(No Model.)

H. TROTT.

VALVE.

No. 350,219. Patented Oct. 5, 1886.

Fig. 1.

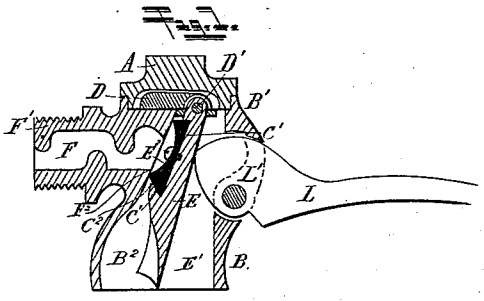


Fig. 3.

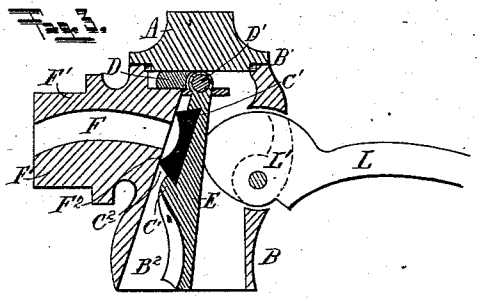


Fig. 2.

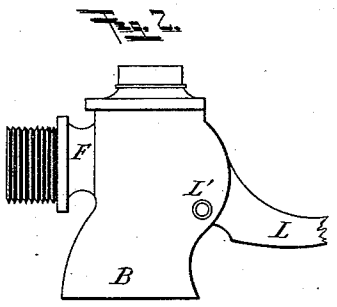


Fig. 4.

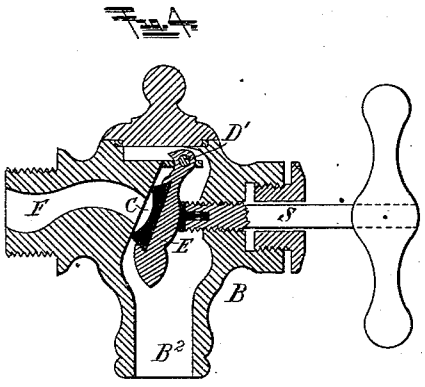
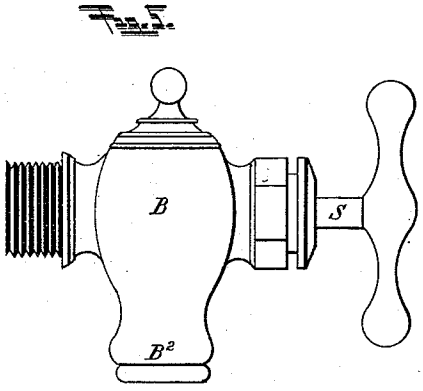


Fig. 5.



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UNITED STATES PATENT OFFICE.

HERBERT TROTT, OF BATTERSEA, COUNTY OF SURREY, ENGLAND.

VALVE.

SPECIFICATION forming part of Letters Patent No. 350,219, dated October 5, 1886.

Application filed January 27, 1885. Serial No. 154,160. (No model.) Patented in England August 28, 1884, No. 11,727.

To all whom it may concern:

Be it known that I, HERBERT TROTT, a subject of the Queen of Great Britain, residing at 75 High Street, Battersea, in the county of Surrey, England, engineer, have invented certain new and useful Improvements in Valves, (for which I have received Letters Patent in Great Britain, No. 11,727, dated August 28, 1884,) of which the following is a specification.

This invention has for its object the production of a valve in which are combined simplicity of construction and application, economy of manufacture, ready accessibility of the working parts for the purposes of examination and renewal, efficiency in use, and durability under wear and tear.

