D. F. DODGE.

PUMP-VALVES.

No. 194,337. Patented Aug. 21, 1877.

Fig. 1.

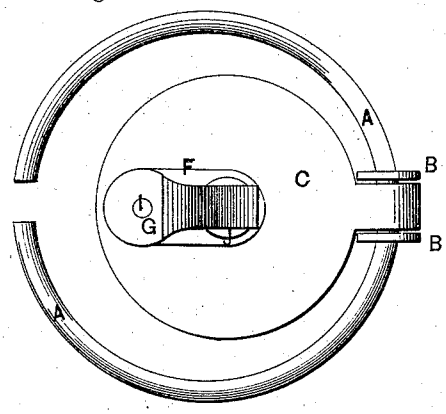
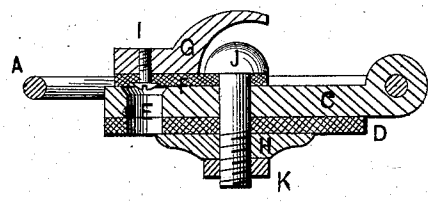


Fig. 2.



Witnesses:

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D. FRANK DODGE, OF LOWVILLE, NEW YORK.

IMPROVEMENT IN PUMP-VALVES.

Specification forming part of Letters Patent No. **194,337**, dated August 21, 1877; application filed July 17, 1877.

To all whom it may concern:

Be it known that I, D. FRANK DODGE, of Lowville, in the county of Lewis and State of New York, have invented a new and useful Improvement in Pump-Valves, which improvement is fully set forth in the following specification and accompanying drawings, in which—

Figure 1 is a perspective plan view. Fig. 2 is a vertical section.

Similar letters denote similar parts.

A is a circular spring of metallic wire, having collars B B at the side secured upon the same. Encircling the spring at this point between the collars is the hinge of the valve-plate C. The under side of the valve-plate is cushioned with the sheet packing or leather D, and through both is the vent-opening E, closed by the supplemental valve F. The parts F, C, and D are held together by means of the hood-headed screw J, with the nut K and washer H. Secured to the valve F, by the screw I, is the weight G, the latter having an arm or projection extending over and at a little distance above the central screw J.

My invention thus described constitutes a perfectly-adjustable anti-freezing pump-valve. In use the two arms of the spring A A can be so spread apart, or drawn toward each other, as to adapt it to the size of the valve-seat or lower end of the pump-barrel, so adjusting the same that the spring will snugly press the interior of the seat or barrel of the pump in which it is to be used. This will bring the packing D over the opening or collar of the supply-pipe of the pump, the opening E falling just within the circle of the throat of the latter.

The raising of the plunger or bucket of the pump, causing a vacuum above the valve, will cause the plate C, with the several parts attached, to rise, turning upon the spring A A, and allow first the air and then the water to pass into the barrel of the pump, returning to its place the moment the bucket commences its descent.

When it is desired to allow the contents of the barrel to pass back out of the pump, (to avoid freezing,) the bucket must be lowered until the bottom side of the same presses the arm of the weight G, causing the same to be tilted, and thus raising the supplemental valve F, and opening a vent or passage for the water retained above the valve, and permitting the same to sink to the level of that in the well or reservoir whence it is drawn.

Having thus described the construction and working of my improvement, what I claim, and desire to secure by Letters Patent, is—

1. The lower valve of a pump hinged upon a divided ring of spring metal, and by the outward pressure of said spring retained in position within the barrel and upon the valve-seat, substantially as described.

2. In combination with the ordinary pump-valve, the supplemental valve F, and vent E, substantially as described and set forth above.

D. F. DODGE.

Witnesses:
J. C. HOUSE,
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