C. H. BURBIDGE.

TUYERES.

No. 181,906. Patented Sept. 5, 1876.

fig. 1.

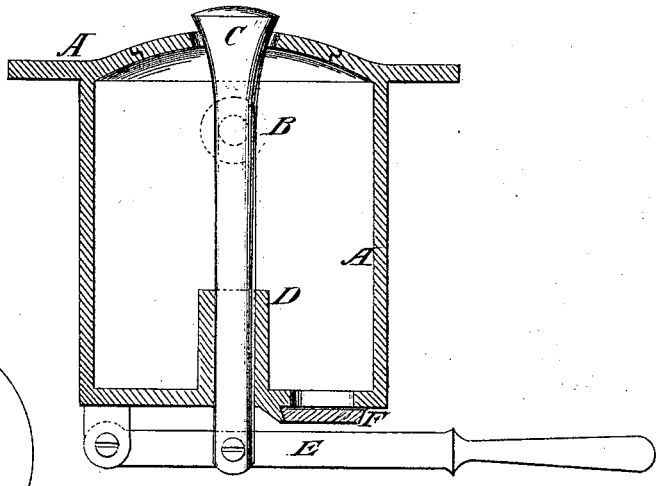


fig. 3.

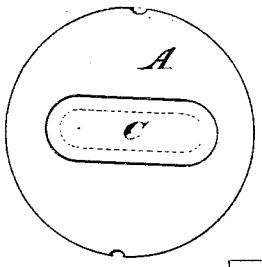
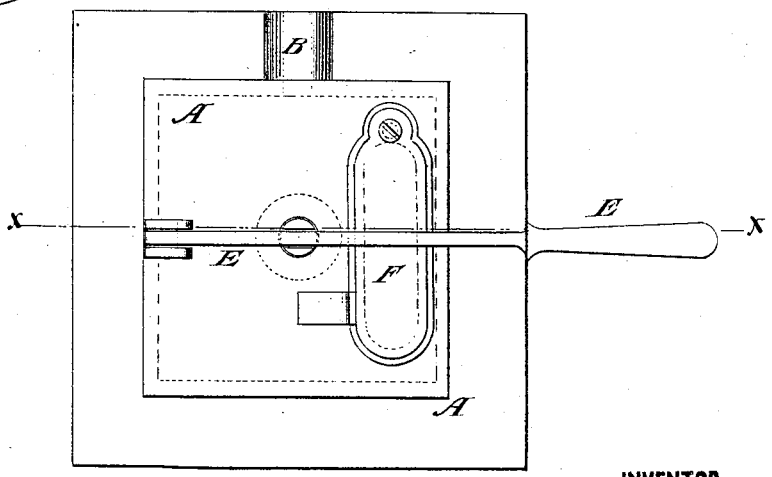


fig. 2.



WITNESSES:

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CHARLES H. BURBIDGE, OF MIDDLETOWN, CONNECTICUT.

IMPROVEMENT IN TUYERES.

Specification forming part of Letters Patent No. **181,906**, dated September 5, 1876; application filed February 21, 1876.

To all whom it may concern:

Be it known that I, CHARLES H. BURBIDGE, of Middletown, in the county of Middlesex and State of Connecticut, have invented a new and useful Improvement in Tuyere, of which the following is a specification:

Figure 1 is a vertical section of my improved tuyere taken through the line *x x*, Fig. 2. Fig. 2 is a bottom view of the same. Fig. 3 is a detail view, showing a modified form of the valve.

Similar letters of reference indicate corresponding parts.

The object of this invention is to furnish an improved tuyere, which shall be so constructed that it cannot clog, which will direct the wind directly into the fire, and may be adjusted to admit more or less wind, as may be desired.

The invention consists in the valve made flaring, and with a convex top, and provided with a lever, E, in combination with the guide-socket and the box, as hereinafter fully described.

A represents the box or wind-chamber of the tuyere, which may be made of any desired shape and size, and into which the blast is introduced through the pipe B. The top of the box A may be convex or flat, as may be desired, and through it is formed a hole to receive the valve C. The head of the valve C is made flaring, and its upper surface is convex, as shown in Fig. 1, so as to direct the wind directly into the fire, whether the fire be large or small. The head of the valve C and the hole in which it works may be circular, as shown in Fig. 1, or elongated or oval, as shown in Fig. 3. In the latter case the top of the valve-head may be made in **A** form, if desired. The stem of the valve C passes down through a guide-socket, D, in the lower part of the box A, and which is made of such a length as to cause the valve to move up and down in a straight line. The lower end of the stem of the valve C projects below the bottom of the box A, and is slotted to receive the lever E, one end of which is pivoted to the bottom of the box A, and its other end projects into such a position that it may be conveniently reached and operated to adjust the valve C. The valve C may be so arranged that it may be operated by raising it to admit the wind, and by lowering it to shut off the wind. In the bottom of the box A is formed a hole closed with a door, F, for convenience in removing any ashes or cinders that may fall into said box. The middle part of the top of the box A, in which is formed the hole for the valve C, is made detachable, and with rabbeted edge to fit into the rabbeted edge of an opening in the top of said box A, where it may be secured in place by lugs, bolts, screws, or other convenient fastenings, so that the said part when burned out can be readily removed and replaced with a new one. Another advantage of the detachable top, in connection with the elongated or oval valve, is that the said detachable top and its valve may be turned to adapt the fire to the work.

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

The valve C, made flaring and with a convex or wedge top, and provided with a lever, E, in combination with the guide-socket D and box A, substantially as herein shown and described.

CHARLES H. BURBIDGE.

Witnesses:
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