P. WELLS.

WATER-METER.

No. 188,214. Patented March 6, 1877.

Fig. 1.

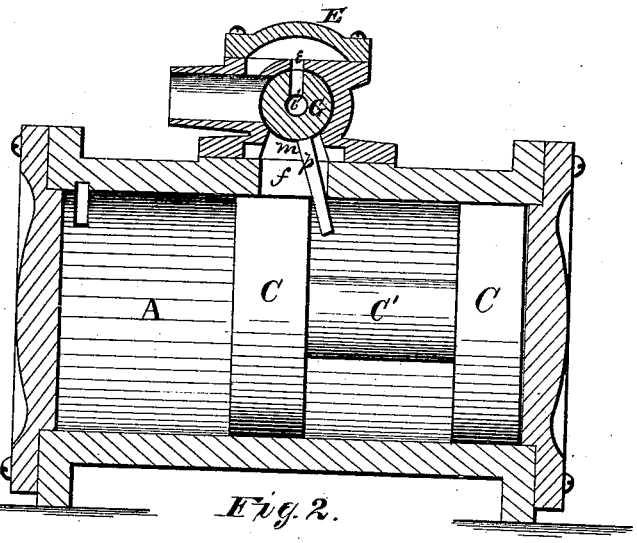


Fig. 2.

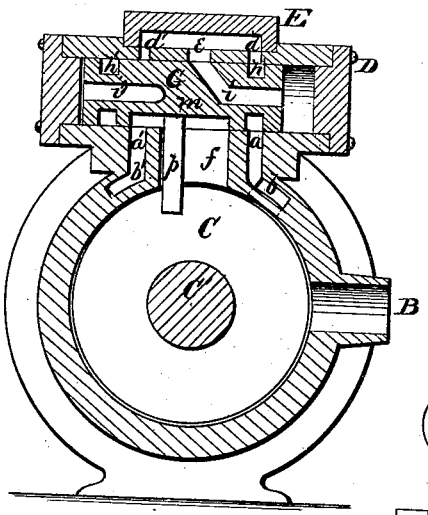


Fig. 4.

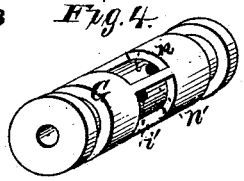
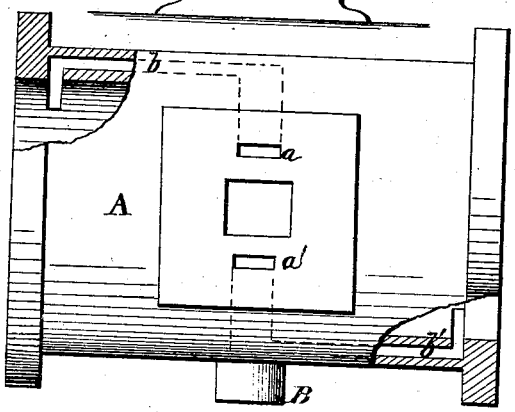


Fig. 3.



WITNESSES

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UNITED STATES PATENT OFFICE.

PARKER WELLS, OF LYNN, MASSACHUSETTS.

IMPROVEMENT IN WATER-METERS.

Specification forming part of Letters Patent No. **188,214**, dated March 6, 1877; application filed February 9, 1877.

To all whom it may concern:

Be it known that I, PARKER WELLS, of Lynn, in the county of Essex, and in the State of Massachusetts, have invented certain new and useful Improvements in Water-Meters; and do hereby declare that the following is a full, clear, and exact description thereof, reference being had to the accompanying drawings, and to the letters of reference marked thereon, making a part of this specification.

The nature of my invention consists in the construction and arrangement of a water-meter, as will be hereinafter more fully set forth.

In order to enable others skilled in the art to which my invention appertains to make and use the same, I will now proceed to describe its construction and operation, referring to the annexed drawing, in which—

Figure 1 is a longitudinal section of my water-meter. Fig. 2 is a transverse vertical section of the same. Fig. 3 is a plan view of the cylinder, partly in section, with the valve-chest removed. Fig. 4 is a perspective view of the valve.

A represents the cylinder, provided with the central outlet B, and having two pistons, C C, connected by a center-rod, C′, which pistons and connecting-rods may be made of one or more pieces, as desired.

On top of the cylinder A is the valve-chest D, communicating by ports *a a′* and passages *b b′* with the ends of the cylinder. The interior of the valve-chest D is cylindrical in form, and on top thereof is a hollow cap, E, into which the water is admitted in any suitable manner. This cap communicates with the interior of the valve-chest by end ports *d d′* and a center port, *e*.

In the center of the bottom of the valve-chest is the exhaust-port *f*, communicating with the interior of the cylinder. Within the valve-chest D is placed the plug-valve G, which is, near its ends, provided with circumferential grooves or passages *h h′*, and has also two passages, *i i′*, extending from the top of the valve through opposite ends thereof. On the under side it has also an exhaust-passage or recess, *m*, and an arm, *p*, extends from the bottom of the valve through the exhaust-port *f* into the interior of the cylinder between the pistons C C.

This plug-valve G has a twofold movement, a rocking or rotating motion, and a sliding motion, as follows: In the position of the parts, as shown in the drawing, the water passes from the cap E through the port *d*, groove *h*, port *a*, and passage *b* to one end of the cylinder A, to force the pistons to the other end thereof. The water then in advance of the piston is forced through the passage *b′*, port *a′*, and exhausts *m f* to the center of the cylinder, between the two pistons, and out through the outlet B. When the pistons complete their stroke, the rear piston strikes the arm, so as to turn or rotate the valve a sufficient distance to close the port *i* and open the port *i′*. The water at once passes through the ports *e* and *i′* to that end of the valve, and the pressure of the water immediately moves the valve to the other end of the valve-chest, so as to close the ports *d* and *a*, and open the ports *d′ a′*. The water that was previously at this end of the valve-chest passes during the movement of the valve through the passage *i*, and a recess, *n*, surrounding its opening in the side of the valve to the exhaust-port *f*. The water now enters the other end of the cylinder, and the motion of the parts is reversed.

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

The combination, in a water-meter, of the valve-chest D, cap E, with ports *d*, *d′*, and *e*, and a water-inlet, and the solid plug-valve G, provided with annular grooves *h h′*, passages *i i′*, *m*, and *n n′*, and stem *p*, with the cylinder A, and the connected pistons C C, all constructed as and for the purposes set forth.

In testimony that I claim the foregoing I have hereunto set my hand this 7th day of February, 1877.

PARKER WELLS.

Witnesses:
J. M. MASON,
FRANK GALT.