

J. G. HABELT.
TUYERE.

No. 521,857.

Patented June 26, 1894.

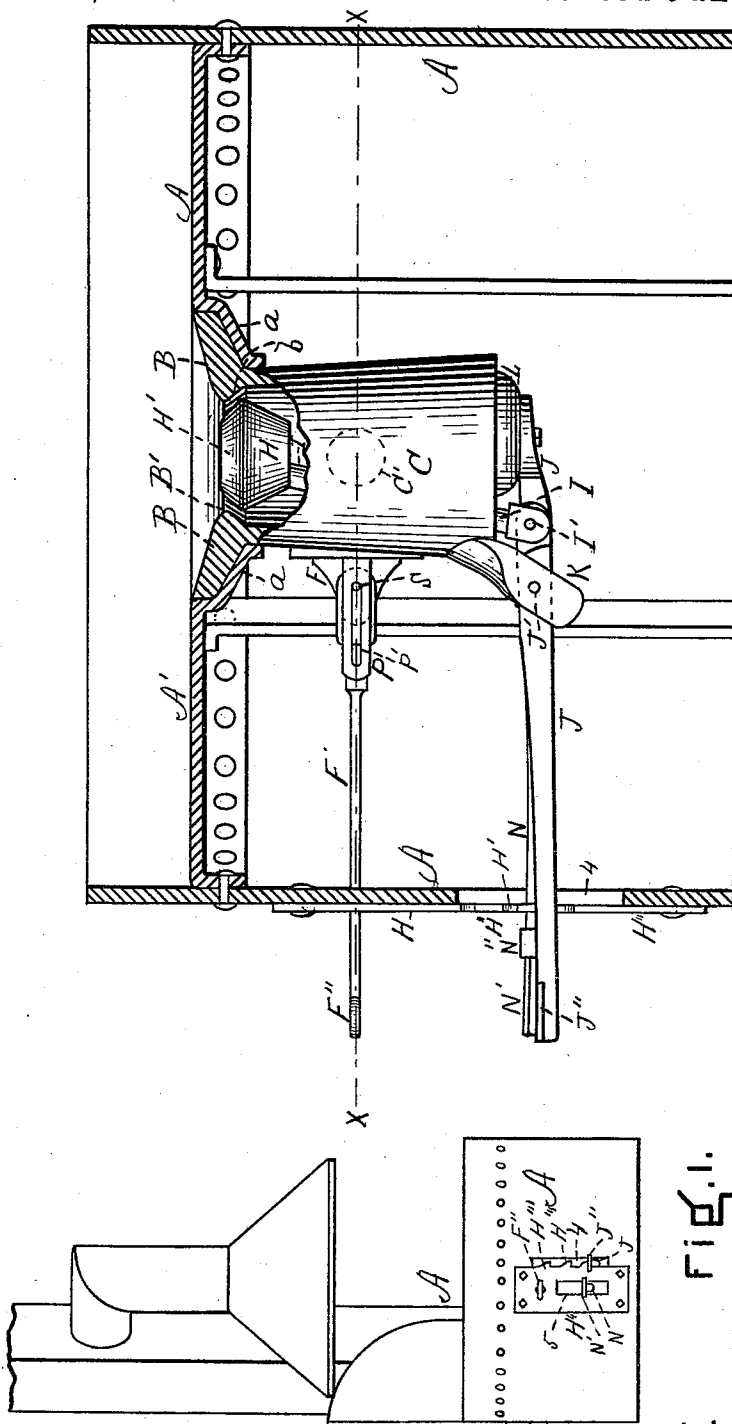


Fig. 2.

Fig. 1.

WITNESSES

J. M. Hartnett.
B. W. Williams.

INVENTOR

John G. Habelt.
By his Att'y.
Henry Williams.

