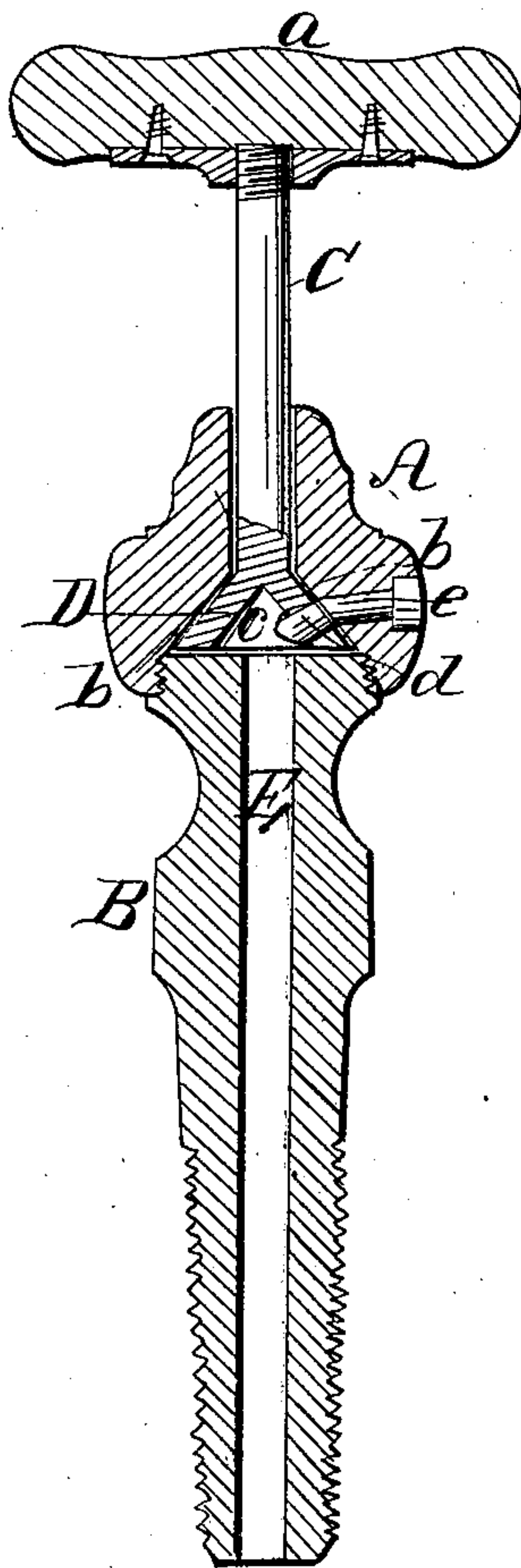


*E. A. Walker,*

*Gage Cock.*

*N<sup>o</sup> 49,016,*

*Patented July 25, 1865.*



*Witnesses;*

*C. L. Popliff  
J. M. Connelley*

*Inventor;*

*E. A. Walker  
By *Wm. H. Hays*  
*Att'y**

# UNITED STATES PATENT OFFICE.

E. A. WALKER, OF NASHVILLE, TENNESSEE.

## IMPROVEMENT IN GAGE-COCKS.

Specification forming part of Letters Patent No. **49,016**, dated July 25, 1865.

*To all whom it may concern:*

Be it known that I, E. A. WALKER, of Nashville, in the county of Davidson and State of Tennessee, have invented a new and useful Improvement in Valves for Gage-Cocks, &c.; 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 make and use the same, reference being had to the accompanying drawing, forming part of this specification.

The drawing represents a longitudinal central section of a gage-cock constructed according to my invention.

The object of my invention is to construct a valve for a gage-cock that shall fit closely to its seat, operate easily, and lose none of its qualities by long-continued use.

My invention consists in making the valve in a conical form and fitting it in a correspondently-beveled seat, and in forming in its base a tunnel-shaped cavity, into and against which the steam or water presses in such manner that the steam or water itself causes the valve to fit so closely to its seat that there is no possibility of any escape of either the steam or water, except when the valve is turned for that purpose.

To enable others to fully understand my invention, I will proceed to describe it.

A represents the body of the gage-cock, and B the stem thereof, which are screwed together in the usual way.

C is the valve-rod, and *a* the handle or knob thereof. In the drawing the handle or knob is shown in section, but the valve-rod in elevation, except near where the valve commences, where it and the valve are shown in section, as well as the rest of the gage-cock.

D is the valve, which is made in the form of a cone, and is either made by enlarging the end of the rod into that shape, or made separate and afterward connected therewith in any suitable manner. This conical valve D fits into a correspondently-beveled cup, *b*, which constitutes the seat of the valve. In the base of this valve D is made a conical or tunnel-shaped cavity, *c*, into which the steam or water

from the boiler presses when the gage-cock is in use and causes the valve D to press closely against its seat *b*, forming a perfectly-tight joint. Communicating with this tunnel-shaped cavity *c* there is made in the valve D a duct-hole, *d*, which hole communicates (when the gage-cock is open) with another hole or vent-passage, *e*, in the body of the gage-cock. Two or more holes, *d*, may be made in the valve D, if desirable, so as to insure a quicker opening of the gage.

I will here remark that it is not altogether necessary that a cavity, *c*, be made in the base of the valve, as, indeed, the said base might be solid and the hole *d* (two or more) extended through, so as to open directly into the channel E in the stem of the gage-cock, and the pressure of the steam or water against this base would cause the valve to press closely against its seat, and therefore make a tight joint; but I prefer to have the cavity in the base, for the reason that not only an upward pressure is given to the valve, but a lateral one is given to its sides by the steam in the said cavity, which tends to make even a tighter joint, as can be readily understood by reference to the drawing.

In a valve of this sort there is no necessity for grinding its faces and seat so evenly and accurately as is necessary in valves as usually constructed. The very pressure of the water or steam causes my valve to fit closely to, or rather into, its seat, and the more it is used the tighter becomes the joint, as must necessarily be the case from the nature of its construction.

Cylinder-cocks may be constructed on this same principle, as well as water-faucets, &c., and the same advantage be gained. I do not therefore confine myself to the use of a conical valve in a gage-cock.

What I claim as new, and desire to secure by Letters Patent, is—

The conical valve D, constructed and operating substantially as herein specified.

E. A. WALKER.

Witnesses:

ANDREW LORD,  
JOSEPH S. GREEN.