

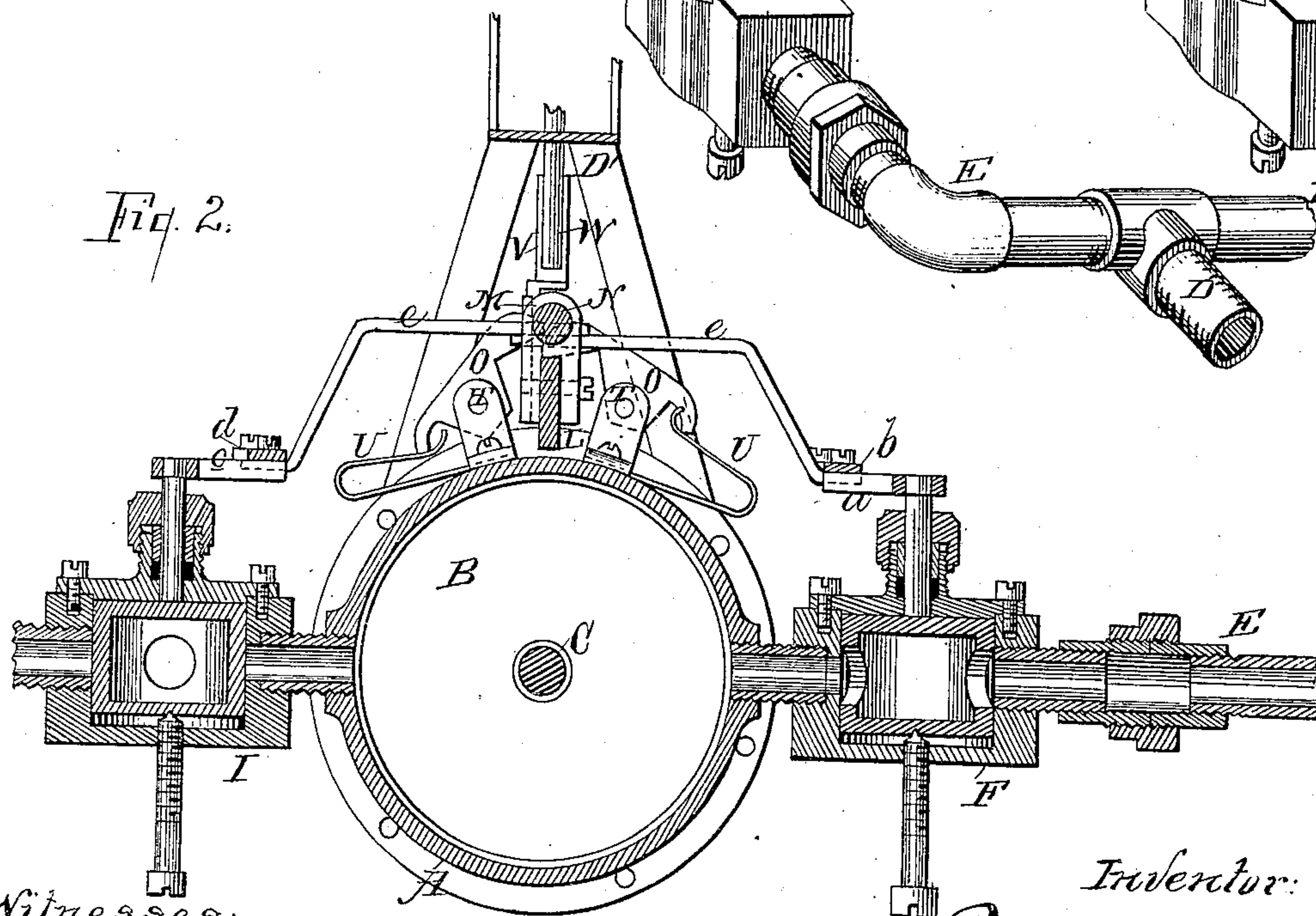
