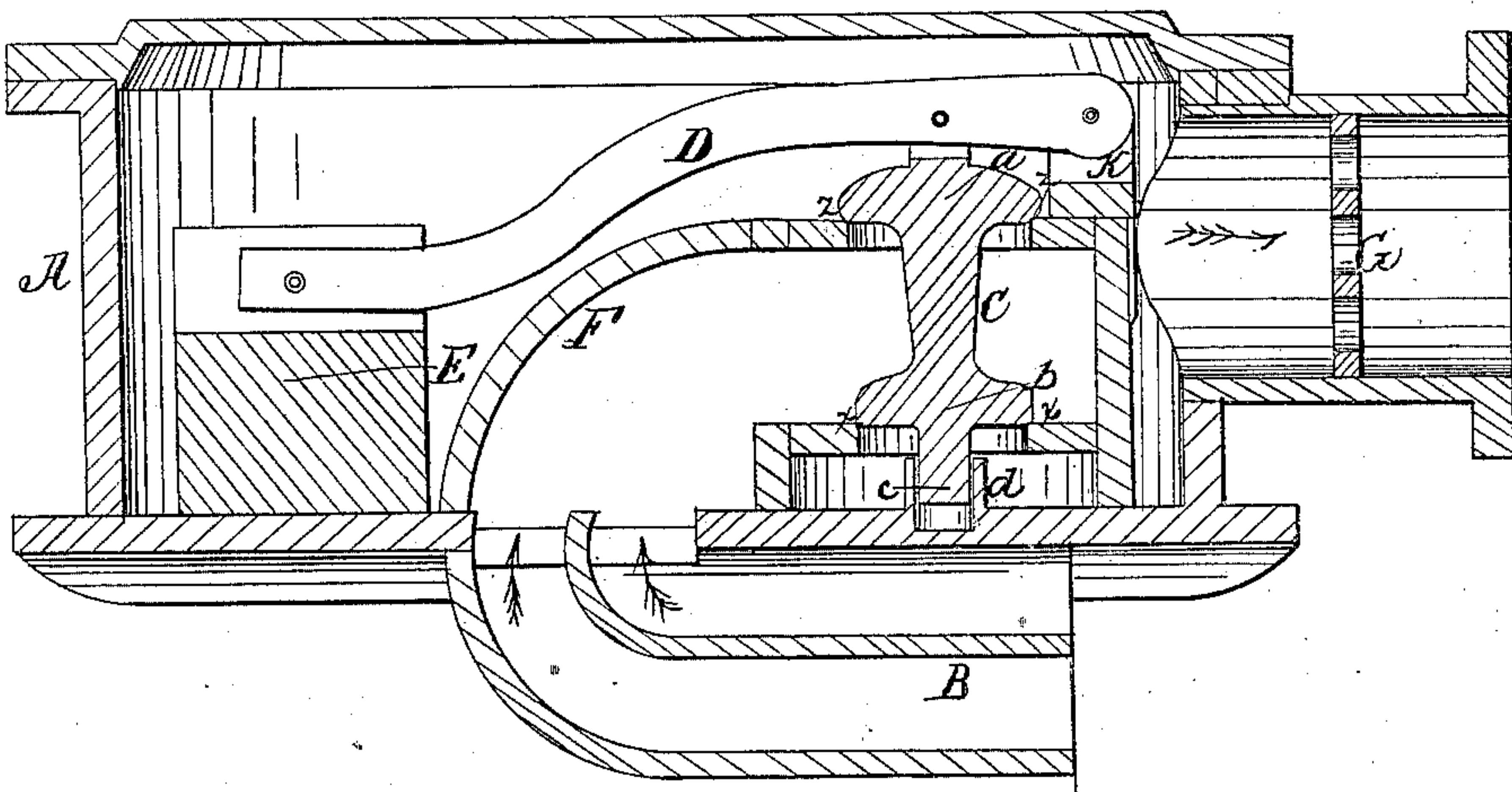
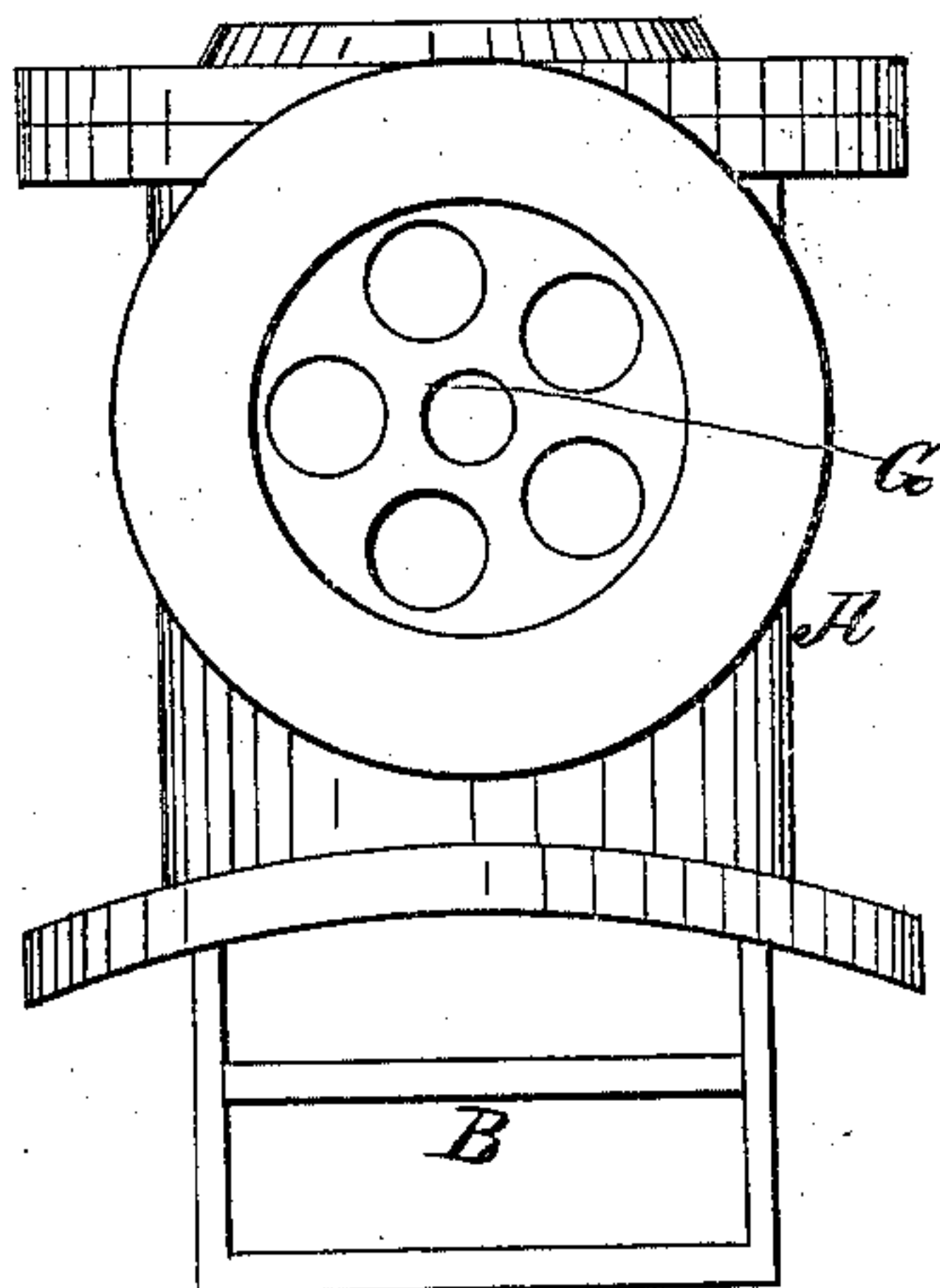