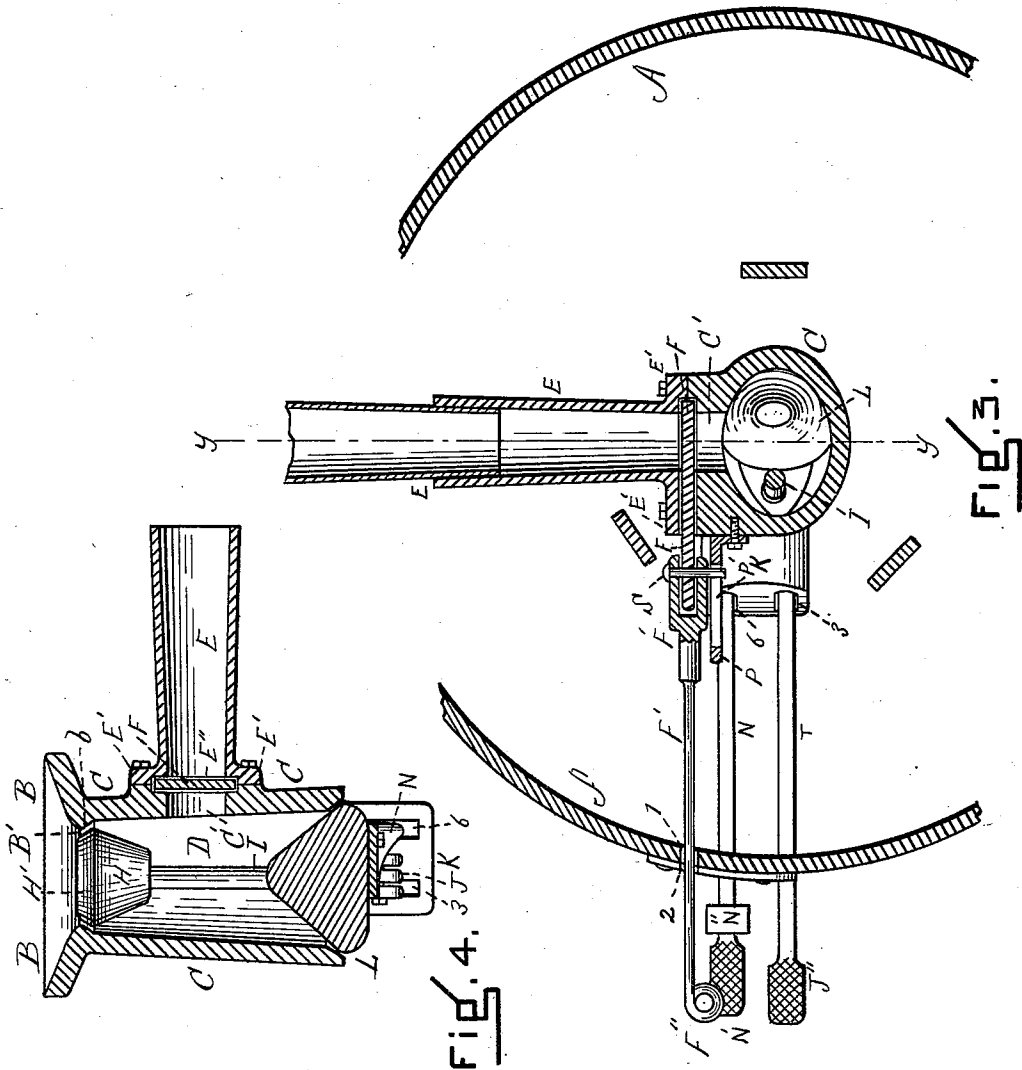
(No Model.)

2 Sheets—Sheet 2.

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UNITED STATES PATENT OFFICE.

JOHN G. HABELT, OF BOSTON, MASSACHUSETTS.

TUYERE.

SPECIFICATION forming part of Letters Patent No. 521,857, dated June 26, 1894.

Application filed January 19, 1894. Serial No. 497,391. (No model.)

To all whom it may concern:

Be it known that I, JOHN G. HABELT, a subject of the Emperor of Germany, residing in Boston, in the county of Suffolk and State of Massachusetts, have invented new and useful Improvements in Tuyeres, of which the following is a specification.

