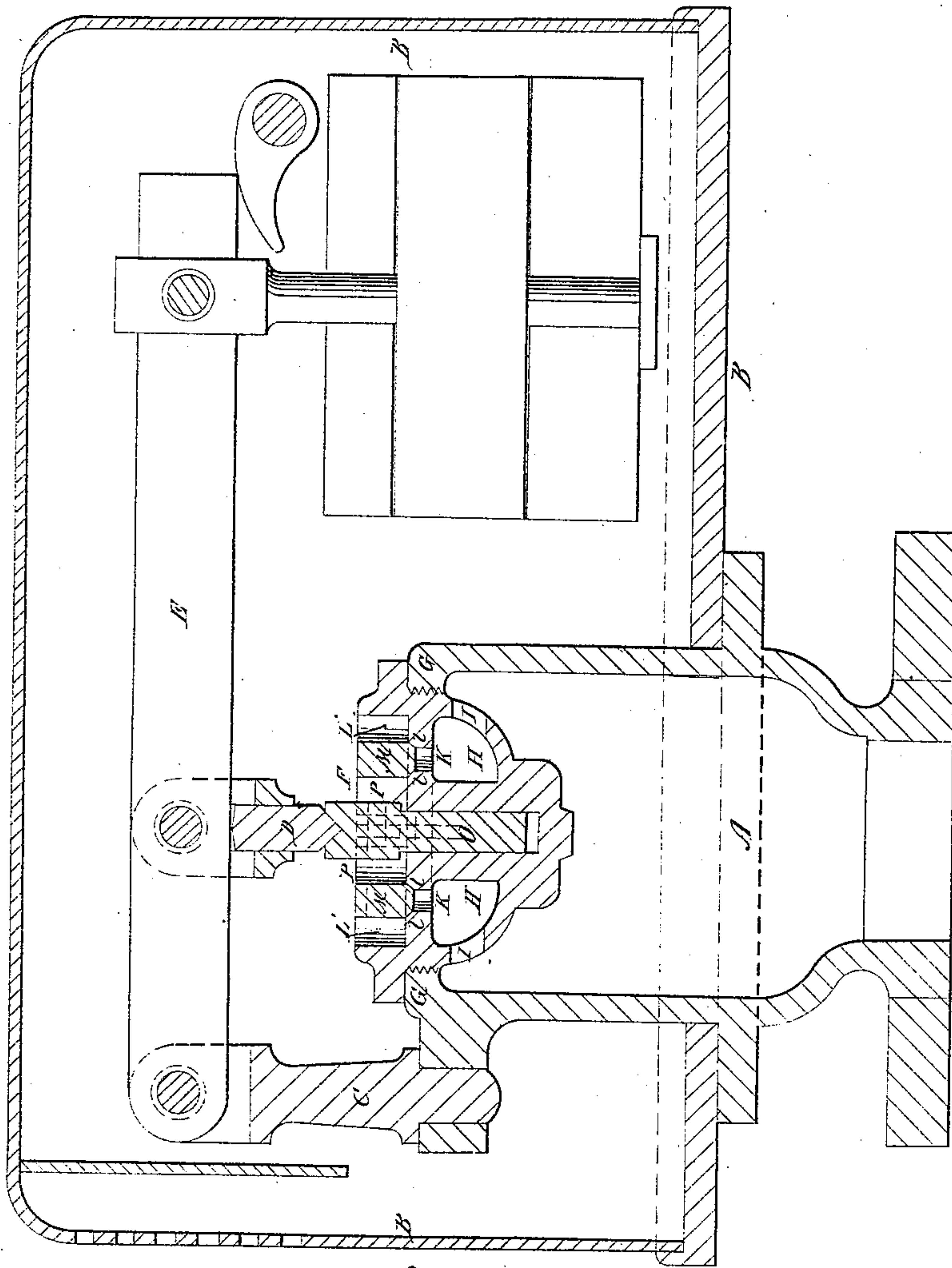


*J. Ashcroft,*  
*Steam Safety Valve.*

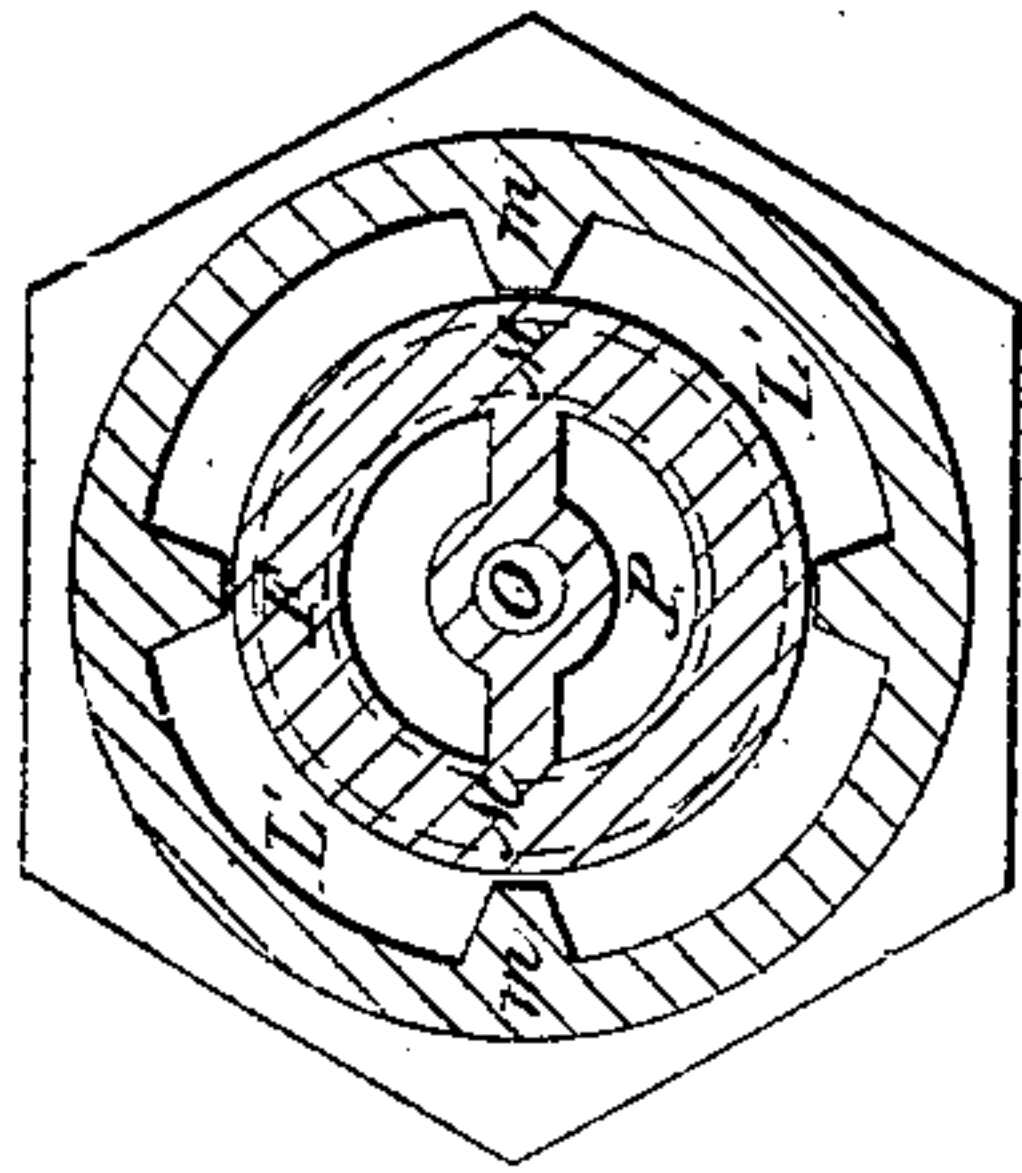
*N<sup>o</sup> 81,326.*

*Patented Aug. 25, 1868.*

*Fig. 1.*



*Fig. 2.*



*Witnesses.*

*A. O'Neill*  
*L. E. Pringleman*

*Inventor:*

*J. Ashcroft*

# United States Patent Office.

JOHN ASHCROFT, OF NEW YORK, N. Y.

*Letters Patent No. 81,326, dated August 25, 1868.*

## IMPROVEMENT IN STEAM SAFETY-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, JOHN ASHCROFT, of the city, county, and State of New York, have invented a new and useful Improvement in Safety-Valves for the boilers of locomotives and other steam-engines; and do hereby declare that the following is a full, clear, and exact description of the same, reference being had to the accompanying drawings, making part of the specification, of which—

Figure 1 represents a vertical section of said safety-valve and its enclosing-case, and  
Figure 2 a horizontal section of the valve.

The nature of my invention consists in the construction of a safety-valve and its seat for steam-generators, and in the arrangement of the same, and of the dome and case, so that the steam shall be at all times in direct communication with the face of the valve, by means of a circular opening in the valve-seat, into which steam is admitted through inlet-openings in the steam-chamber of the seat.

Having described the nature of my invention, I will now describe its construction and operation.

In the drawings—

A represents a small steam-dome, attached to a boiler, which sustains the metallic valve-case B, (the ordinary mechanism for holding the valve on its seat,) consisting of a stand, C, fulcrum, D, weighted lever, E, and the valve-seat F, which is screwed into the top of the dome, at G, as shown in the drawings.

