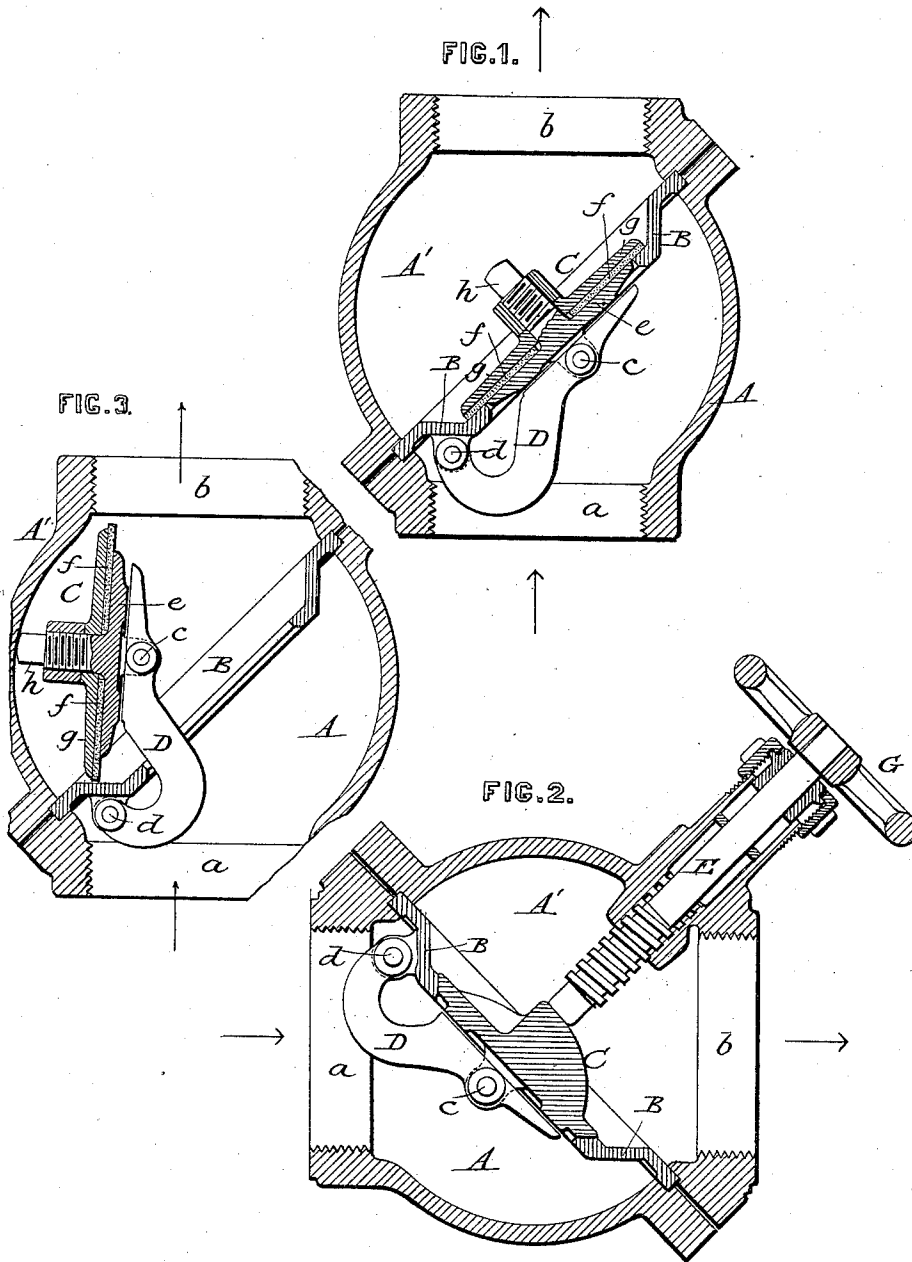


(No Model.)

L. SCHUTTE.
CHECK VALVE.

No. 380,940.

Patented Apr. 10, 1888.



WITNESSES.

F. T. Chapman.
S. Hellingwater.

INVENTOR.

Louis Schutte.
By Phil T. Dodge, Atty.

UNITED STATES PATENT OFFICE.

LOUIS SCHUTTE, OF PHILADELPHIA, PENNSYLVANIA.

CHECK-VALVE.

SPECIFICATION forming part of Letters Patent No. 380,940, dated April 10, 1888.

Application filed May 20, 1887. Serial No. 238,866. (No model.)

To all whom it may concern:

Be it known that I, LOUIS SCHUTTE, of Philadelphia, in the county of Philadelphia and State of Pennsylvania, have invented certain
5 Improvements in Check-Valves, of which the following is a specification.

