

J. S. ADAMS.
VALVES.

No. 178,224.

Patented June 6, 1876.

Fig. 1

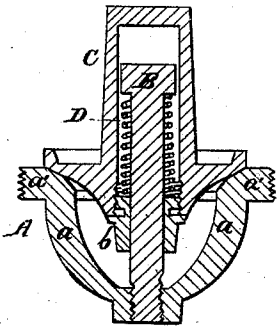


Fig. 2

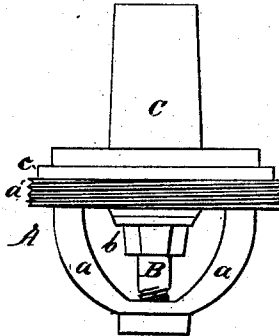
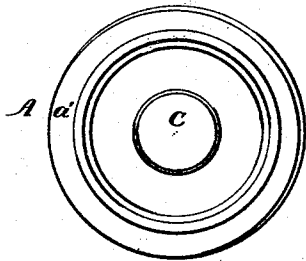


Fig. 3



WITNESSES

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INVENTOR

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UNITED STATES PATENT OFFICE.

JOHN S. ADAMS, OF ELGIN, ILLINOIS.

IMPROVEMENT IN VALVES.

Specification forming part of Letters Patent No. **178,224**, dated June 6, 1876; application filed March 13, 1876.

To all whom it may concern:

Be it known that I, JOHN S. ADAMS, of Elgin, in the county of Kane and State of Illinois, have invented a new, useful, and Improved Valve, of which the following is a full, clear, and exact description, which will enable others skilled in the art to which my invention appertains to make and use the same, reference being had to the accompanying drawing, forming a part hereof, and in which—

Figure 1 is a vertical central section of a valve device embodying my invention; Fig. 2, a side elevation of the same; and Fig. 3, a top or plan view thereof.

Like letters of reference indicate like parts.

The object of this invention is to so improve the construction and operation of the class of valves herein shown and described that they will close the valve-openings gently, just before the water begins to recede, thus preventing lost motion and noise, and making the movement of the valves regular and even. I also aim to so construct the valve-lid that, besides being adapted to operate in the manner above set forth, it will also have a broad bearing or guide, and be jointless, and thus require neither packing nor ground surfaces, excepting to close the valve-opening, and also serve as a shield to protect the spring, which renders it yielding.

To this end my invention consists of a valve device wherein the valve-lid is cap-formed or chambered, and operates in connection with a fixed and shouldered pin or screw entering the said chamber, and with a spring inclosed by the cap or chamber, substantially as hereinafter set forth.

In the drawing, A represents the valve-seat, and consists of the curved arms *a a*, radiating outwardly and upwardly from a common center, and terminating in an annular piece, *a'*, preferably screw-threaded on its periphery, so that it may thereby be held in its place. B is a headed pin or screw, passing vertically and downward through the junction of the arms *a a*, and *b* is a sleeve playing freely on this pin or screw. C is a cap-shaped valve, either resting on a packing, arranged between it and the seat, as shown at *c*, Fig. 2, or directly on the seat, as represented in Fig. 1, and in the latter case the adjacent faces of the valve and its seat should be either beveled, as shown, or ground, or both, so as

to make a close-fitting joint when these parts are in contact.

The sleeve *b* may be removably attached to the valve C, and D is an open spiral spring, surrounding the pin or screw B, and arranged between the sleeve *b* and the head of the pin, the sleeve and head constituting the one a fixed and the other a movable shoulder or seat, limiting the action of the spring.

It will be perceived, from the foregoing description, that if the valve device is placed in a chamber or pipe, through which water is drawn, as in a pump, for example, the valve will yield to the upward movement of the water, and allow the latter to be discharged in the usual manner; but just as the motion of the pistons is reversed the valve will close on its seat, owing to the action of the spring, and thus prevent a back or downward flow of the water, shutting it off the instant the water tends to descend, or a little before. By this means the action of the valve is rendered uniform and regular, and lost motion and noise are prevented.

The device may be constructed with facility, can be easily arranged in its place, and its parts are capable of being readily arranged together, and taken apart.

It will be perceived that the lid or cap, by bearing against the pin B at two points considerably distant from each other, is effectually prevented from being tilted; that the spring D is shielded by the valve-lid; and that no packing or ground surface is required, excepting as already specified.

I am aware that valve-coverings have heretofore been rendered yielding by means of a spring, and I do not, therefore, here intend to claim such broadly; but

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

1. In combination a chambered valve, a headed pin entering the chamber in the valve, and a spring arranged between the head of the pin and a shoulder in the valve, substantially as and for the purposes specified.

2. The combination of the open spiral spring D, headed pin or screw B, valve-seat A, sleeve *b*, and chambered valve C, substantially as and for the purposes specified.

Witnesses: JOHN S. ADAMS.

F. F. WARNER,
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