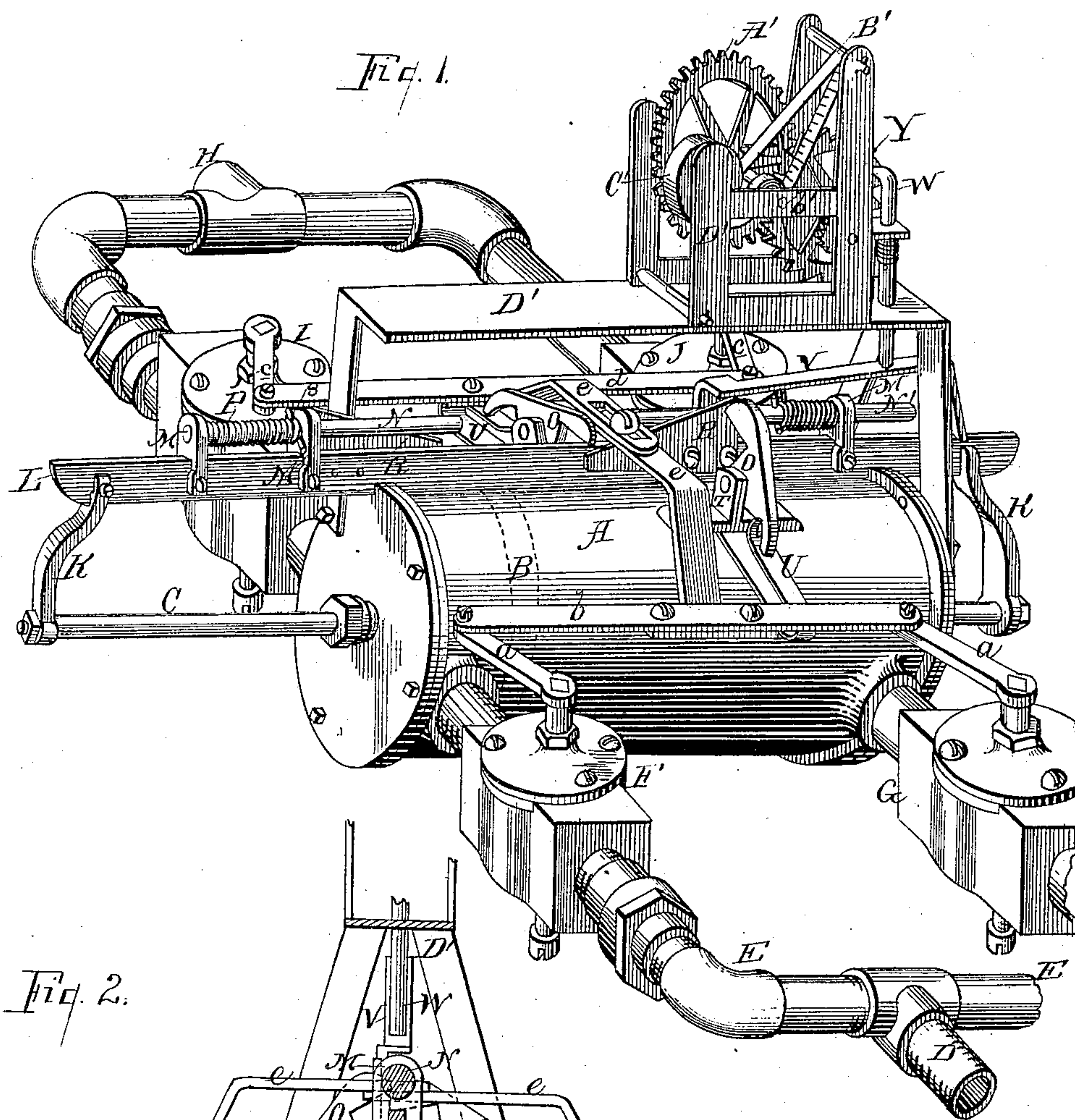
(No Model.)

