

J. PATTERSON.

Tuyere.

No. 56,090.

Patented July 3, 1866.

FIG. 1.

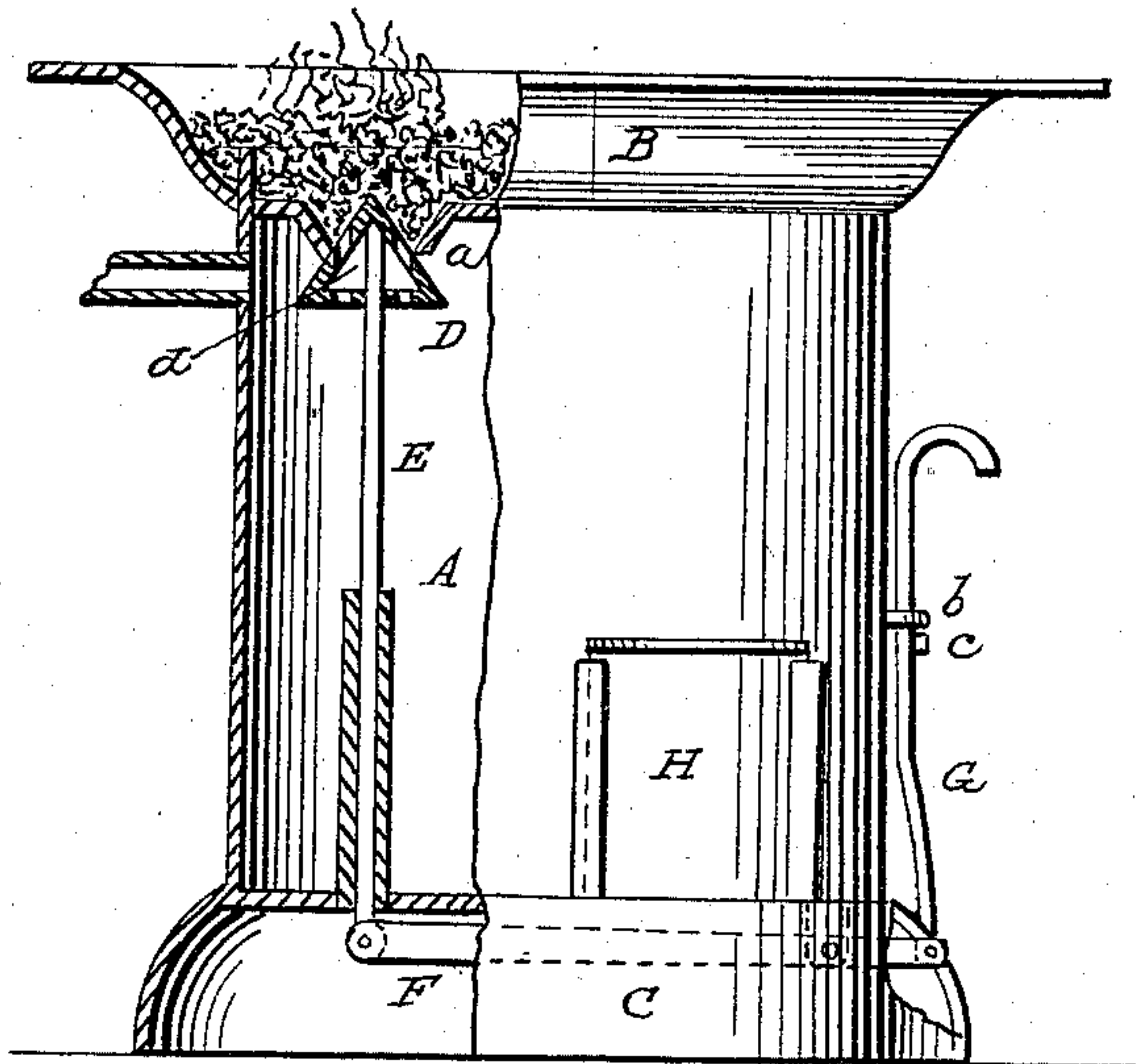
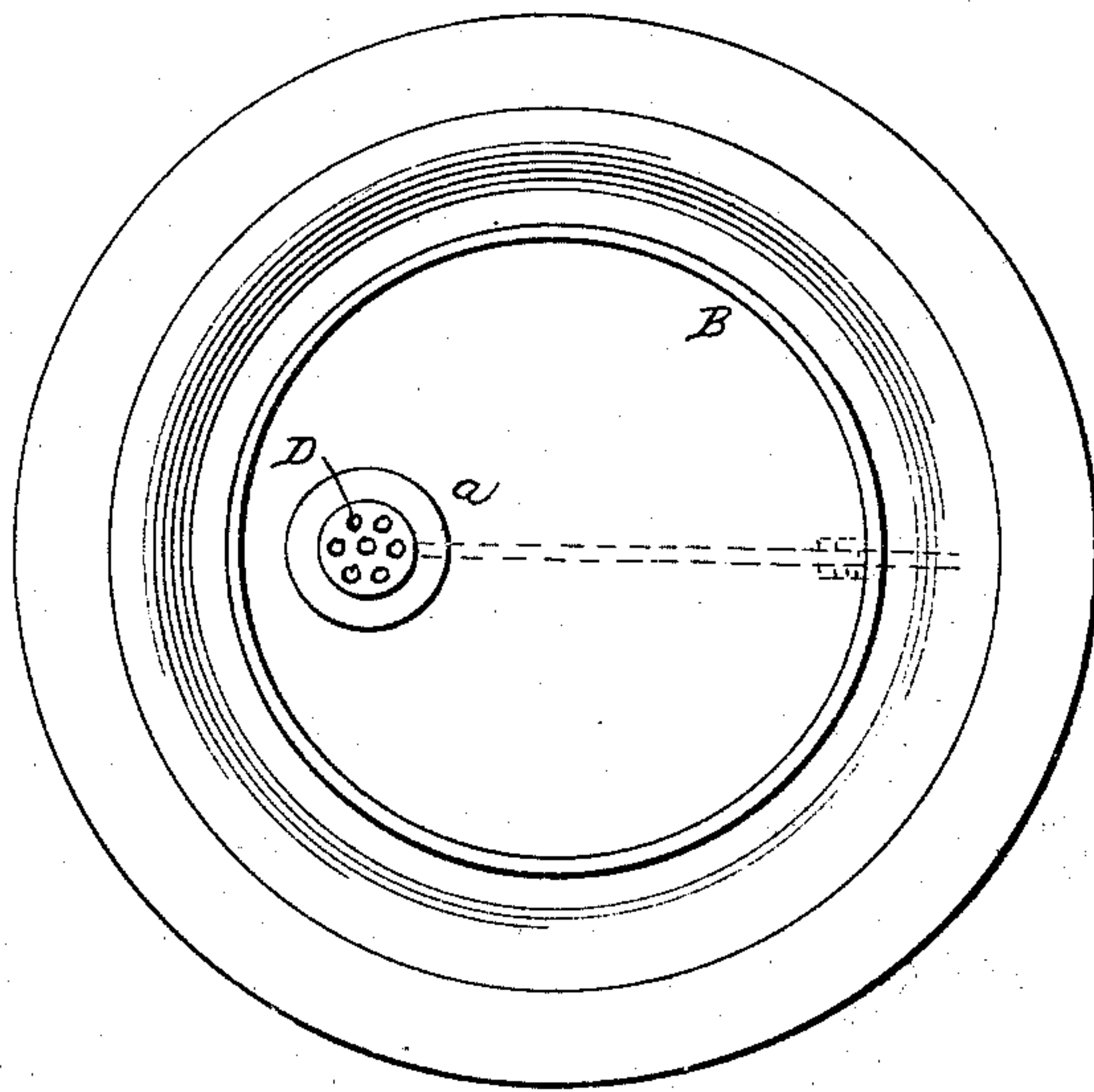


