

*W. M. Faris,
Rotary Meter,*

Nº 19,414.

Patented Feb. 23, 1858.

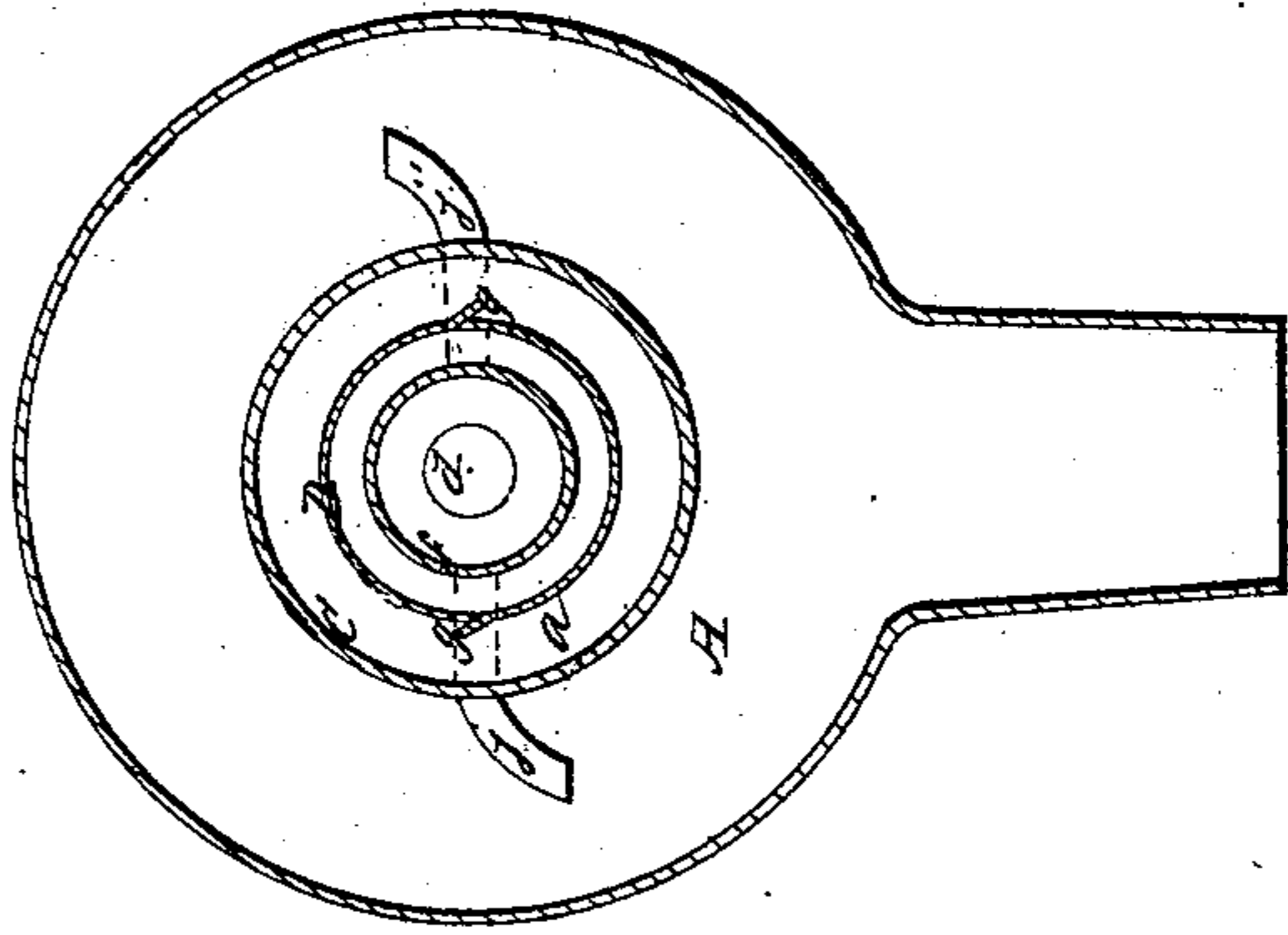


Fig. 2



Fig. 4.

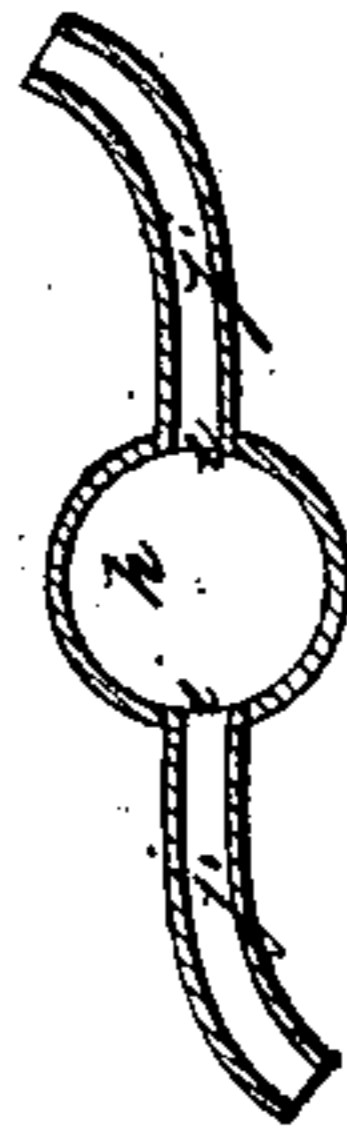


Fig. 3.