P. RENSINK.


# DEVICE FOR OPERATING THE VALVES OF PISTON METERS.

No. 252,900.

Patented Jan. 31, 1882.



Witnesses:  
E. L. Asmus  
O. R. Erwin

 In Witness Whereof  
Peter Reussink  
By Jas. B. Erwin  
Attorney.



# UNITED STATES PATENT OFFICE.

PETER RENSINK, OF MILWAUKEE, WISCONSIN.

## DEVICE FOR OPERATING THE VALVES OF PISTON-METERS.

SPECIFICATION forming part of Letters Patent No. 252,900, dated January 31, 1882.

Application filed June 13, 1881. (No model.)

*To all whom it may concern:*

Be it known that I, PETER RENSINK, of the city and county of Milwaukee, in the State of Wisconsin, have invented certain new and useful Improvements in Water-Meters; and I do hereby declare that the following is a full, clear, and exact description of my 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 the letters and figures of reference marked thereon, which form a part of this specification.

Figure 1 represents a perspective view of my invention. Fig. 2 is a transverse section of the same.

My improvements pertain to that class of meters in which a reciprocating piston is used, and relates to the device for operating the cut-off valve through which the water passes to and escapes from the cylinder, and also in the registering device, which shows the quantity of water used.

The objects of my improvements are, first, to provide a device which will operate all the valves simultaneously and instantaneously at the end of each stroke of the piston, and which will permit the said valve to remain at rest while the piston traverses the space between the respective ends of the cylinder, whereby all liability of the piston being stopped midway in its stroke is obviated.

My invention is further explained by reference to the accompanying drawings, in which A is the cylinder. B is the piston. C is the piston-rod. D is the inlet-pipe, communicating through the branch pipes E E and cut-off valves F and G to the respective ends of the cylinder. H is the outlet-pipe, through which water escapes from the respective ends of the cylinder through cut-off valves I and J. The valves F and G are connected together by levers *a a* and bar *b*. The valves I and J are connected together by levers *c c* and bar *d*. The bars *b* and *d* are connected together by bars *e e*. Thus all the valves are turned and opened and closed by moving the bars *e e* forward and backward. Motion is communicated to bars *e e* from and by the action of the piston B as it reciprocates toward the right and

left through standards K K, bar L, posts M M M, and rods N N', and from said bars *e e* to the respective valves, as described. The rods N N' are adapted to move both with and loosely through their supporting-posts M M. As the piston moves from the left toward the right the rods are carried forward with it until rod N comes in contact with the oscillating lever or catch O, by which its forward movement is arrested, until by the continuous forward movement of the piston and the accompanying attachments said catch is thrown upward and out of contact with said rod, when said rod is thrown quickly forward by the action of the spiral spring P, said spring having been previously compressed between the end standard and the pin *s* by the forward movement of said end standard upon said rod N against said spring. The catch or lever O is thrown up out of contact with the end of the rod, as described, by the inclined or angular bar R, which is secured to the side of the bar L, and is carried gradually forward with it as the piston moves. When said catch O is thrown upward and said rod N is thrown forward by the action of said spring, as described, the front end of the rod strikes the bars *e e*, throwing them instantaneously toward the right, whereby all of the cut-off valves are simultaneously turned and the current of water reversed from the left to the right hand side of the piston. All the mechanism upon the right-hand side of the cylinder for reversing the cut-off valves and changing the course of the current of water from one side of the piston to the other are made and operated substantially like that described upon the left-hand side, and the several parts and devices are referred to by the same reference-letters.

The latch or oscillating lever O is secured to the side of the cylinder A upon a standard, T, by a pivot, and it is retained in position in front of said rod N, when out of contact with the angular bar R, by the spring U, substantially as shown. It is obvious that by this arrangement the cut-off valves will be reversed and the course of the water changed from one side of the piston to the other, and the piston be caused to vibrate toward the right and left so long as the water flows from the outlet H.

The valves and valve-seats are constructed and connected with the water-pipes in the ordinary manner.

5 Motion is communicated to the registering device with each alternate movement of the piston by the inclined bar V, which is attached to and moves with the bar L. As the inclined bar V passes beneath the vertical pawl W said pawl is raised thereby when it comes in con-  
10 tact with the teeth of ratchet-wheel Y, thereby moving said wheel Y slightly forward. Motion is communicated from the shaft of wheel Y, in the ordinary manner, by a pinion to wheel A'.

15 For registering the movements of the meter an ordinary self-winding tape-measure is employed. The free end of the tape B' is attached to the shaft of wheel A'. The tape-case C' is rigidly secured to the frame D' of the registering device. Thus as wheel A' revolves said  
20 tape is gradually drawn from a self-winding spool in the inclosing-case C' and wound around

the said shaft. The tape is provided with marks or characters by which its movement is indicated and the flow of water thereby as-  
25 certain.

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

In a piston water-meter, the combination of piston B, piston-rods C C, standards K K, bar 30 L, posts M M M M, rods N N', springs P P, angular bars R, oscillating catches O O, springs U U, cross-bars *e e*, bars *b* and *d*, levers *a a* and *c c*, and cut-off valves F, G, I, and J, all substantially as and for the purpose set forth. 35

In testimony whereof I affix my signature in presence of two witnesses.

PETER RENSINK.

Witnesses:

JAS. B. ERWIN,  
O. R. ERWIN.