

C. W. DUNN.

Safety-Valves for Smiths' Bellows.

No. 149,452.

Patented April 7, 1874.

Fig. 1.

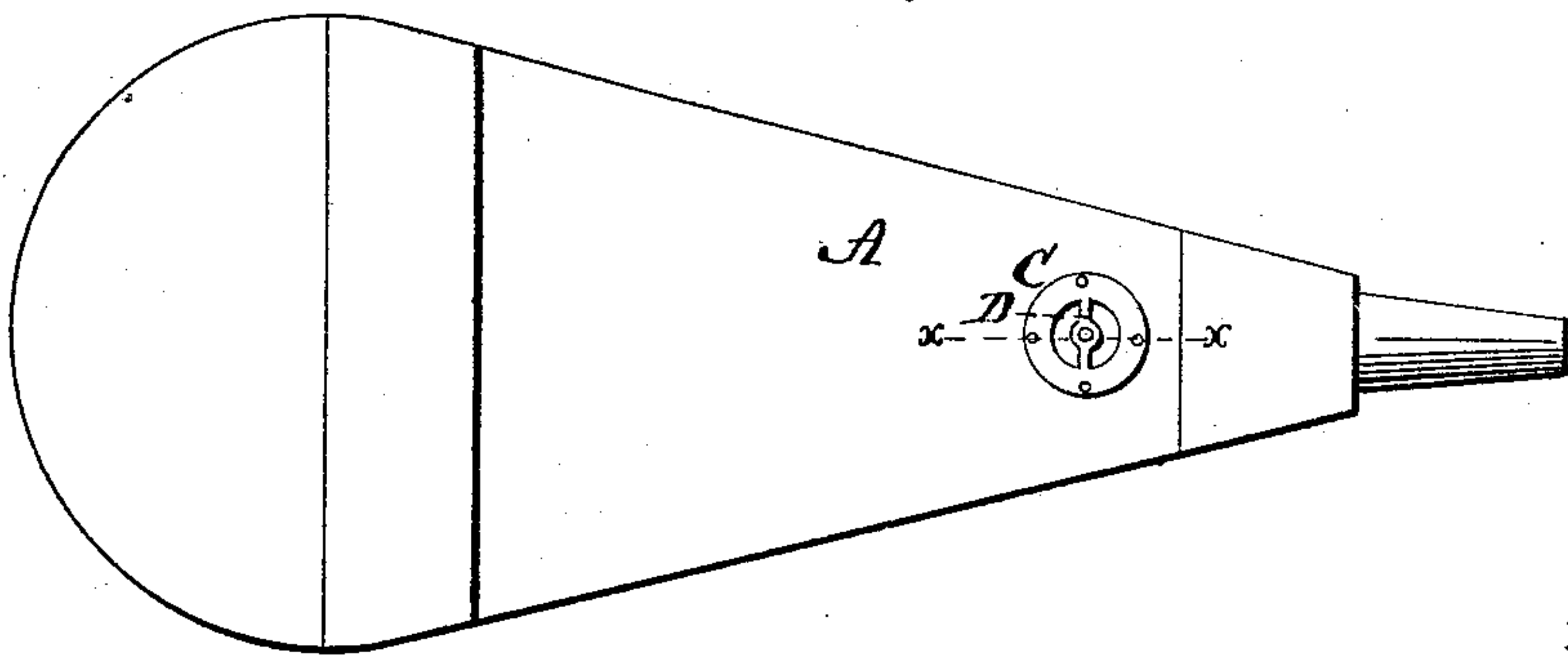
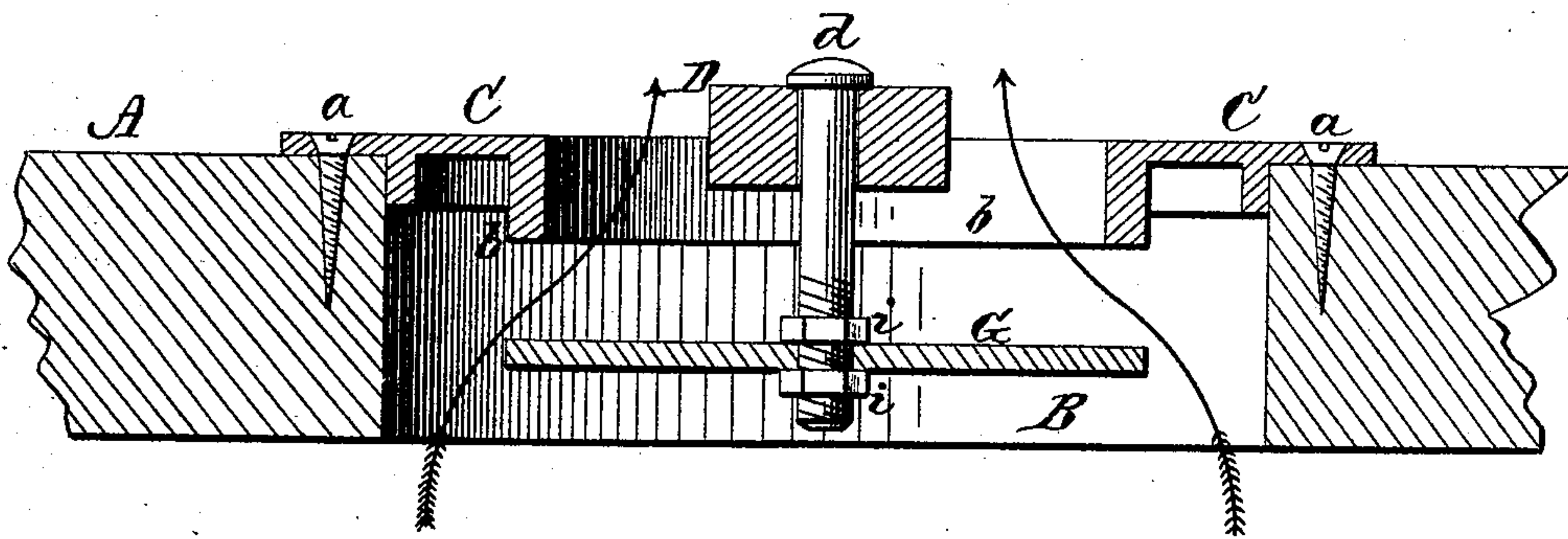


