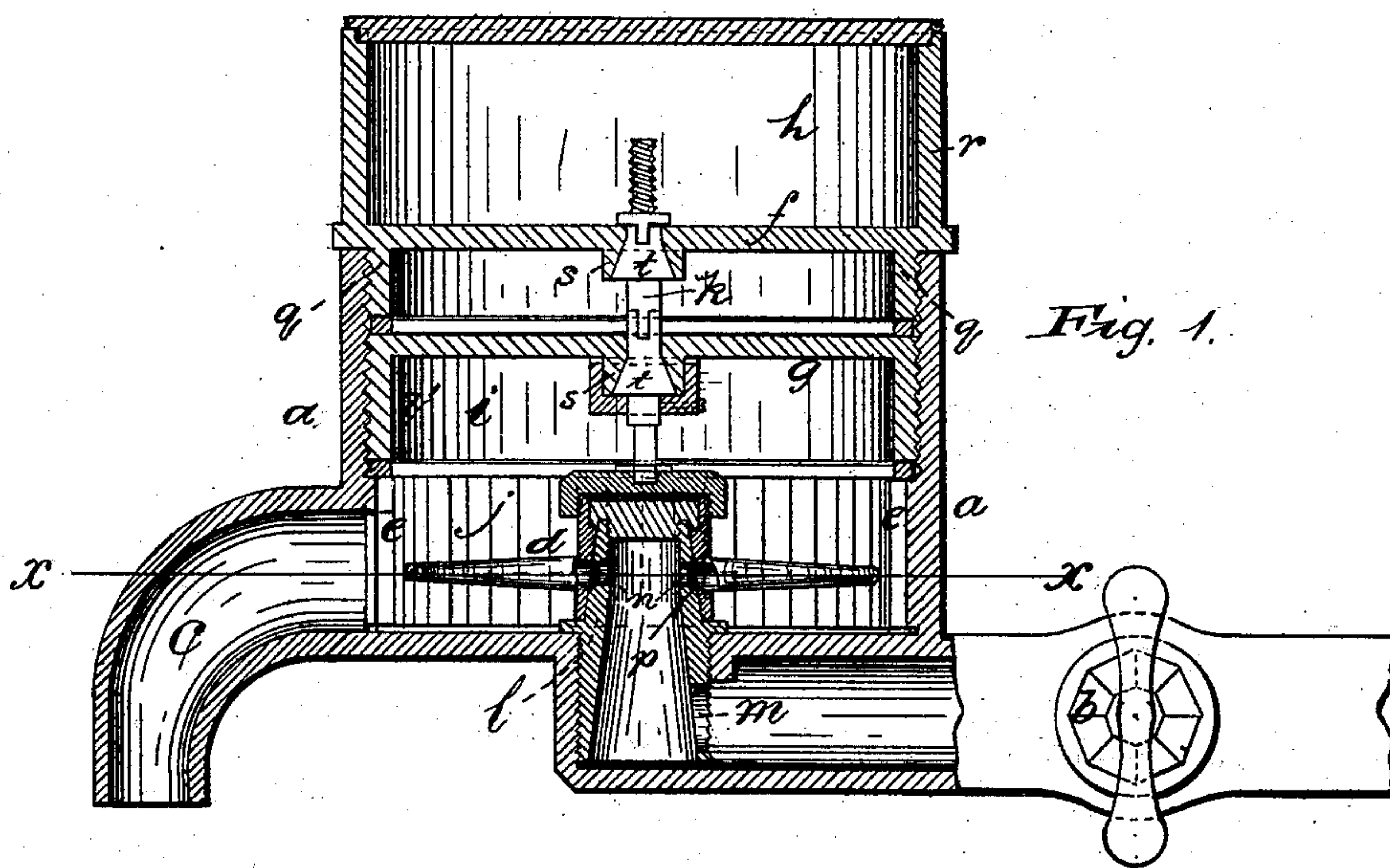
(No Model.)

H. FREDRICK.

ROTARY METER.

No. 287,529.

Patented Oct. 30, 1883.



Attest.

T. H. Campbell.

Chas. P. Herr.

Inventor.

Henry Fredrick, by  
Drake & Co. Attys.



# UNITED STATES PATENT OFFICE.

HENRY FREDRICK, OF NEWARK, NEW JERSEY.

