

(No Model.)

A. RIEGLER.

CHECK VALVE.

No. 277,509.

Patented May 15, 1883.

Fig. 5.

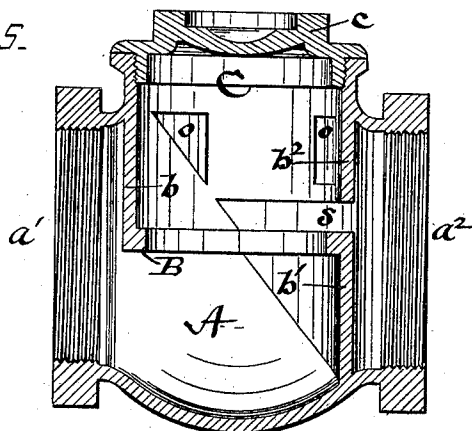


Fig. 6.

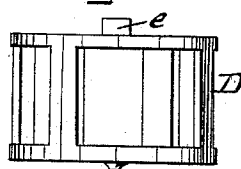


Fig. 2.

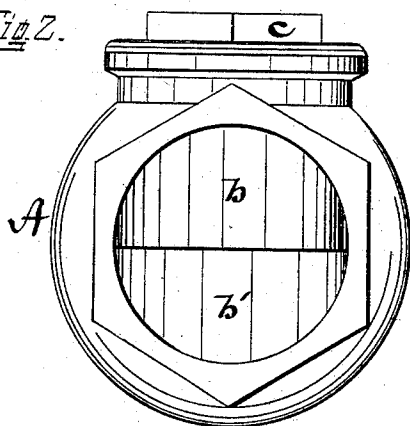


Fig. 1.

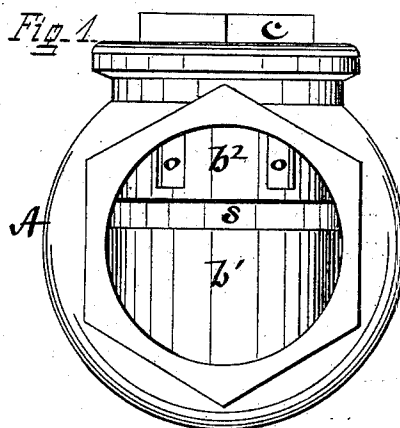


Fig. 4.

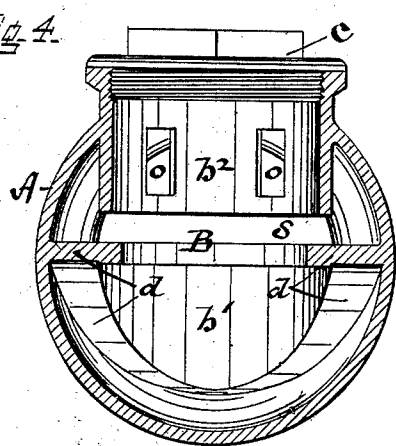
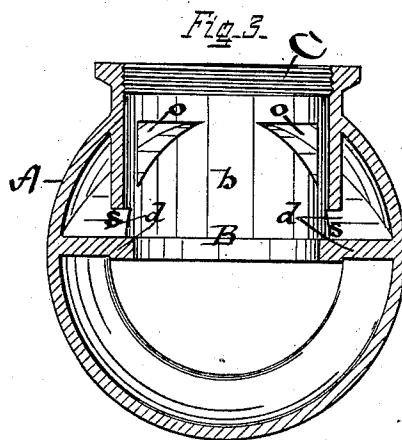


Fig. 3.



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ALEXANDER RIEGLER, OF CINCINNATI, OHIO.

CHECK-VALVE.

SPECIFICATION forming part of Letters Patent No. 277,509, dated May 15, 1883.

Application filed December 26, 1882. (No model.)

To all whom it may concern:

Be it known that I, ALEXANDER RIEGLER, a citizen of the United States, residing at Cincinnati, Ohio, have invented new and useful Improvements in Check-Valves, of which the following is a specification.

My invention relates to check-valves employed in boiler-feeders and other pumps employed in forcing liquid against a head or pressure; and it consists in an improved construction of the valve-chamber and valve, producing a more efficient and economical device, as hereinafter pointed out.

Mechanism embodying my invention is illustrated in the accompanying drawings, in which Figures 1 and 2 are end views of the valve-chamber, taken from the discharge and receiving ends, respectively; Figs. 3 and 4, corresponding cross-sections, viewed, respectively, from the discharge and receiving ends; Fig. 5, a vertical longitudinal section of the valve-chamber, and Fig. 6 a perspective view of the valve detached.

The valve-chamber A is constructed, in the main, in the general form of such casings, having a partition separating the receiving from the discharge end, and a valve-seat, B, arranged horizontally in such partition, and an opening, C, provided with a screw-cap, c, arranged vertically above the valve-seat in the top of the casing. The partition consists of a portion, b, above the valve-seat, and a similar portion, b', below the valve-seat, these portions being semi-cylindrical and connecting the valve-seat with the casing A at the top and bottom, respectively, the partition being completed and connected with the sides of the casing by a diaphragm, d, arranged diagonally, as indicated by the diagonal lines in Fig. 1, and by its horizontal sections and adjacent surfaces in Figs. 3 and 4.

The parts as thus constructed constitute an ordinary form of valve-casing for check-valves, but in which the valve is guided in its vertical movements either by a bar or yoke embracing its stem or by a cage depending from the cap c, both these constructions being objectionable, and, moreover, expensive.

In my improved casing I continue the part b around the remainder of the circle, as shown at b², leaving a horizontal slot or opening, s, between such part and the valve-seat B, but connecting it above with the valve-casing around the opening C, thus constituting above

the valve-seat B a cylindrical partition within the casing, open at one side through one-half its circumference adjacent to the valve-seat, and provided with other perforations, o, for a purpose presently to be explained.

The valve D is a cylindrical cage, closed at the bottom, but freely open at the sides and top. It is dressed to fit and move freely within the circular wall b b² and be guided by the latter.

In operation the liquid, entering the receiving side a' of the valve-chamber, passes upward through the valve-seat opening, lifts the valve, and escapes through the slot s to the discharge side a². The impulse having ceased, the back-pressure causes the liquid to pass back through the apertures o o above the valve and reseal the latter upon its seat B. The valve is limited in its upward movement by a stud, e, which strikes against the under surface of the cap c.

This construction of the casing is accomplished in the casting, and the dressing of the valve-seat and the interior wall of the part b b² is done by the same boring-tool at one operation, whereby a much cheaper as well as a more efficient casing is produced. The valve is also dressed at one operation in the lathe, and is ready to be placed at once in position. This construction also enables the valve to be at any time reground to its seat without removal by simply taking out the cap c. It is also obvious that all danger of bending or breaking a valve-stem is avoided; and, further, that the guiding parts are perfectly protected by their situation from any injury.

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

1. In a check-valve for pumps, in combination with a cylindrical cage lifting valve, the casing provided with the partition b, having the extension b², whereby a cylindrical guide-flange is formed, substantially as set forth.

2. A check-valve casing provided with a cylindrical guiding-flange, b b², separated from the valve-seat by the slot or opening s, and perforated, as at o, substantially as set forth.

In testimony whereof I have hereunto set my hand in the presence of two subscribing witnesses.

ALEXANDER RIEGLER.

Witnesses:

M. SCHULTZ,

GEO. W. STYLES.