

H. Dean,

Tuyere,

N^o 66,440.

Patented July 9, 1867.

Fig. 1.

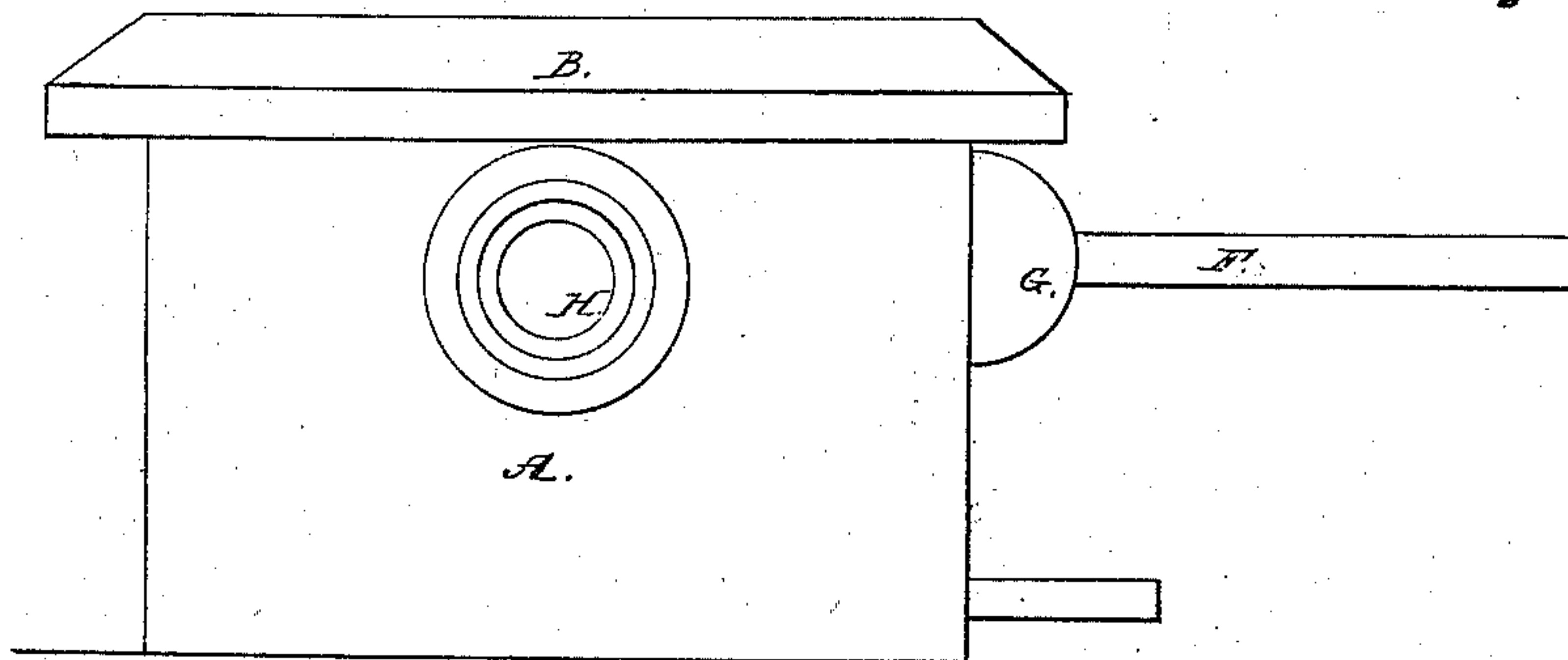


Fig. 2.