This invention relates to tuyeres adapted for use in blacksmiths' forges or blacksmiths' furnaces, and the nature of the invention consists in the novel construction and arrangement of parts hereinafter described, whereby the blast is regulated, the dirt and ashes dropped from the hearth or fire-bed into the tuyeres, and the dirt and ashes dropped out therefrom, all as below described and illustrated in the accompanying drawings, in which—

Figure 1 is an elevation of a blacksmith's forge provided with my improved device. Fig. 2 is an enlarged vertical section taken through the forge with the tuyere shown partly in elevation and partly in vertical section. Fig. 3 is a horizontal section taken on line *x*, Fig. 2. Fig. 4 is a vertical section taken on line *y*, Fig. 3.

Similar letters and figures of reference indicate corresponding parts.

A represents an ordinary blacksmith's forge, A' being the hearth. Centrally located in the hearth of the forge, and supported by the inclined internal flange *a*, is a tuyere, whose body or frame portion consists of the inclined or concave hearth B provided with a central opening B', and the round or tubular wall C of shape to produce the vertical chamber or well D preferably of the frustum shape shown in Fig. 4. This well is provided with the substantially circular opening C' which is coincident with the inner end of the blast pipe E which leads to the blower, said blast pipe being bolted to the wall of the tuyere by means of an integral plate E'. This plate is, in connection with the wall C, formed internally, or chambered out, as shown at E'' to receive a horizontally sliding plate or damper F which is reciprocated horizontally by a rod F' extending therefrom through a suitable perforation 1 in the wall of the forge, and a similar coincident perforation 2 in a vertical plate H secured to the

outer side of said wall. This damper regulates the blast through the pipe E into the chamber D, and is operated by means of the handle F'' of the rod F'. The opening B' in the hearth B is entirely or partly filled as desired by the central bed piece H of substantially the shape of said opening, and with its upper portion provided with an annular bevel H' corresponding substantially to the cut-away shape of the tuyere at *b*. This bed-piece is supported by a post or rod I which extends diagonally down therefrom through the lower end of the body of the tuyere, and is pivoted at I' to the inner end of a lever J which is fulcrumed at J' within a suitable slot 3 in the bracket K extending from the wall C. This lever extends through a vertical slot 4 in the wall A, and is adapted to be reciprocated vertically by the side edge of the plate H'', and catch under one of the teeth or projections H''' integral with said plate. The height of the bed-piece H in the opening B' is therefore regulated by the position of the lever J in the notches. This lever is preferably provided with a foot-piece or treadle J'', and when it is lifted out of the notches H', the bed-piece H drops, and dirt or ashes is allowed to drop around the edges thereof into the chamber D. The same movement of the bed-piece H serves also to regulate the draft through the opening B'.

The lower end of the chamber D in the tubular portion C is normally closed by a cone shaped plug L. This plug is adapted to be lowered from its seat and swung up again by means of the lever N, the inner end of which is secured to the under side of said plug, and the outer end extends through the opening 4 in the wall A and the opening 5 in the plate H'', said lever being pivoted at J' within the opening 6 to the bracket K. The outer end of this lever N is provided with a foot-piece or treadle N', and also with a weight N'', the object of the latter being to overcome the weight of the plug L so that said plug is held by gravity in the closed position shown. By lifting the outer end of the lever N, the plug is withdrawn and the ashes and dirt allowed to drop out of the tuyere. Preferably a horizontal guide P, slotted at P', extends from the wall C next the damper

F, and the pivot S, by means of which the damper is connected with the operating rod F, extends into said slot, thus serving to guide the damper as it is withdrawn, and also
5 to support it in a withdrawn position.

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

10 The herein described improved tuyere comprising the hearth B provided with the central opening B', tubular portion C provided with the side opening C', the blast pipe E, the

horizontally sliding damper F moving across said blast pipe, the actuating rod F' pivotally connected with said damper, and the 15 horizontally slotted arm P extending from the wall of the tuyere, the pivot extending into and sliding in the slot in said arm, substantially as set forth.

JOHN G. HABELT.

Witnesses:

HENRY W. WILLIAMS,
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