In carrying out my invention I prefer to form the valve with an inlet-channel having cross-bridges on opposite sides, so as thereby to check or control the force of the inflowing liquid to the valve-chamber; but these bridges may be dispensed with and a plain unobstructed channel used. This channel is formed with or as an inclined seat or face for the valve proper to abut against, and around this end of the inlet-channel is formed the valve-chamber, the upper part thereof being formed removable by unscrewing the same as a cap from a thread on the part of the valve-chamber to which it is applied. The valve proper is hung from the upper part of the valve-chamber by means of a slide-piece hinged to it and capable of traverse in a guideway there formed; or, in place of this hinged piece, arms from the upper edge of this valve may project laterally into the grooved way at the upper end of valve-chamber, so as to form the hinge on which the valve-piece swings and slides to and from the valve-bearing face for opening and closing the passage for fluid, when pressed upon from the opposite side of such valve-piece by a wedge, either applied as a cam or as a screw upon a stem for such closing, or when released by the removal of such pressure, aided by the force of flow of fluid against it. The face of the valve-piece is provided on the side next the seat with an india-rubber, soft incorrodible metal, or other suitably durable elastic washer or pad, formed cupped or dished, with central and inclined outer sides, so as to give fine or sharp impinging edges to bed against the inclined wall of the seating. This elastic pad or washer is secured to the valve by a screw, or by being pressed within recesses formed by an undercut depression in the valve-face. The lower part of the valve may be formed elongated and of hollow form toward the fluid-way, and the wall of the outer part of the channel for delivery may be correspondingly enlarged for ball-valves especially; or the valve may be shortened and the delivery-passage be formed cylindrical beyond the valve-chamber. The valve, when swung to close against the opening of the inlet-passage for fluid to the chamber, is held there in a position inclined to the perpendicular and coincident with the inclined face of the seat, thereby aiding the opening of the passage on removal of the lever or other wedge from the rear of the valve.

Figure 1 of the accompanying drawings shows a section; Fig. 2, an outside view of an arrangement of the accessory parts of a valve according to my invention, particularly adapted, as shown, to a ball or float or other reciprocating lever valve. Fig. 3 shows the same without the bridges in the inlet-passage. Fig. 4 shows by sectional view, and Fig. 5 shows by side view, the same valve adapted to be closed by a screw-handle, and with a shorter bottom part to the valve proper.

A is the screw-cap, screwed to the threaded part B′ of valve-case B.

B is the valve-case, which carries the lever-cam L, Figs. 1, 2, and 3, or the screw-handle S, Figs. 4 and 5, employed to operate the valve E; and B^2 is the delivery end.

C is the india-rubber or elastic washer, screwed at E^2, and held in the recesses C′ of the valve E, said valve having a recessed face and fine or sharp abutting edges C^2, to abut against the seating F^2 of the passage-way F.

D is the sliding piece, Figs. 1, 2, and 3, or sliding arms, Figs. 3 and 4, on which the valve E is hinged, and swings to and from its seat F^2 at D′.

L, Figs. 1, 2, and 3, or S, Figs. 3 and 4, is the wedge lever or screw, respectively, for operating to close the valve E.

In operation the lever-wedge L or screw-wedge S forces the finer edge of the india-rubber or such like face, C, of the valve E against the seat F^2, and the flow of water or other fluid is

checked, while the correct seating of the valve E and its rubber face C is rendered self-adjusting by the swinging of that valve on its suspension pins or arms and the lateral play permitted to those pins or arms in the grooves.

To examine or get at the valve E for its removal it is only necessary to unscrew the top cap, A, when the wedge holding it has been drawn back and through the opening thus left to lift out the valve E. The enlargement of the delivery end of the passage B′ and the lengthening of the valve at E are more particularly adapted for a reciprocating lever-wedge arrangement—such as a ball-lever valve—and to serve to direct the flow of liquid.

What I claim is—

1. In a valve, a closing-piece, combined with an elastic pad adapted to fit against the valve-seat, such pad having a cupped or dished face and fitted into an undercut recess in the closing-piece, and having its beveled edges projecting beyond such closing-piece, as set forth.

2. In a valve, the following-named described devices, arranged and operating as set forth, to wit: the suspended closing valve-piece E, normally hanging off from its inclined seat in the case, the flat sliding piece D, in which this piece E is hung, and the inclined valve-seat F^2 in the case, and a device, as described, serving to force the valve against the seat.

3. The described valve, consisting of the following features, viz: the casing B, having the removable cap A, the suspended closing valve-piece E, normally hanging off from its inclined seat in the case, the flat sliding piece D, in which this piece E is hung, the inclined valve-seat F^2, and the fluid-passage F, all arranged as set forth.

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