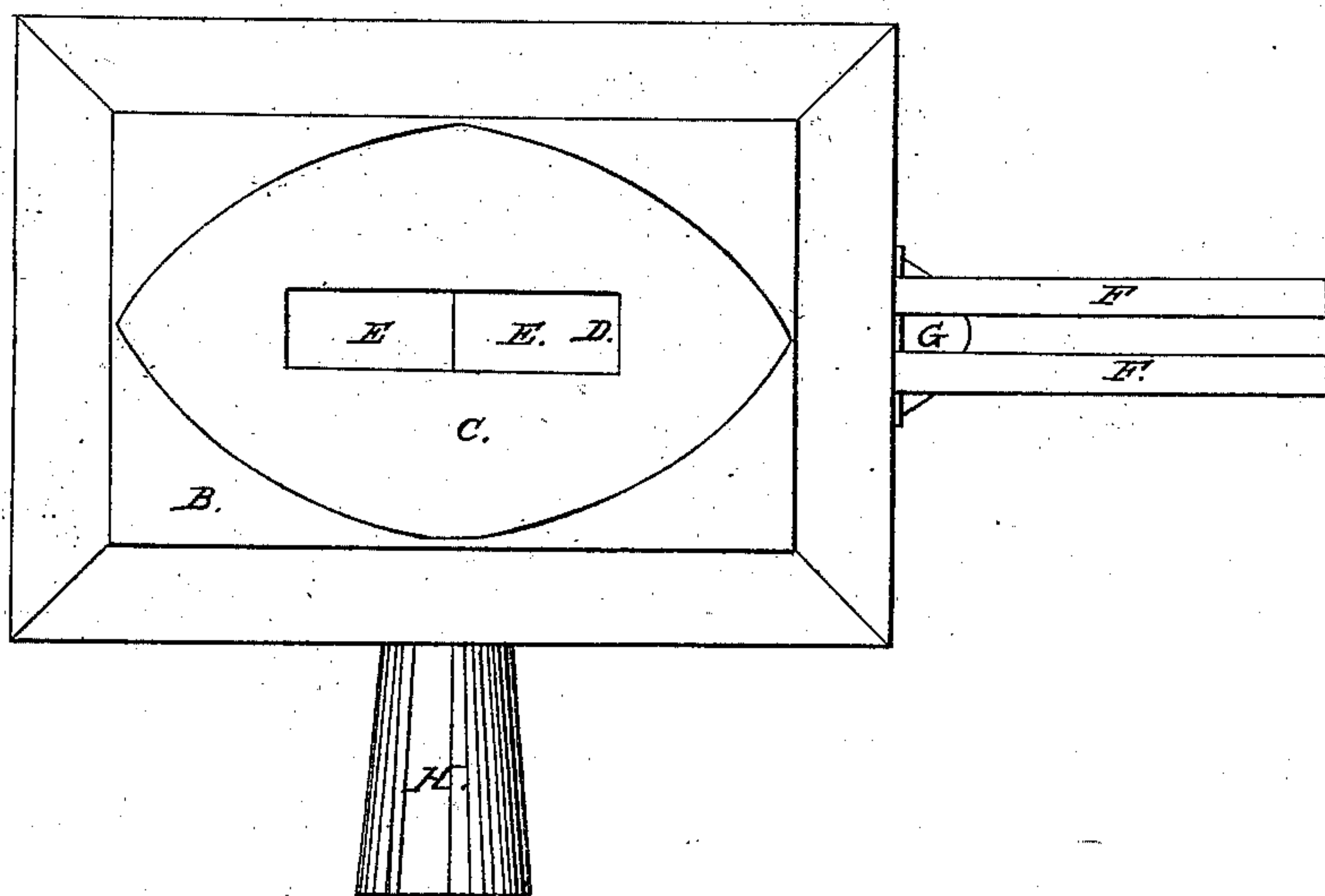
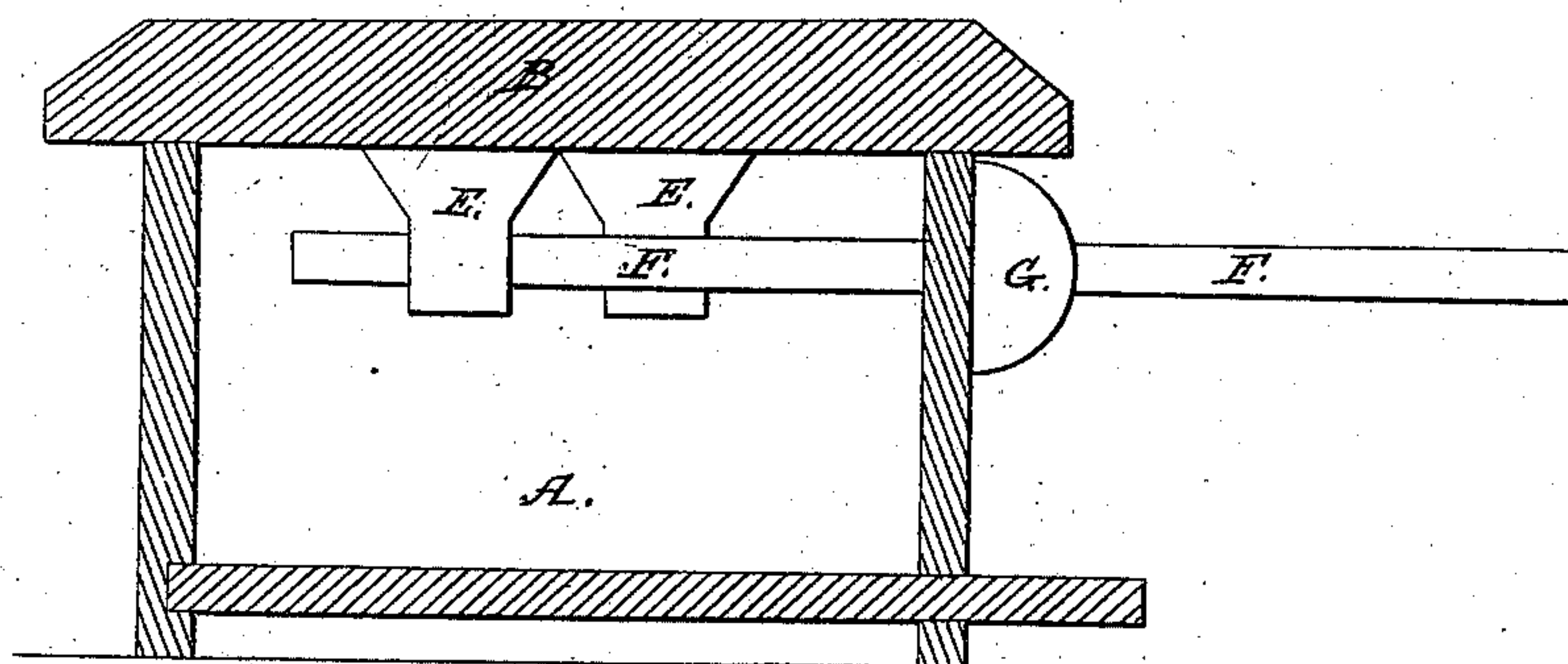