FIG. 2.



WITNESSES:

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INVENTOR.

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*Chgo*

# UNITED STATES PATENT OFFICE.

JAMES PATTERSON, OF NEW YORK, N. Y.

## IMPROVEMENT IN TUYERES.

Specification forming part of Letters Patent No. 56,090, dated July 3, 1866.

### *To all whom it may concern:*

Be it known that I, JAMES PATTERSON, of the city, county, and State of New York, have invented a new and Improved Blacksmith's Forge; and I do hereby declare that the following is a full, clear, and exact description thereof, which will enable others skilled in the art to make and use the same, reference being had to the accompanying drawings, forming part of this specification, in which—

Figure 1 is an elevation of my invention, partly in section; Fig. 2, a plan or top view of the same.

Similar letters of reference indicate like parts.

This invention consists in having the hearth or bed of the forge upon a hollow base provided with a perforated valve, and having the nozzle of the bellows entering it, all being arranged as hereinafter fully shown and described, whereby said hollow base is made to perform the double function of a wind-chamber and an ash-receptacle, and two important results attained—to wit, a uniform or even blast supplied to the fire, sudden gusts or puffs being avoided, and ashes, dross, &c., very readily abstracted from the fire whenever necessary.

A represents what may be termed the "hollow base," on which the hearth or fire-bed B rests or is supported, said base having a flaring flange, C, at its bottom to properly sustain it in position.

The hearth or fire-bed B, as well as the flange C, may be constructed of cast-iron, and the base A of sheet-iron. I do not, however, confine myself to these materials.

The bottom of the hearth or fire-bed B is perforated with a round hole having an inverted conical flange, *a*, around it, and D is a conical valve which works within the inverted conical flange or seat *a*, said valve being at the upper end of a rod, E, the lower end of which is pivoted to a rod, F, below the bottom of the base A, said rod extending hori-

zontally through the flange C, and having an upright rod, G, pivoted to it, which passes through a guide, *b*, attached to the exterior A, and has a projection, *c*, which catches under the guide to hold the valve D up in its seat. This will be fully understood by referring to Fig. 1.

The valve D is perforated with holes *d*, and the nozzle of the bellows enters the base A near the valve, as shown in red in Fig. 1. The base A at its lower part is provided with a door, H.

When the forge is in operation the valve D is closed, the blast from the base passing up through the perforations in the valve to the fire, which is directly over the valve. The hollow base A becomes filled with wind, and serves as a wind-chest, causing the wind to pass uniformly through the perforated valve, and prevents sudden gusts and puffs, and at any time when the fire requires to be cleaned from ashes, dross, &c., the valve D is lowered sufficiently to allow them to pass down into base A, and when an entire cleaning out is required all of the ashes, cinders, clinkers, dross, &c., may be let down into A, and a fresh fire kindled.

This invention is adapted for either fixed or portable forges. It may be constructed at a small cost, and possesses advantages for keeping the fire in perfect working order which it is believed are not possessed by other forges in use.

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

The combination of the rod G, with its catch *c*, the rods E F, and perforated conical valve D, arranged relatively with the hollow base A, and the fire-bed B, with the conical flange *a*, constructed and operating in the manner and for the purpose herein specified.

JAMES PATTERSON.

Witnesses:

JAMES A. SERVICE,  
ALEX. F. ROBERTS.