*S. Stucky,*  
*Steam Safety Valve.*  
*N<sup>o</sup> 57,993.                      Patented, Sep. 11, 1866.*

*Fig. 1*



*Fig. 2*



*Witnesses:*  
*John P. Jacobs*  
*J. H. Alexander*

*Inventor:*  
*S. Stucky*  
*by Alexander & Mason*  
*Attys*

# UNITED STATES PATENT OFFICE.

STEPHEN STUCKY, OF NEW ALBANY, INDIANA.

## IMPROVEMENT IN STEAM-GENERATOR SAFETY-VALVES.

Specification forming part of Letters Patent No. 57,993, dated September 11, 1866.

*To all whom it may concern:*

Be it known that I, STEPHEN STUCKY, of New Albany, in the county of Floyd and State of Indiana, have invented certain new and useful Improvements in Safety-Valves; and I do hereby declare that the following is a full, clear, and exact description of the same, reference being had to the accompanying drawings, and the letters of reference marked thereon, making a part of this specification.

In the annexed drawings, A represents the valve-box, which is made of cast-iron, in the form shown, and circular on the under side to fit snugly upon the boiler.

Within the valve-box is constructed a smaller box, F, into which is placed the valve, and through which the steam passes.

C represents the valve. This valve is cast in the form shown, of one piece of metal, and is placed at the forward portion of the box F, with one portion within and a small portion of the same resting upon the outer side of said box. In the construction of this valve it will be seen that the upper portion is upon the valve-seat *z*, and marked *a*, and is of greater circumference and weight than the lower portion, marked *b*, upon the valve-seat *x*.

D represents a lever, which is pivoted to a small upright, *k*, at the forward end and upon the top of the box F. This lever extends over, and is secured to, the valve, as shown, and has a weight, E, attached to the rearmost end of box A.

B is the inlet for the steam to pass to the valve, and is partitioned to prevent being tampered with. This valve is what is known as a balance-valve, as the pressure of the steam is on top of one valve, *b*, and underneath the other, *a*. Both valves being on one rod, or being cast of one piece of metal, so that all of the pressure exerted on the lower valve, *b*, is just that much weight subtracted from the standing weight E on end of lever D.

In the use of this valve it will be seen that over double the orifice is obtained through which the steam may escape, it being almost

impossible to explode a boiler with a valve of this kind with the same amount of valve surface that is at present used, and so much more opening for the same-sized chamber. There being very near a balance, only enough dead-weight is required to counterbalance the amount of area of the large valve over that of the small one. Were the valve-disks *a* and *b* of equal size and weight the pressure of the steam underneath the valve *a* and the pressure upon the top of valve *b* would be equal and the valve remain stationary; whereas in the present form and size of the valves, a sufficient weight is required to counterbalance the difference in the two valves.

G represents a perforated disk, which is placed in the throat, and through which the steam escapes. *c* is a guide-stem, which is cast with the valve, and is placed within a short tube, *d*, in the bottom of the box F, for the purpose of keeping the valves *x* in their proper places. This valve is firmly and securely covered with a suitable lid, which is bolted to the valve, and a chain passed through the links made in each bolt, so that it would be impossible to tamper with the valve. The valve herein described is placed upon the top of any of the boilers now in use; but it is suggested to place the entire valve within the boiler for those hereafter to be constructed.

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

The valve-box A, provided with an inner box, F, valve C, and lever D with weight E, inlet B, and throat G, the whole being constructed and arranged in the manner substantially as and for the purpose herein set forth.

As evidence that I claim the foregoing I have hereunto set my hand in the presence of witnesses.

STEPHEN STUCKY.

R. M. WEIR,  
T. F. JACKSON,  
DAVID WILKINSON.