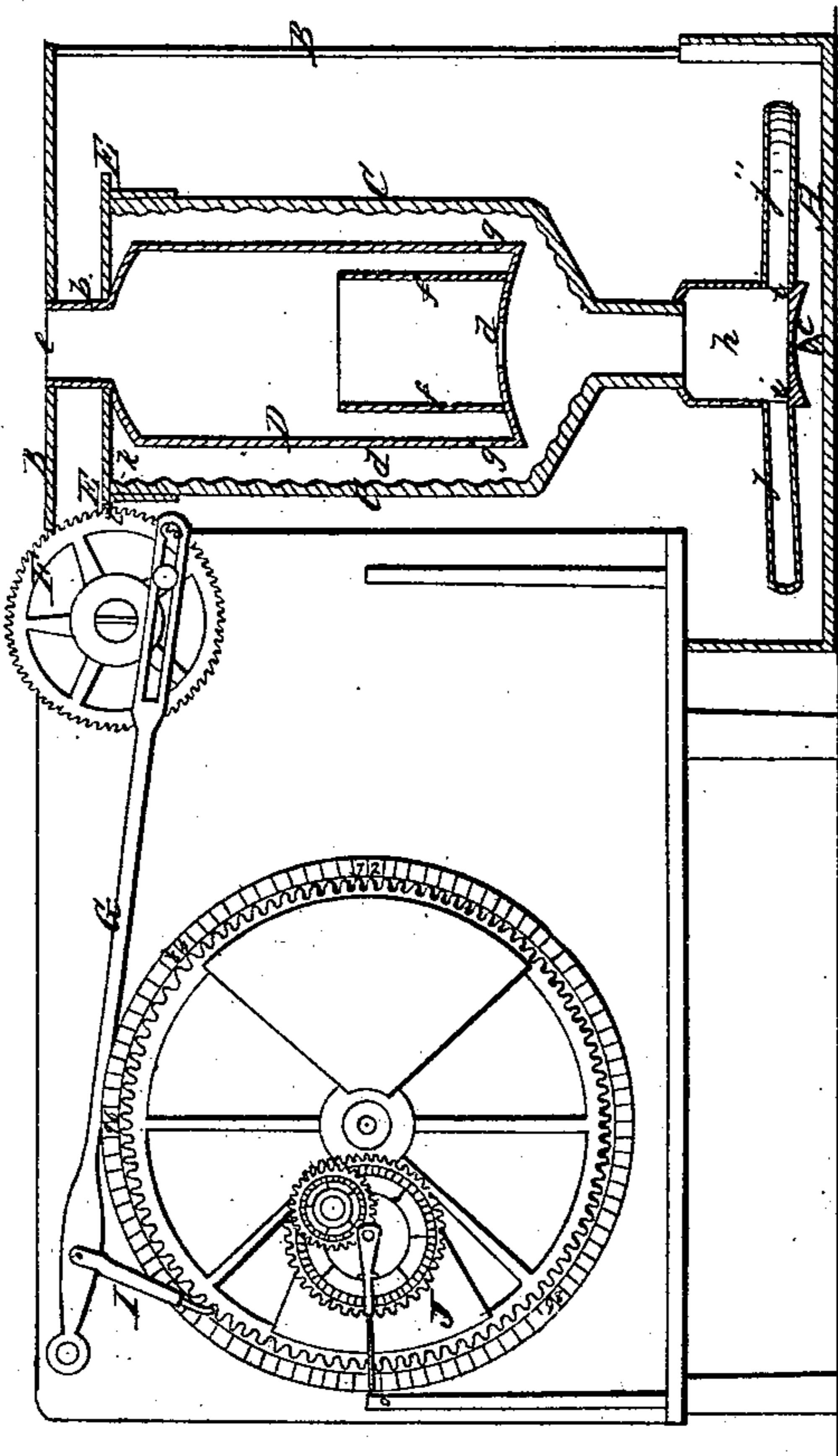


Fig. 1.

UNITED STATES PATENT OFFICE.

WILLIAM M. FARIS, OF WHEELING, VIRGINIA.

IMPROVED WATER-METER.

