No. 770,154. PATENTED SEPT. 13, 1904.

J. L. BERKEY & N. A. McKEEVER.

CONVERTIBLE VALVE.

APPLICATION FILED APR. 8, 1904.

NO MODEL.

Fig. 1.

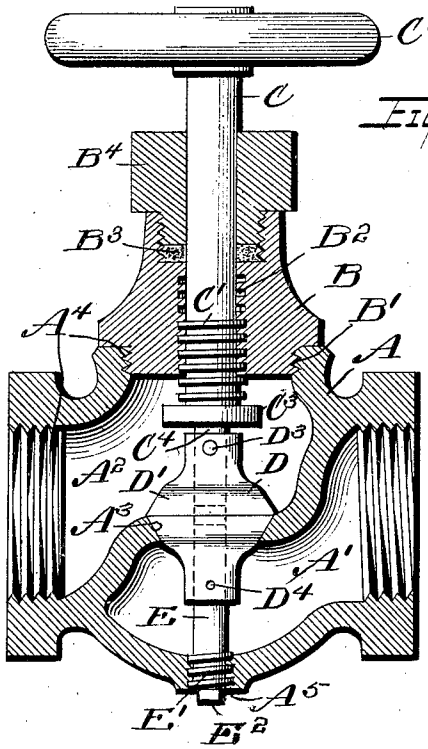


Fig. 2.

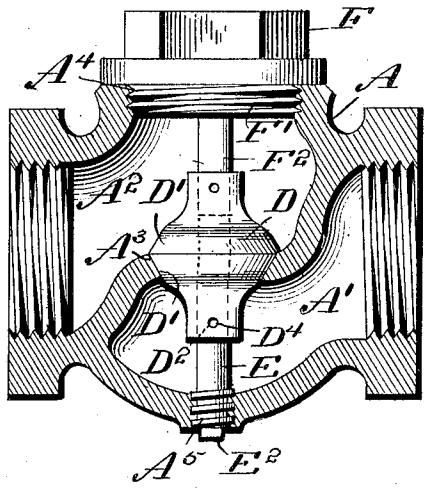


Fig. 4.

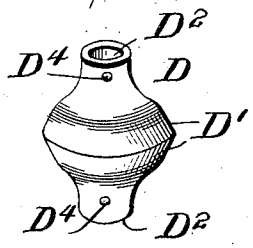


Fig. 3.

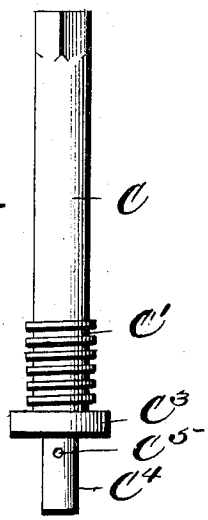


Fig. 6.

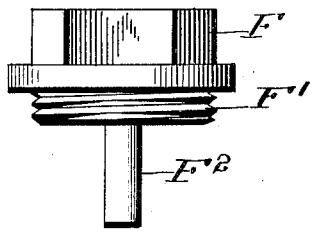
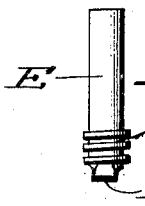


Fig. 5.



WITNESSES:

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No. 770,154. Patented September 13, 1904.

UNITED STATES PATENT OFFICE.

JOHN L. BERKEY AND NEAL A. McKEEVER, OF MANNINGTON, WEST VIRGINIA.

CONVERTIBLE VALVE.

SPECIFICATION forming part of Letters Patent No. 770,154, dated September 13, 1904.

Application filed April 8, 1904. Serial No. 202,207. (No model.)

To all whom it may concern:

Be it known that we, JOHN L. BERKEY and NEAL A. McKEEVER, citizens of the United States, residing at Mannington, in the county of Marion and State of West Virginia, have invented certain new and useful Improvements in Convertible Valves, of which the following is a specification, reference being had therein to the accompanying drawings.

This invention relates to a convertible valve, and particularly to a structure adapted for use either as a globe-valve or as a check-valve.

The invention has for an object to provide an improved construction of reversible valve and guiding-stems therefor by which the positively-operated stem and supporting-bonnet of a globe-valve may be removed and replaced by a cap having a guide-pin to form a check-valve.

Other and further objects and advantages of the invention will be hereinafter set forth and the novel features thereof defined by the appended claims.

