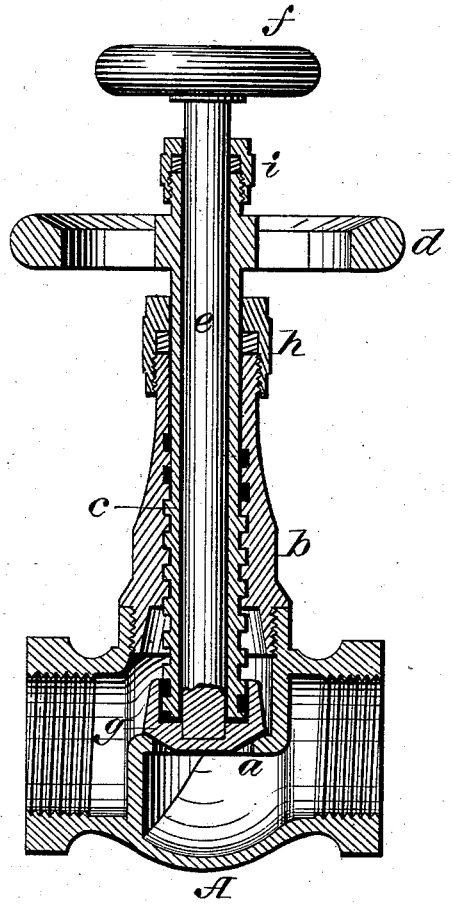
J. C. & J. LORENZ.
Globe-Valve.

No. 217,468. Patented July 15, 1879.



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UNITED STATES PATENT OFFICE.

JOHN C. LORENZ AND JOSEPH LORENZ, OF ST. PETERSBURG, PA.

IMPROVEMENT IN GLOBE-VALVES.

Specification forming part of Letters Patent No. **217,468**, dated July 15, 1879; application filed August 23, 1878.

To all whom it may concern:

Be it known that we, JOHN C. LORENZ and JOSEPH LORENZ, of St. Petersburg, in the county of Clarion and State of Pennsylvania, have invented certain Improvements in Globe-Valves, of which the following is a specification.

Our invention is designed to facilitate the grinding of ordinary globe-valves while in use without requiring them to be opened, and without impairing their positive action in opening and closing.

To those versed in the art it is well known that great difficulty is experienced in keeping globe-valves of the ordinary construction tight, owing to the unequal or uneven wear of the seat and plug, and to the accumulation or deposit of foreign matters thereon.

Ordinarily the leakage may be stopped by grinding or rotating the plug upon its seat while being pressed down firmly thereon, the result of this action being the removal of the foreign matters and the fitting of the seat and plug to each other.

It is to permit this grinding of the valve that our invention is intended.

The accompanying drawing represents a central longitudinal section of our improved valve, which, in its general construction and operation, may be of any ordinary form.

A represents the body of the valve, divided by the usual internal diaphragm containing the seat or throat *a*.

On one side the body is provided with the usual internally-threaded neck *b*, to receive and sustain a tubular threaded spindle, *c*, the outer end of which is provided with a hand-wheel, *d*, and which serves, when screwed in and out, to close and open the valve.

Through the center of the spindle *c* there passes a secondary spindle, *e*, which is provided at its outer end with a hand-wheel, *f*, and at its inner end with the valve-plug *g*, the latter being attached in such manner as to turn and rise and fall with the spindle, although it may be arranged in such manner as to have a slight rocking or tipping motion, in order that it may adapt itself the more readily to the seat.

The secondary spindle is free to rotate within the main spindle *c*, but is fitted closely and prevented from moving endwise by means of a collar or equivalent device.

Stuffing-boxes or collars surround the outer ends of both spindles, as shown at *h* and *i*, to prevent leakage around them.

Under the above construction it will be seen the rotation of the main spindle *c*, by means of the wheel *d*, causes the valve to open or close, according to the direction of the rotation, and the rotation of the secondary spindle *e* causes a like rotation of the valve-plug without affecting its relation vertically to the seat.

In the event of a leakage occurring when the valve is closed, it may be generally remedied by a few turns of the wheel *f*, the plug being meanwhile held down by the main spindle with a considerable degree of pressure.

It will be noted that the plug *g* is tapered upward on its outside, and adapted when open to enter a corresponding seat in the body, whereby it precludes the passage or escape of steam around either spindle.

We are aware that a globe-valve has been provided with a tubular threaded spindle and a central spindle, the latter arranged to receive the stem of a loose check-valve, and hence we lay no claim to such construction of parts.

Having thus described our invention, what we claim is—

1. The combination of the body A, the tubular threaded spindle *c*, with the hand-wheel thereon, the spindle *e*, having the hand-wheel, and the plug *g*, rigidly attached to the end of spindle *e*.

2. In combination with the body and the two concentric spindles, arranged as and for the purpose described, the two stuffing-boxes *h* and *i*, attached, the former to the body, and the latter to the tubular spindle.

3. In combination with the body and the two concentric spindles, as shown, the plug *g*, arranged to seat itself when in its open position in the body, as shown, whereby it prevents leakage past or around either spindle.

4. A positive-acting valve consisting of a body, a tubular threaded spindle, *c*, seated in the body, and a central spindle, *e*, mounted in the tubular spindle and having the valve rigidly secured to its end.

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