

Improvement in Liquid Meters.

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IMPROVEMENT IN LIQUID-METERS.

Specification forming part of Letters Patent No. 123,521, dated February 6, 1872; antedated January 22, 1872.

To all whom it may concern:

Be it known that I, WILLIAM E. SNEDIKER, of the city, county, and State of New York, have invented a new and useful Improvement in Liquid-Meters, of which the following is a full, clear, and exact description, reference being had to the accompanying drawing forming part of this specification, and in which—

Figure 1 represents a plan, with the outer case in section, of a meter constructed in accordance with my improvement, and Fig. 2 a sectional elevation of the same taken as indicated by the irregular line *xx* in Fig. 1.

Similar letters of reference indicate corresponding parts.

My invention relates to that description of liquid-meters in which reciprocating pistons, working in an independent manner within measuring cylinders or chambers, are used, said pistons having their action controlled by valves operated, respectively, by the piston of each adjacent cylinder—that is, the piston of either one cylinder being controlled by the valve which is operated by the piston of the other cylinder.

In meters of this description it has heretofore been customary to arrange the valve which controls either piston under the cylinder of the adjacent piston, and to operate such valve in a direct manner by said piston.

This arrangement involves a system of cross-passages which are objectionable; and my invention consists in an arrangement of the valves under or in direct connection with the cylinders, the pistons of which they serve to control, but either of such valves being operated by the piston of the adjacent cylinder. By this arrangement of the valves a shorter and straighter or more direct arrangement of the passages is secured.

Referring to the accompanying drawing, A and A' represent two cylinders, arranged side by side within an outer case, B, to which the liquid to be measured is freely admitted, as by an inlet, *b*. Each of these cylinders contains

a piston, C, which is free to slide upon its rod, D or D', that are moved by the pistons toward the completion of their strokes for the purpose of operating the valves. Such movement may be communicated to the rods D D' by cross-pins *cc*, against which the pistons are made to strike. E E' are the valves which serve to control the ingress of liquid from the outer case B to the cylinders A A', and egress therefrom by an exhaust-passage, *d*, the ingress and egress taking place, by passages *ee* and *f*, to and from opposite sides, alternately, of either piston, by means of the valves E E', which I prefer to make either of a single or double D-form. By this arrangement of the passages with the ends of the cylinders, which arrangement is at once short and direct, either valve E E' is made to control the piston of the cylinder under which it is arranged or with which it is in direct connection, but it is operated by the piston of the adjacent cylinder to secure to the pistons their proper relative action. This is accomplished by means of independent rock-shafts G G', through arms or levers H H', with which the rods D D' are respectively connected, and arms or levers I I', with which the valve-rods J J' are connected.

The registering mechanism of the meter may be variously operated from any of the working parts, and forms no portions of this invention.

What is here claimed, and desired to be secured by Letters Patent, is—

The arrangement, essentially as shown and described, of the valves E E' with their passages *ee* and *f*, the cylinders A A' with their independently-operating pistons, and the rock-shafts G G', for operation of either valve by the piston of its adjacent cylinders, as specified.

W. E. SNEDIKER.

Witnesses:

FRED HAYNES,
R. E. RABEAU.