L. C. RODIER.
Check-Valve.

No. 197,226. Patented Nov. 20, 1877.

Fig. 1.

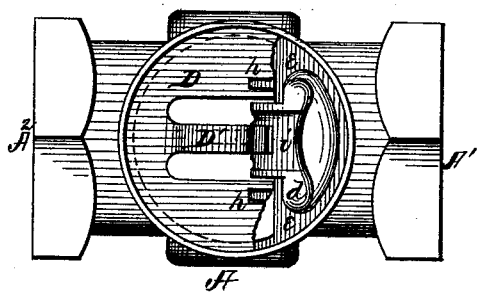


Fig. 4.

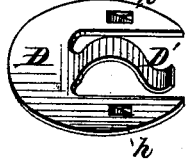


Fig. 3.

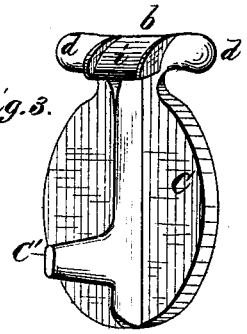


Fig. 5.

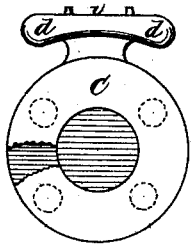
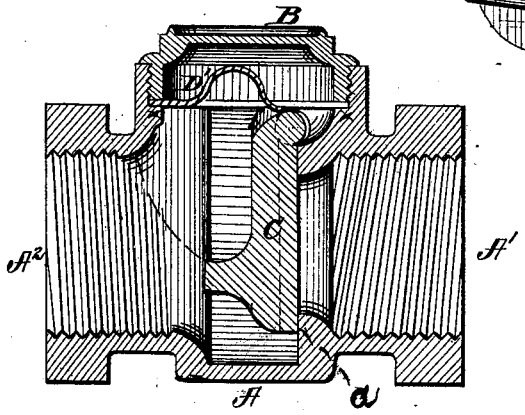


Fig. 2.



WITNESSES
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LOUIS C. RODIER, OF SPRINGFIELD, MASSACHUSETTS.

IMPROVEMENT IN CHECK-VALVES.

Specification forming part of Letters Patent No. **197,226**, dated November 20, 1877; application filed October 30, 1877.

To all whom it may concern:

Be it known that I, LOUIS C. RODIER, of Springfield, in the county of Hampden, and in the State of Massachusetts, have invented certain new and useful Improvements in Check-Valves; and do hereby declare that the following is a full, clear, and exact description thereof, reference being had to the accompanying drawing, and to the letters of reference marked thereon, making a part of this specification.

The nature of my invention consists in the construction and arrangement of a check-valve, as will be hereinafter more fully set forth.

In order to enable others skilled in the art to which my invention appertains to make and use the same, I will now proceed to describe its construction and operation, referring to the annexed drawing, in which—

Figure 1 is a plan view of my check-valve with the cap removed. Fig. 2 is a longitudinal section of the same with the cap in place. Fig. 3 is a perspective view of the valve proper. Fig. 4 is a perspective view of the spring used in my valve. Fig. 5 shows the valve proper provided with a soft-metal lining.

A represents the shell of my check-valve, with inlet A^1 and exit A^2, both the inlet and outlet being provided with interior screw-threads for connection with the proper pipes.

In my check-valve the inlet and outlet are on a line, as shown, without any interior partitions or diaphragms in the shell.

The shell A is, on one side, provided or formed with an opening for the insertion of a screw-cap or screw-plug, B.

Within the shell A, at the inner end of the inlet A^1, is formed the valve-seat *a*, against which closes the valve C, made in circular form, and provided with a projection, *b*, on one side, said projection forming on its sides or edges the journals *d d*, and these journals are placed in bearings *e e* formed in the shell A, as shown in Fig. 1.

D represents a circular plate of sheet metal, which is stamped out by suitable dies in such a manner as to form a central curved spring, D′, as shown fully in Fig. 4. This plate is placed on a shoulder, *x*, over the bearings *e*, and the screw-plug B being then put in place holds the plate down on said shoulder. The end of the spring D′ then rests upon and bears against an incline, *i*, formed on the projection *b* of the valve to hold said valve against its seat.

The pressure of the steam or water on the valve C opens the same, so as to give free passage to such steam or water; but as soon as the pressure is reduced below the pressure of the spring the valve will be closed by the action of said spring, preventing any back-flow.

This valve may be used as an ordinary check-valve, and for many other purposes.

The plate D has lips *h h* pressed down from it, which lips bear against the bearings *e e* in the shell, to prevent the plate from turning either to the right or left when the cap B is being screwed into its place.

The valve C is provided with an arm, C^1, on the back to act as a stop for its backward movement; and on the face of the valve is attached, in any suitable manner, a soft-metal ring or lining, C^2, as shown in Fig. 5, to make the valve close tightly against its seat.

In some cases I may omit the spring altogether, and simply hold the valve down to its place by means of the screw-plug B. This screw-plug, or its equivalent, admits of free and easy access to the valve in case of any obstruction therein, so that the same may be cleaned out or repaired at any time.

Having thus fully described my invention, what I claim as new, and desire to secure by Letters Patent, is—

1. In combination with a valve hung upon trunnions, a spring arranged to hold the valve to its seat, substantially as herein set forth.

2. The plate D, struck up to form the spring D′ and lips *h h*, substantially as and for the purposes herein set forth.

3. The combination of the shell A with interior seat *a* and bearings *e e*, the valve C with trunnions *d d* and incline *i*, and the plate D, struck up to form the spring D′, all constructed substantially as and for the purposes herein set forth.

In testimony that I claim the foregoing I have hereunto set my hand this 29th day of October, 1877.

LOUIS C. RODIER.

Witnesses:

FRANK GALT,

H. A. TOULMIN.