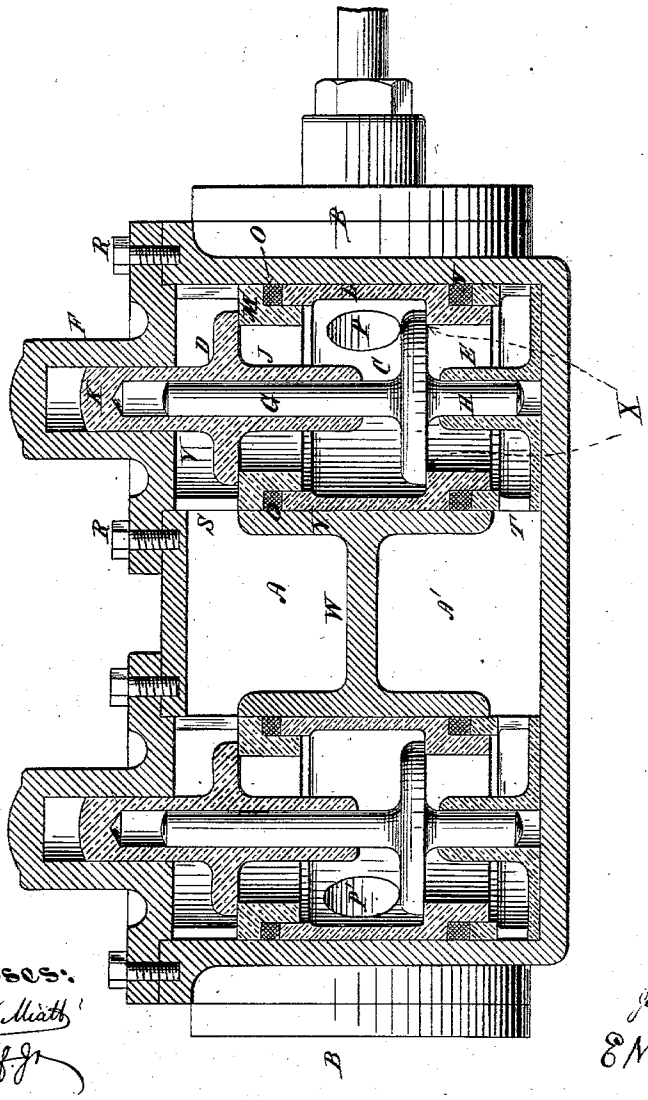
(No Model.)

J. H. BLESSING.

PUMP VALVE.

No. 272,198. Patented Feb. 13, 1883.



Witnesses:
Geo. H. Miath
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Inventor
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UNITED STATES PATENT OFFICE.

JAMES H. BLESSING, OF ALBANY, NEW YORK.

PUMP-VALVE.

SPECIFICATION forming part of Letters Patent No. 272,198, dated February 13, 1883.

Application filed March 6, 1882. (No model.)

To all whom it may concern:

Be it known that I, JAMES H. BLESSING, of the city of Albany and State of New York, have invented a new and useful Improvement in Pump-Valves, of which the following is a full, true, and exact description, reference being had to the accompanying drawing.

My invention relates to a new combination of receiving and discharging valves for water-pumps or for similar contrivances; and it consists in an arrangement by which said valves may be readily removed from their seats by the removal of but a single head, and in an arrangement for preventing the jar or concussion due to the seating of said valves, and relieving or reducing the wear or destruction of the valve and seat surfaces which might otherwise result.

In my drawing the valves are shown as applied to a double-acting pump-chamber. The drawing shows the valves partly in section at both ends of said pump-chamber. The valve-chambers are arranged in the figure at the side of the pump-cylinder B.

I will describe one set of valves, the other set being a duplicate. The valves are shown as arranged in a cylindrical chamber formed in the casting V. This chamber communicates with the delivery-chamber A by means of the port S, and with the receiving-chamber A′ by means of the port T, the chambers A and A′ being separated by the partition W, forming part of the casting V. Into the bottom of the cylindrical valve-chamber is dropped the supporting-frame E, which is preferably made of composition. Through this supporting-frame the opening T, previously referred to, is cut. In the center of this frame is cut a cylindrical chamber adapted to receive the lower end of the receiving-valve, so as to support the same and keep it in alignment. Upon the frame E is placed the cylindrically-shaped piece L, which is arranged to drop within the chamber V, and has a lower flange projecting and fitting inside of the frame E. A space is allowed between L and E to receive an elastic buffer or ring, (marked N.) I prefer to make this ring of rubber; but various compositions might be employed. The ring or packing should be somewhat less in size than the receiving-chamber, so as to allow for a certain amount of elastic action. This valve-seating cylinder L is provided with a seat for the valve C, (shown at X.) The valve C is provided with a lower stem, H, sliding in the supporting-frame E, and with an upper stem, G, which is surrounded by the upper or discharge valve, D. Over the cylindrical valve-seat L is arranged a separate valve-seat, M, which also has a flange projecting within the part L, and is arranged to allow for the reception of an elastic packing, O, between M and L, as shown. The upper part of M serves as a seat for the discharge-valve D. This valve has a cylindrical hole cut into its stem from the bottom, but not passing completely through it. The valve-chamber is closed by the cap F, having a cylindrical opening for receiving the upper end, K, of the valve D, which is thereby held firmly in alignment. The cap F is held in position by the screw-bolts R. In order to place this valve in position, the piece E is first arranged in the bottom of the chamber V. The packing N is then placed in position. The valve-seat L is then dropped into the chamber V, thereby holding the packing N in position. The valve C is then dropped into the tube E, so as to seat upon the valve-seat X. The packing O being then placed in position, the valve-seat M is dropped into the chamber V, so as to surround and hold the same securely. The valve D is then dropped upon its seat, surrounding the upper stem, G, of the valve C, and, finally, the cap is screwed down upon the top of the chamber. The chamber between the valves communicates by the port P with the pump-chamber in the usual way.

It will of course be understood that the frame E and other portions need not be made solid, and it will be observed that both valves can be readily made of the same size, and that by removing the cap or bonnet both the valves and valve-seats can be readily ground or trued up with but little expense.

It is apparent that the method of packing by the interposition of an elastic material beneath the valve-seat may be utilized in other forms of valves besides those shown.

What I claim as my invention, and desire to secure by Letters Patent, is—

1. The combination of a metallic valve seating upon a metallic seat and a free elastic cushion placed beneath said valve-seat and capable of limited compression, thereby lessening the effect of the shock of impact between the metallic valve and metallic valve-seat, substantially as described.

2. The combination of a metallic valve, a metallic valve-seat, and an elastic cushion beneath said seat, and inclosed between said seat and the valve-casing, so as to be protected from the action of the steam or water flowing through the valve, substantially as described.

3. The combination of the supporting-frame E, valve-seat L, valve C, valve-seat M, valve D, and cap F, whereby on the removal of said cap the valves and valve-seats may be immediately removed, substantially as shown and described.

4. The combination of the frame E, packing N, valve-seat L, valve C, packing O, valve-seat M, valve D, and cap F, substantially as shown and described.

JAMES H. BLESSING.

Witnesses:
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