Fig. 3.



Witnesses:

J. H. Burridge
J. Holme

Inventor:

Hiram Dean,

United States Patent Office.

HIRAM DEAN, OF CLYDE, OHIO.

Letters Patent No. 66,470, dated July 9, 1867.

IMPROVED TUYERE.

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, H. DEAN, of Clyde, in the county of Sandusky, and State of Ohio, have invented certain new and useful improvements in Forge-Tuyeres; and I do hereby declare that the following is a full and complete description of the construction of the same, reference being had to the accompanying drawings, making a part of this specification, in which—

Figure 1 is a rear side view of the tuyere.

Figure 2 is a top view.

Figure 3 is a vertical longitudinal section.

Like letters of reference refer to like parts in the views.

This tuyere consists of a metallic oblong box, A, fig. 1, provided with a broad projecting top, B, in which is sunk a chamber, C, fig. 2, and through which is cut a rectangular oblong opening, D. To this opening is fitted a pair of stops, E, each one of which is equal to one-half the size of the opening, and by which it is closed, as shown in fig. 2. These stops are fixed to the inner ends of the levers F, pivoted to the outside of the box, between the cheeks of the stays G, and by which they are operated for closing the opening, as will hereafter be shown. H is a nozzle, through which the blast is inducted from the bellows or fan into the box.

The application of this tuyere-box is as follows: It is bricked into the bottom of the forge, with the top or cover flush therewith, and the nozzle projecting through the back. Upon this box is built the fire, to the bottom of which the wind is admitted through the opening referred to, the amount of which being regulated by the stops E, which are operated from the outside by the projecting ends of the levers F. Thus one-half of the full blast can be admitted by dropping one of the stops, or in full by dropping both, or in any degree, as the nature of the case may require.

The usual method of supplying the fire with wind is from the back of the forge. In this way the tuyere is fully exposed to the heat, which soon causes it to burn out, and thereby necessitates the trouble and expense of replacing the back or tuyere; also, it being supplied at one side of the fire, the supply will not be equally given to the whole mass of burning coal; hence the fire, if large, will be much stronger near the back than it will be distant from it, and therefore will require that the fire should be frequently stirred up, so as to equalize the heat, and thereby cause a more uniform and quicker heating of the work. By the use of the box-tuyere above described the wind is inducted from below; hence it will be more immediately and equally supplied to the burning mass, and as a consequence the fire will require less stirring, and the work become heated in a much shorter time. This tuyere being below the fire, and at all times filled with cool air, is not liable to become excessively heated, and burn out; hence it will last much longer, and be of greatly less trouble and expense. This box is provided with a sliding bottom, so that when the ashes or cinders shall have accumulated therein by falling through the opening, it can be drawn out, and the contents thereby discharged below the forge into the ash-pit.

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

The rectangular or oblong opening D, in combination with the stops E, levers F, and box A, arranged in relation to each other substantially as and for the purpose set forth.

Witnesses:

J. ZEPENICH,

C. G. EATON.

HIRAM DEAN.