## ROTARY METER.

SPECIFICATION forming part of Letters Patent No. 287,529, dated October 30, 1883.

Application filed June 9, 1883. (No model.)

*To all whom it may concern:*

Be it known that I, HENRY FREDRICK, a citizen of the United States, residing at Newark, in the county of Essex and State of New Jersey, have invented certain new and useful Improvements in Combined Faucets and Hydrometers; and I do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same, reference being had to the accompanying drawings, and to letters of reference marked thereon, which form a part of this specification.

15 The object of this invention is to provide a water-meter of increased utility and convenience, to reduce the cost of constructing said meters, and to perfect the same, so that they will be enabled to measure the flow of water or other liquid with greater accuracy.

The invention consists in the arrangement and combination of parts substantially as will be hereinafter set forth, and finally embodied in the claims.

25 Referring to the accompanying drawings, in which similar letters of reference indicate like parts in each of the figures, Figure 1 is a vertical section of a device embodying my improvements, and Fig. 2 is a horizontal section of the same, taken through line *x*.

30 In said drawings, *a* is a meter-box formed in connection with the faucet *b* and spout *c*, said box and spout being of one integral casting. Within said box is arranged a water-actuated wheel, *d*, having curved tubular arms tapering as they approach their outer extremities, whereby a slight flow of water therethrough causes the wheel to revolve and the registering mechanism to be operated, the water as it passes through the contracted extremities of the arms being thrown with increased force from the said arms, while at the same time the tapering and curved shape of said arms also offers less resistance to the progress of the wheel.

45 On the inside of the box *a*, adjacent to the outer extremities of the arms, are formed abutting-teeth *e*, against which the water on its exit from said arms is thrown, thus causing a reaction upon the arms, causing them to revolve under a lighter pressure of water. Said

teeth may be either cast integral with the box or be of a separate piece or pieces. The box *a* receives suitable diaphragms, *f g*, whereby said box is divided into the chamber *h* to receive the indicating mechanism, the chamber *i* to receive the leakage from the wheel-chamber, and said wheel-chamber. The diaphragm *f* rests upon the top of the box *a*, has a depending threaded apron, *g*, which engages with the inside of said box, and side portions, *r*, which form the sides of the chamber *h*, as shown. These parts are all formed of one piece of metal, whereby greater cheapness and security against leakage is attained.

65 *k* is a shaft, which connects the water-wheel with the indicating mechanism arranged in the chamber *h*, but which, being of the usual construction, is not shown. Said shaft works in suitable bearings, *s*, in the diaphragms, which flare, as shown, conical collars *t* being formed on or in connection with the shaft, whereby tight joints may be maintained.

75 The wheel *d* revolves on a journal, *l*, which is screwed into and projects from the bottom of the box *a*. Said journal is tubular in form, has a peripheral groove, *p*, thereon, into which water is forced, whereby the action of the wheel *d* is facilitated, and is provided with the inlet-port *m* and exit-ports *n*, the former of which ports connects with the faucet-pipe *o*.

By the construction thus described the amount of water being used will be apparent at all times, so that waste may be prevented.

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

1. In a water-meter, the water-wheel having curved and tapering tubular arms, arranged and operating substantially as and for the purpose set forth.

2. In a water-meter, the combination, with the wheel *d*, having the curved and tapering tubular arms, of the tubular journal having the peripheral groove therein, substantially as and for the purposes herein set forth.

3. In a water-meter, the box *a*, tubular bearing *l*, having the peripheral groove therein, and water-wheel, all arranged and operating in combination, as set forth.

100 4. As an improved article of manufacture, the water-meter composed of a meter-box, *a*,

having a spout, *c*, and faucet *b* therewith connected, within which box is arranged on a tubular journal, *l*, the water-wheel *d*, having curved and tapering tubular arms, said box being provided with the diaphragms *f* and *g*, the former resting on the top of the box and having the depending threaded apron *g*, engaging with the inside of the box, and a shaft, *k*, passing through said diaphragms, and adapted to connect the water-wheel with the indicating mechanism,

all said parts being arranged and operating substantially as and for the purposes herein set forth and shown.

In testimony that I claim the foregoing I have hereunto set my hand this 26th day of 15 May, 1883.

HENRY FREDRICK.

Witnesses:

CHARLES H. PELL,

F. F. CAMPBELL.