J. JOHNSON.

Steam-Valve.

No. 160,914. Patented March 16, 1875.

Fig. 1.

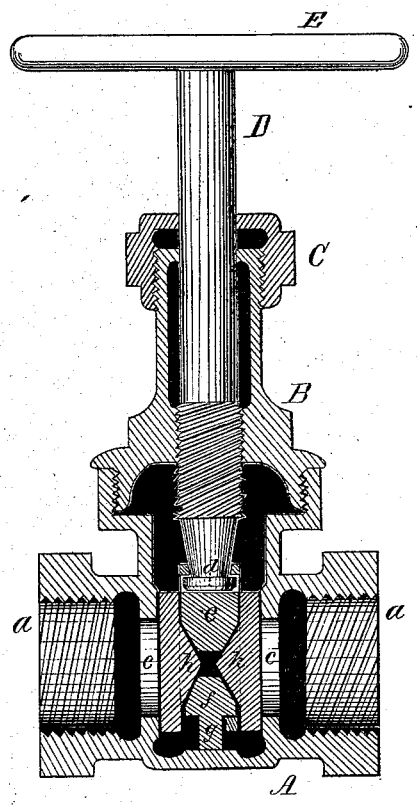


Fig. 2.

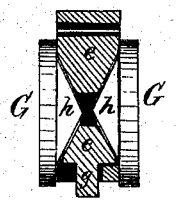


Fig. 3.

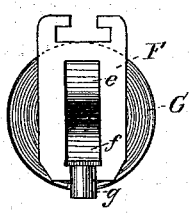
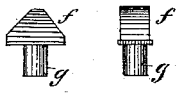


Fig. 4.



WITNESSES

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UNITED STATES PATENT OFFICE.

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IMPROVEMENT IN STEAM-VALVES.

Specification forming part of Letters Patent No. **160,914**, dated March 16, 1875; application filed December 7, 1874.

To all whom it may concern:

Be it known that I, JOHN JOHNSON, of 256 Pacific street, of the city of Brooklyn, in the county of Kings and State of New York, have invented certain new and useful Improvements in Valves for Steam; and I do hereby declare that the following is a full, clear, and exact description thereof, which will enable others skilled in the art to which it pertains to make and use the same, reference being had to the accompanying drawings, and to the letters of reference marked thereon, which form a part of this specification.

Figure 1 of the drawings represents a central longitudinal section of my improved valve; Fig. 2, a detached view of the center piece or frame carrying the double incline gates or disks and loosely-fitting wedge; Fig. 3, a face or plan view of the same with one of the double incline gates or disks removed; and Fig. 4, a front and side elevation of the loosely-fitting wedge.

Similar letters of reference indicate corresponding parts.

This invention has relation to that class of valves termed straight-way valves; and consists in a pair of disks or gates having upon their inner faces double incline projections, which, in connection with suitable operating mechanism, are caused to be expanded simultaneously and equally at the top and bottom against the seats of the valve, as will be hereinafter more fully described.

In the drawing, A is designed to represent the shell of the valve; B, the cap; and C, the usual stuffing-box, through which a screw-stem, D, passes, the same being provided with the hand-wheel E. These parts are constructed in the ordinary manner, and may be, if desired, composed of brass, or any other suitable metal. *a a* denote the steam or water ways, the same passing in a line through the shell of the valve at right angles to the screw-stem D, and provided with flat seats *c c*. The stem D below the screw-thread is slightly conical in form, terminating in a button, *d*, or annular shoulder, to connect the same with the center piece or frame F. This center piece or frame has an incline or wedge, *e*, upon its upper half, which corresponds with an incline or wedge, *f*, placed loosely in the lower half of the center piece or frame F, and provided with a pin, *g*, so as to strike the bottom of the valve-shell, and force the wedge *f* up against the under surfaces of the incline projections *h h* of the disks or gates G G. These disks or gates are composed of flat circular plates, their inner faces cast or otherwise formed with wedge-shape projections *h h*, having their upper and lower surfaces of equal inclination, and corresponding with similar inclines upon the wedge *e* and loosely-fitting wedge *f*.

The operation of my valve is as follows: When it is desired to close the respective ports of the valve the stem D is screwed down, carrying with it the center piece or frame F, until the pin *g* comes in contact with the bottom of the shell A, forcing the pin *g* upward, and causing the incline faces of the wedge *f* to press against the under incline surfaces of the disks or gates G G, while at the same time the wedge *e* is brought in contact with and presses upon the upper incline surfaces, thereby expanding the disks equally and simultaneously at top and bottom, and closing them perfectly against the seats of the valve, and preventing the possibility of any particles of silex or sand getting between the gate and its seat, and thereby causing the valve to leak and become worthless.

This valve is equally adapted to valves for steam, gas, compressed air, heated air or caloric, water, or other fluids where faucets, gates, valves, or cocks are used.

I do not wish to be understood as limiting myself to the described mechanism for expanding or forcing the plates equally at top and bottom against the valve-seats, as such mechanism may be modified or changed without departing from the principle of my invention.

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

A valve, as made with two independent disks or gates, having upon their inner faces inclines, in combination with an intermediate operating mechanism, consisting of a suitable frame, swiveled or otherwise connected to the valve-stem, and provided upon its upper half with an incline projection or wedge, and carrying upon its lower half a loosely-fitting wedge, substantially as set forth.

In testimony that I claim the foregoing as my own invention I affix my signature in the presence of two witnesses.

JOHN JOHNSON.

Witnesses:

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