(No Model.)

L. HUSSEY.

BACK PRESSURE VALVE.

No. 419,447. Patented Jan. 14, 1890.

Fig. 1.

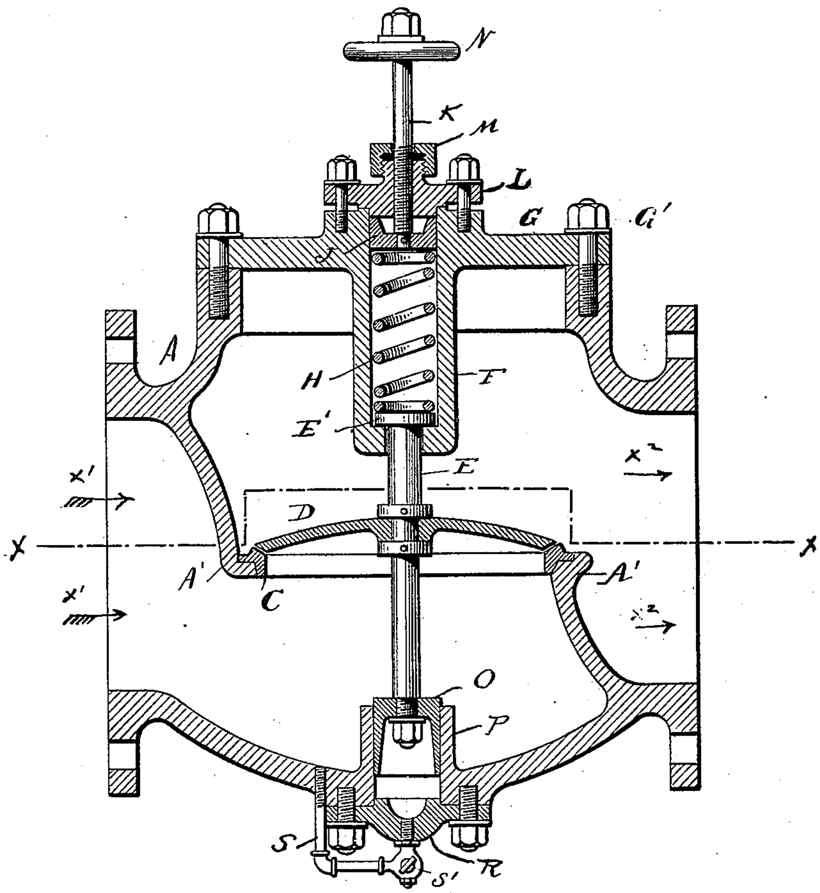
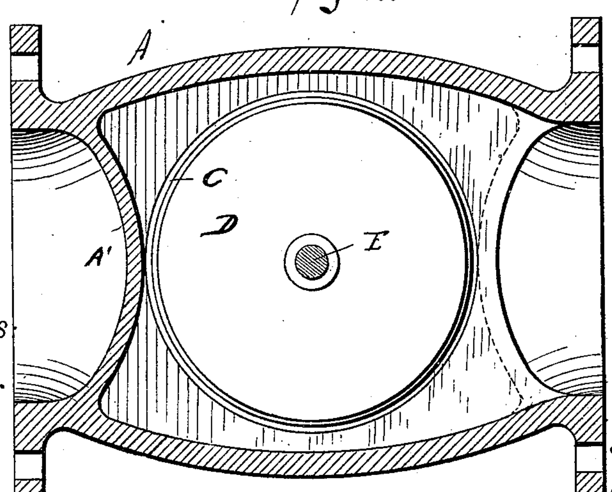


Fig. 2.



WITNESSES:

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UNITED STATES PATENT OFFICE.

LEVI HUSSEY, OF NEW YORK, N. Y., ASSIGNOR OF ONE-HALF TO THEODOSIA HATCH, OF SAME PLACE, AND SEABURY D. BREWER, OF BERGEN POINT, NEW JERSEY.

BACK-PRESSURE VALVE.

SPECIFICATION forming part of Letters Patent No. 419,447, dated January 14, 1890.

Application filed March 1, 1889. Serial No. 301,661. (No model.)

To all whom it may concern:

Be it known that I, LEVI HUSSEY, of the city, county, and State of New York, a citizen of the United States, have invented certain new and useful Improvements in Back-Pressure Valves, of which the following is a specification.

The object of my invention is to provide a new and improved back-pressure valve which is simple in construction, noiseless, and occupies very little space.

The invention consists in the construction and combination of parts and details, as will be fully described and set forth hereinafter.

In the accompanying drawings, Figure 1 is a vertical longitudinal sectional view of my improved back-pressure valve. Fig. 2 is a horizontal sectional view of the same on the line *x x*, Fig. 1.

Similar letters of reference indicate corresponding parts.

The valve-casing A is provided with the usual end flanges and with the partitions A′, forming a central horizontal opening, on the edges of which the ring C is placed, forming a seat for the valve D, secured on the valve-stem E. The upper end of said valve-stem E projects through a bottom aperture in a pocket F, projecting downward from the plate G, forming the top or cover of the valve-casing, and held on said casing by suitable screws or bolts G′. A head E′ is formed on the upper end of the spindle or valve-stem E within the pocket, and on said head a spiral spring H rests, which is contained within the pocket F. On the upper end of said spring a vertically-movable head J rests, which fits snugly in the bore of the pocket and is mounted to turn on the lower end of a screw-spindle K, which is screwed through a plate L, held by bolts on the top of the cover G. The spindle K also passes through a washer placed on the top of the cover and held in place by a stuffing-box M, screwed on a neck of the plate L. The spindle is provided on its upper end with a hand-wheel N. By turning the hand-wheel in one direction the spindle is moved downward and the spring compressed, so that the same will exert a greater pressure on the upper end of the valve-stem. By turning the spindle in the inverse direction the head is moved upward and the spring is released. In this way the valve can readily be adjusted for any desired pressure.

On the lower end of the valve-stem I secure an inverted-cup-shaped plunger O, which fits and works snugly in a cylindrical projection P, projecting upward from the bottom of the valve-casing, and which is open at the top and closed at the bottom by a head R, held by screws or bolts on the under side of the valve-casing. The pipe S, having a cock S′, establishes communication between the steam-space of the valve-casing and said cylindrical projection. The steam enters the valve-casing in the direction of the arrows *x′*, and when it has sufficient pressure raises the valve and passes out in the direction of the arrows *x²*. When the pressure of the steam decreases, the spring H presses the valve down on its seat again. As the steam also passes into the cylindrical projection and can act on the inverted-cup-shaped plunger, the steam in the part P acts as a cushion and prevents the spring from driving the valve forcibly against its seat, thus preventing the hammering or striking of the valve. As no weights or levers are used in this valve, the same is reduced considerably in size and its construction simplified.

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

The combination, with a valve-casing and valve-seat, of a valve in the same having a valve-stem projecting upward and downward from said valve, a spring acting on the upper part of the stem, said stem being guided in the top of the casing, a plunger fastened to the lower end of said stem, a steam-receptacle on the bottom of the valve-casing for the plunger, a pipe connecting the bottom of said receptacle with the main part of the valve-casing, and a stop-cock in said pipe, substantially as set forth.

In testimony that I claim the foregoing as my invention I have signed my name in presence of two subscribing witnesses.

LEVI HUSSEY.

Witnesses:
OSCAR F. GUNZ,
CARL KARP.