The object of this invention is to improve the action of swinging check-valves, to prevent their action from being impaired by wear of
10 the parts, and to adapt the valve to seat itself tightly when placed in different positions.

In the accompanying drawings, Figure 1 represents a transverse vertical section through my valve arranged to close a vertical passage.
15 Fig. 2 shows a sectional view of the valve arranged to close a horizontal passage, this second valve differing in minor details from the first, and being provided with a stop-spindle, by which it may be positively closed. Fig. 3
20 is a sectional view showing the valve in its open position.

In constructing my valve I place the pivot-pins in line, or nearly so, with the valve-seat and on the under or admission side of the seat,
25 and so form the arm or hinge which carries the valve proper that while passing through the throat on the under side it permits the valve to open and close freely. In order to admit of the valve adjusting itself freely to its seat, I
30 preferably joint it to the arm or hinge by which it is carried. This jointed attachment of the valve also admits of the valve proper being readily detached when it is to be reground or refitted.

Referring to Fig. 1, A A' represent the body of the valve, made of globular form, with the inlet-throat *a* and the outlet-throat *b*. As shown, the body consists of two corresponding or complementary halves joined on the plane
40 oblique to the axis and confining between them the outer edge of the valve-seat B, having the usual throat or opening through its middle. The two parts of the body are united by screws or otherwise and drawn tightly together upon
45 the edge of the seat or diaphragm to produce a tight joint. This construction admits of the seat being readily removed, and also of its being revolved in the plane of its edge and of its being turned side for side, so that whatever
50 the position of the body the valve will close by gravity.

C represents the valve proper, which may be

made of any suitable form adapted to close upon the upper side of the seat B, and connected centrally on its underside by a pivot, *c*,
55 to one end of a curved arm or hinge, D, which is in turn connected by a pivot, *d*, to ears on the under side of the valve-seat B.

The arm D is curved at its lower end, as plainly shown, in such manner that its upper
60 end, which carries and guides the valve, may swing upward through the throat in order to permit the opening of the valve, as shown in Fig. 3.

While I prefer to pivot the arm D to the
65 ears on the valve-seat, as shown, for the reason that it permits the seat and valve to be removed as one from the body, it is to be understood that the arm may be jointed to the body, if preferred.
70

The free end of the arm D is extended beyond its pivot *c* and lies at a short distance from the under face of the valve, which is thus left free to tip or rock sufficiently to adjust
75 itself tightly to the seat, while at the same time the arm serves to prevent it from turning over or assuming a position which would prevent its proper action.

The valve shown in Fig. 1 consists of a bottom plate or disk, *e*, of suitable diameter to
80 pass through the throat, an overlying sheet of leather or rubber, *f*, which closes on top of the seat, and an upper confining-plate, *g*, which is secured upon the threaded stem *h* of the lower plate, *e*.
85

Referring now to Fig. 2, it will be perceived that the valve-body, the valve-seat, and the valve-sustaining arm are constructed and arranged as in the previous case. The valve
90 proper is formed, however, in one solid piece of metal jointed to the arm and arranged to close upon the seat in the same manner as in the first form of the device.

It will be observed that in each form of my valve the pivot *d* of the supporting-arm is arranged in the same or substantially the same
95 plane as the seat or throat of the valve. This arrangement, which is secured by the use of the dished or concave seat in connection with the curved valve-carrying arm, is advantageous, in that it prevents the wear of the bearing-surfaces from throwing the valve out of its
100 proper relation to the seat to the extent which would otherwise occur.

While it is preferred to pivot the valve to the free end of the arm, it is to be understood that my invention includes valves which are rigidly attached to a supporting-arm pivoted
5 below the valve-seat.

For the purpose of positively closing the valve and holding the same shut when required, I provide a threaded spindle, E, extending through a boss on the side of the case and provided with a hand-wheel, G, on the outer end, the inner end of this spindle being arranged in position to act directly on top of the valve and force the same to its seat. The spindle may be provided with a suitable gland or stuffing-box to prevent leakage.
10
15

Having thus described my invention, what I claim is—

In a check-valve, the dished or concave plate containing the throat or seat proper, in combination with the valve located on the concave side and the curved valve-carrying arm located on the convex side and pivoted to the plate in the same plane with the throat or seat.

In testimony whereof I hereunto set my hand, this 16th day of May, 1887, in the presence of two attesting witnesses.

LOUIS SCHUTTE.

Witnesses:

DANIEL HILDRETH,
FRANK SPILLIN.