Specification forming part of Letters Patent No. 19,414, dated February 23, 1858.

To all whom it may concern:

Be it known that I, WILLIAM M. FARIS, of Wheeling, in the county of Ohio and State of Virginia, have invented a new and useful Improvement in Water-Measuring Attachments to Hydrant-Pipes, &c.; and I do hereby declare that the following is a full, clear, and exact description of the same, reference being had to the accompanying drawings, forming part of this specification, in which—

Figure 1 is a vertical central section of my improvement; Fig. 2, a horizontal section of the same. Fig. 3 is a detached horizontal section; Fig. 4, a detached side view.

Similar letters of reference in each of the several figures indicate corresponding parts.

The object of my invention is to provide a simple attachment for hydrant-pipes, so that nearly the exact quantity of water used by each family in a city may be measured, and thus the necessity of adhering to the unjust practice of the corporation of taxing those persons who use but a comparatively small quantity of water to or nearly the same extent as those who use a large quantity is avoided.

The nature of my invention consists in the employment of two vessels constructed and combined in the peculiar manner shown, in combination with horizontal curved discharge-pipes and a registering device, whereby nearly an accurate registration of the quantity of water discharged may be effected with a uniform or ununiform pressure of the head or source.

To enable others skilled in the art to make and use my invention, I will proceed to describe its construction and operation.

A represents a water gutter or spout adapted for receiving the water as it is measured. This spout is to be situated over the "sink" of a house and incased, except where the water escapes, or it may simply be an enlargement of a conducting-pipe if the measuring attachment is applied to a street-hydrant.

B is a suitable framing for receiving and sustaining the measuring-vessels C D. The measuring-vessel C is similar in form externally to an inverted bottle, and D to a bottle in proper position. The vessel C is of greater diameter than D and encircles it, as shown, there being left a space, *a*, between the two vessels, for a purpose presently to be described. The vessel D is stationary, being fixed to and

suspended from the frame by its hollow neck *b*. The vessel C revolves, the neck *b* and the conical pivot *c* serving as its axis. The bottom of the vessel D has a discharge-hole, *d*, in it of smaller diameter than its mouth *e*. Around this hole an annular flange, *f*, is formed, said flange projecting up from the bottom of the vessel D a distance nearly half the height of the vessel and occupying a position midway between the side of the same and the circumference of the hole *d*. *g g* are two openings in the side near the bottom of this vessel. These openings are formed so that water cannot enter them until it flows over the flange *f*. The vessel C has its lower end or mouth communicating with a hollow hub, *h*, which has two lateral passages, *i i*, leading into horizontal curved discharge-pipes *j j'*. The pipe *j* is curved the reverse of *j'*, and both are curved so that the water in escaping shall act upon the curved portion with sufficient force to cause a revolution of the pipes and the vessel C in an opposite direction to that in which the water escapes.

E is a flange formed round the upper edge of the vessel C. This flange is slitted at K and bent down, so as to form a section of a screw-thread, *l*, as shown in Figs. 1 and 4. This flange as the vessel C revolves takes between the beveled or inclined teeth of the cog-wheel F, and by its screw form turns the same and causes motion through a pitman, G, and pawl I to be transmitted to suitable registering mechanism, J.

Operation: The water from the source or head enters the mouth of the inner vessel, D, and descends and passes down through the opening *d* into the hollow hub, and escapes therefrom through the curved discharge-pipes, and in escaping by its pressure against the curved portion of the pipes causes them to revolve, and thus motion is transmitted to the vessel C and from it to the registering mechanism, as before described. The quantity of water discharged will thus, it is thought, always be accurately measured, so long as the pressure of the head does not vary beyond that which the machine has capacity for discharging through orifice *d* and the quantity of water discharged correctly registered; but if the supply increases so that the water cannot be all discharged through the orifice *d* as fast

as it is received through the opening *e*, then the inner vessel, D, comes into use, and the surplus water, instead of escaping through orifice *d*, rises and overflows the annular flange *f* and escapes through the passages *g g* and acts with force upon the irregular or ribbed surface of the vessel C, and thus increases the speed of the same commensurate with the increased supply. Thus, no matter what may be the variations in the supply of water, nearly the exact quantity of water received at *e* will be registered.

What I claim as my invention, and desire to secure by Letters Patent, is—

The employment of two vessels constructed

and combined in the peculiar manner shown, in combination with horizontal curved discharge-pipes and a registering device, whereby nearly an accurate registration of the quantity of water discharged may be effected with a uniform or ununiform pressure of the head or source, substantially as described.

The abovespecification of my improved water-measuring attachment to hydrant-pipes, &c., signed and witnessed this 24th day of December, 1857.

WILLIAM M. FARIS.

Witnesses:

G. YORKE AT LEE,
R. W. FENWICK.