

(No Model.)

L. M. RICH.
PUMP VALVE.

No. 556,213.

Patented Mar. 10, 1896.

Fig. 1.

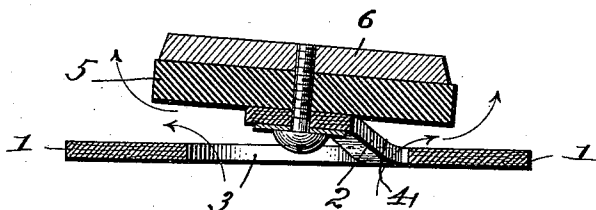
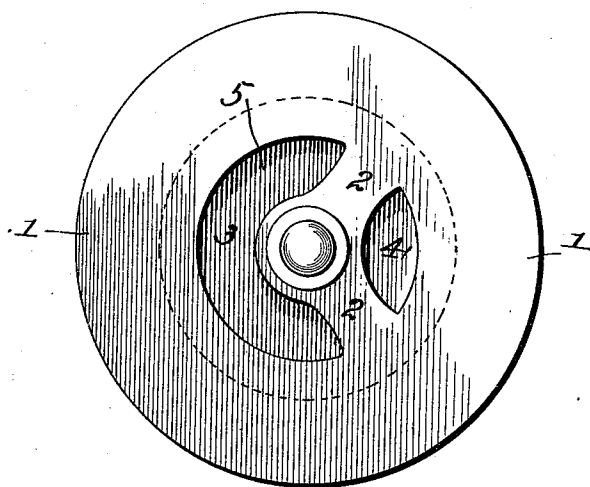


Fig. 2.



Witnesses
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UNITED STATES PATENT OFFICE.

LESTER M. RICH, OF CEDAR RAPIDS, IOWA.

PUMP-VALVE.

SPECIFICATION forming part of Letters Patent No. 556,213, dated March 10, 1896.

Application filed September 21, 1895. Serial No. 563,253. (No model.)

To all whom it may concern:

Be it known that I, LESTER M. RICH, a citizen of the United States, residing at Cedar Rapids, in the county of Linn and State of Iowa, have invented certain new and useful Improvements in Pump-Valves, of which the following is a specification, reference being had therein to the accompanying drawings, in which—

Figure 1 is a vertical section of my improved valve, and Fig. 2 a bottom view thereof.

This invention has for its object to provide a simple valve for lift and other pumps which shall insure an ample flow of water and thorough washing of the valve-seat to keep it free from sand and grit, as more fully hereinafter set forth.

Referring to the drawings by numerals, 1 designates a disk of leather or other flexible material, which is adapted to be clamped or otherwise secured in the pump-cylinder in the usual manner, and which is provided centrally with the water-passage. Formed integrally with the disk 1 and projecting from one side of the water-passage radially into the same are two comparatively narrow parts 2, these parts being connected together integrally at the center of the water-passage, thereby dividing the water-passage into a main segmental opening 3 and a smaller supplemental opening 4. Secured to the inner connected ends of the parts 2, so as to be concentric with the circular water-passage, is the elastic circular valve 5, which is adapted to normally cover the water-passage and rest directly upon the upper surface of the disk 1, and which carries on its upper side a suitable weight 6.

It will be observed that owing to the peculiar manner of attaching the valve to its seat the upward flow of the water will not only raise it bodily from the seat but will also raise it obliquely, as shown in Fig. 1, the two narrow connecting parts 2 serving as a hinge and at the same time permitting the valve to lift bodily off its seat. It will be observed that the bodily raising of the valve is insured by

drawing a portion of the water up through the opening 4 between the two parts of the hinge, as shown by the arrow at the right of Fig. 1. Thus lifting the valve entirely from its seat and turning it to one side upon a hinge insures the advantages of both the ordinary hinged valve and a vertically-working valve—namely, it provides for thoroughly washing the valve-seat entirely around its edge and also provides for an ample flow of water.

The objection to valves having a single hinge in the ordinary manner is that sand collects at the hinge-point of the seat and prevents a complete closing of the valve, and the advantage of the variety of valves that work directly vertically is that the flow of water is not ample.

Another advantage in my peculiarly-constructed double hinge is that the two parts, being connected together, brace each other, and thereby form a stronger connection than would be the case if a single hinge equal in width to the two parts were employed. The two parts also maintain the valve centrally over the water-passage, and thereby insure its seating centrally and uniformly on the valve-seat.

Having thus fully described my invention, what I claim is—

A pump-valve consisting of a disk having a central water-passage and two integral radial hinge parts extending into said water-passage and dividing the same into the main opening and supplemental opening, the latter being between the hinge parts and the two hinge parts being connected together at the center of the opening, and a valve secured to the connected parts and normally covering the entire water-passage, substantially as described.

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

LESTER M. RICH.

Witnesses:

J. F. RALL,
A. E. MULFORD.