The valve-seat has a circumscribing steam-chamber, H, into which the steam from the boiler enters through openings, I I, &c., and has also a circular opening, K, which forms a double seat, *l l*, for the valve, and by means of which the face of the valve is exposed to the action of the steam, (see fig. 1,) and L' is the guide-chamber, having valve-guides, *m m*, between which the steam escapes as the valve is raised.

M is the valve, resting on the circular opening K, or double seat *l l*.

O is the spindle, and

P is the open body of the valve, for exit of the steam as the valve is raised from its seat.

The operation of my invention is as follows:

The dome A being attached to the boiler of a steam-engine, as shown, the steam entering the openings I I in the chamber H, will press through the circular opening K, and against the exposed face of the valve M.

Now, as the force exerted by the steam on the valve exceeds the working pressure, the valve M will be raised from its seat or bearings, *l l*, and the surplus steam permitted to escape from the boiler through the open body P of the valve, as well as through the open guide-chamber L' of the valve-seat, by means of which the pressure of the steam is immediately regulated, and accident from explosion less liable.

I am aware of the patent of S. B. Dougherty, assignor to himself and John Ashcroft, and dated March 10, 1868, for improvement in safety-valves. My present invention is intended as an improvement on said patent, I replacing his two seats by one, a double-cone seat, where the expansion and contraction are more equal, and the valve can keep a better seat, besides being cheaper of construction, &c.

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

1. The construction of the valve M, and its seat, F, with guides, *m*, and openings, I, as herein set forth.
2. The arrangement of the dome A, case B, and valve-seat F, as herein set forth.

In testimony whereof, I have hereunto set my signature, this 22d day of July, A. D. 1868.

JOHN ASHCROFT.

Witnesses:

A. NEILL,

T. E. PRETTYMAN.