Fig. 2.



Witnesses:

Henry N. Miller
H. B. Duhamel

Inventor.

Chas. M. Dunn.
By ~~H. J. Abbot.~~
attorney.

UNITED STATES PATENT OFFICE.

CHARLES W. DUNN, OF QUINCY, ILLINOIS.

IMPROVEMENT IN SAFETY-VALVES FOR SMITHS' BELLOWS.

Specification forming part of Letters Patent No. **149,452**, dated April 7, 1874; application filed January 10, 1874.

To all whom it may concern:

Be it known that I, CHARLES W. DUNN, of Quincy, county of Adams and State of Illinois, have invented certain new and useful Improvements in Safety-Valves for Smiths' Bellows, of which the following is a specification:

The nature of my invention consists in the construction and arrangement of a safety-valve for smith's bellows, to prevent its bursting or explosion by gas or hot air, as will be hereinafter more fully set forth.

In order to enable others skilled in the art to which my invention appertains to make and use the same, I will now proceed to describe its construction and operation, referring to the annexed drawing, in which—

Figure 1 is a plan view of a bellows embodying my invention; and Fig. 2 is an enlarged section of the top board of the same, through the line *x x*, Fig. 1.

A represents the upper or top board of the upper chamber of the bellows. In this aperture is cut a large circular aperture, B, and over the edge of the same is placed an annular plate, C, secured to the outer surface of the board A by means of screws *a a*. This plate extends a suitable distance within the circumference of the aperture B, and from the inner circumference of the annular plate C a circular flange, *b*, extends downward into the aperture B, said circular flange forming the seat for the valve. Across the opening in the annular plate C is a cross-bar or bridge, D, through the center of which is passed a bolt,

d. Upon the lower end of this bolt is secured the valve G by means of nuts *i i*, as shown in Fig. 2.

When the bellows is in motion, the valve G is pressed up to the seat *b* by the pressure of air from the inside, which makes the upper chamber tight; but when the bellows is not in motion, and there is no pressure on, the valve G drops of its own weight, leaving a free communication from the inside of the upper chamber, around the valve, through the aperture B and annular plate C, to the external air, for the escape of all gases and hot air, thereby preventing the bursting of the bellows by explosion.

The valve thus constructed forms a perfect safety-valve for the bellows.

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

The combination, with a bellows having an aperture, B, in its top board A, of the annular plate C, with valve-seat *b* and bridge D, the bolt *d*, and valve G, substantially as described, all constructed, arranged, and operating so that when the bellows is not in use the valve G will drop of its own gravity, and permit the free egress of such gas as may be generated.

In testimony that I claim the foregoing as my invention, I hereunto affix my signature this 6th day of January, 1874.

CHARLES W. DUNN.

Witnesses:

THOS. HILLS,

GEORGE F. WALDHAUS.