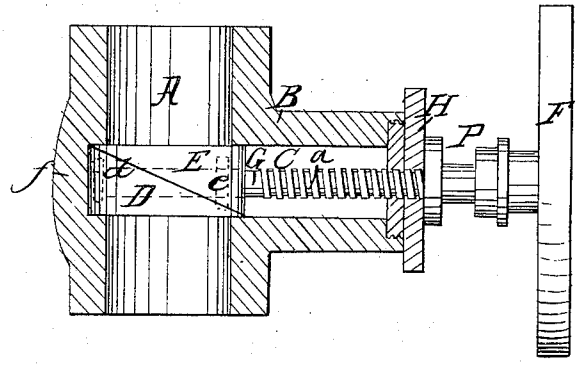
T. H. LIDFORD.

STEAM VALVE.

No. 65,921. Patented June 18, 1867



Witnesses:

C. B. Newell

J. R. Smith

Inventor:

Thomas H Lidford

by his attorneys

Gardiner & Hyde

United States Patent Office.

THOMAS H. LIDFORD, OF NORTH ADAMS, MASSACHUSETTS.

Letters Patent No. 65,921, *dated June* 18, 1867.

IMPROVEMENT IN STEAM-VALVES.

The Schedule referred to in these Letters Patent and making part of the same.

TO ALL WHOM IT MAY CONCERN:

Be it known that I, THOMAS H. LIDFORD, of North Adams, Berkshire county, Commonwealth of Massachusetts, have invented a new and useful Improved Steam-Valve; and I do hereby declare that the following is a full and exact description thereof, reference being had to the accompanying drawings, and to the letters of reference marked thereon. In the drawings—

Figure 1 is a side sectional view of my invention.

This invention consists of a new and improved arrangement of the valve in a petit cock, by which the latter is made perfectly steam-tight, and less liable to wear or get out of order. By my arrangement the valve can also be easily taken entirely out of its seat, when it is desired to inspect it.

In construction, I place my valve in the pipe A, which has an elbow, B, with a chamber, C, in it. The valve itself consists of two wedge-shaped pieces D and E, which, when put together with their inclined faces meeting, form a cylindrical piece which exactly and tightly fills the valve-seat between the edges of the pipe above and below. These pieces are operated by the hand-screw F, which has a shaft, G, with threads *a a* cut upon it, the latter working in corresponding threads cut in the cap H, which fills up the outer end of the pipe B, having the chamber C. The end of the shaft G has around its circumference two projections, *b* and *c*, shown in fig. 1 by dotted lines. These work in bearings cut in the pieces forming the valve, and serve to carry the same in either direction along with the shaft, as the latter is moved backwards or forwards, as may be the case; the shaft being turned by the wheel at one end, and being operated so as to have the motion required by means of the threads cut upon it. As may be seen by the dotted lines, the end of the shaft works, when turned, in grooves made for it in the pieces D and E. The cap H is screwed into the end of the chamber C, so that it is only necessary to unscrew it in order to remove the whole mechanism of the valve.

The operation of this valve is as follows: The shaft being turned, pushes the piece D of the valve against the front side of the valve-seat at *f*. Now, by still turning the shaft, the piece E is crowded forward, throwing it upwards, and the piece D down, with their upper and lower faces tightly pressed against the edges of the valve-seat, completely stopping off all communication between the different portions of the pipe A. Generally I place the pieces D and E in such a manner that the steam, in passing the valve, (when the latter is drawn back,) rushes by the broad portion of the piece D first, and the piece E being drawn back further than the other, the steam does not rush against the edge of the piece E, and tend to rattle the valve and cause wear. By this means I obtain a perfectly tight valve, using the powers of the screw and wedge in combination to bring the faces of the valve against the edges of the pipe, and being at no inconvenience in removing the valve for inspection.

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

The arrangement of the wedge-shaped pieces D and E, with reference to the shaft G and collars *d* and *e*, substantially as described.

THOMAS H. LIDFORD.

Witnesses:

MERRICK M. BARNES,

JOHN BAKER.