In the drawings, Figure 1 is a vertical section through the invention assembled as a globe-valve; Fig. 2, a similar view of the parts assembled as a check-valve; Fig. 3, an elevation of the valve-stem; Fig. 4, a perspective of the reversible valve; Fig. 5 an elevation of the lower guide-stem, and Fig. 6 a similar view of the check-valve cap.

Like letters of reference refer to like parts in the several figures of the drawings.

The letter A indicates the valve-casing, which may be of any desired configuration and is provided with an inlet-passage A′ and an outlet-passage A^2, separated by a wall A^3, provided with a valve-seat of any desired construction. The upper portion of the casing is threaded at A^4 and adapted to receive the valve-bonnet B, which is correspondingly threaded upon its exterior, as at B′, while the interior is threaded, as at B^2, to engage the threads C′, carried by the lower portion of the valve-stem C, which at its upper end is provided with the usual handle C^2. In order to limit the upward movement of this stem, a disk C^3 is provided below the threads C′. The upper portion of the bonnet is provided with a packing-recess B^3 and a nut B^4 threaded therein for the purpose of compressing the packing and effecting a tight joint.

The reversible valve D is composed of opposite members similar in construction and provided at the central portion of the valve with independent seating portions D′, while the opposite ends of the valve are provided with sockets or recesses D^2, formed by a central opening through the valve and adapted to receive the extended end C^4 of the stem C, which is secured to the valve by means of a pin D^3, adapted to pass through an aperture D^4 in the valve and an aperture C^5 in the stem. When the valve is assembled as shown in Fig. 1, the lower recess D^2 is adapted to receive a guide-pin E, which is supported from the casing in alinement with the valve by means of a threaded portion E′ engaging a suitable recess A^5 in the casing. When this pin is removed, it will be seen that the valve-casing can be drained of any mud or sediment which may have collected therein, and for the purpose of this removal a toolhold E^2 is provided upon the exposed end of the pin.

When the valve is to be used as a check-valve, the bonnet and stem carried thereby are removed from the casing and the pin D^3 withdrawn from the valve, when the valve is again returned to its seated position and the cap F, having a threaded base F′, applied to the threaded opening A^4 of the casing. This cap is provided with a downwardly-extending guide-stem F^2, which is not in any wise connected to the valve, but permits a free reciprocation of the valve thereon, while the guides above and below the valve prevent any lateral or turning movement thereof and effect an accurate seating in the various conditions of use.

It will be seen from the foregoing that the invention provides a valve which can be either positively operated by means of the ordinary valve-stem mounted in the bonnet or used as a check-valve by a simple removal of the pin, or, if preferred, of the bonnet and stem, and replacement thereby by the head carrying the guide-pin.

The structure of valve used permits the re-

versal thereof in the event that one face becomes worn, and in either one of these positions it is adapted to be secured to the stem by means of the securing-pin extending through the recesses in the valve and stem. When used as a check-valve, it is accurately guided both above and below its seat, and the turning or twisting thereof, which is liable to occur by the flow of water through the valve, is absolutely prevented, while the lower guide-pin when removed permits access to the lower portion of the valve-casing, by which it can be flushed and cleaned by holding the valve upon its seat.

It will be obvious that changes may be made in the details of construction and configuration without departing from the spirit of the invention as defined by the appended claims.

Having described our invention and set forth its merits, what we claim, and desire to secure by Letters Patent, is—

1. A convertible valve provided with a recess upon its upper face, a casing provided with a valve-seat to receive said valve, a depending operating-stem carried by said casing and of less length than the depth of the recess upon the valve to permit a reciprocation of the latter, a removable device extending through said valve and stem for securing the same together, and means engaging the under face of said valve for guiding the same.

2. In a convertible valve, a casing provided with a seat therein and a threaded upper portion, and a reversible valve having seating portions at opposite sides of its center and opposite recessed extensions therein provided with apertured walls.

3. In a convertible valve, a casing provided with a seat therein and a threaded upper portion, a reversible valve having seating portions at opposite sides of its center and opposite recessed extensions therein provided with apertured walls, a guide-pin threaded into the under face of the casing and projected into the lower recess of the valve, a head provided with a downwardly-projecting apertured pin adapted to enter the upper recess of said valve, and a securing-pin extending through said apertured pin and valve extension.

In testimony whereof we affix our signatures in presence of two witnesses.

JOHN L. BERKEY.
NEAL A. McKEEVER.

Witnesses:
W. G. SNODGRASS,
LAWRENCE HOFFMAN.