J. ROGERS.

Tuyere.

No. 107,725. Patented Sept. 27, 1870.

Fig 1 Top View

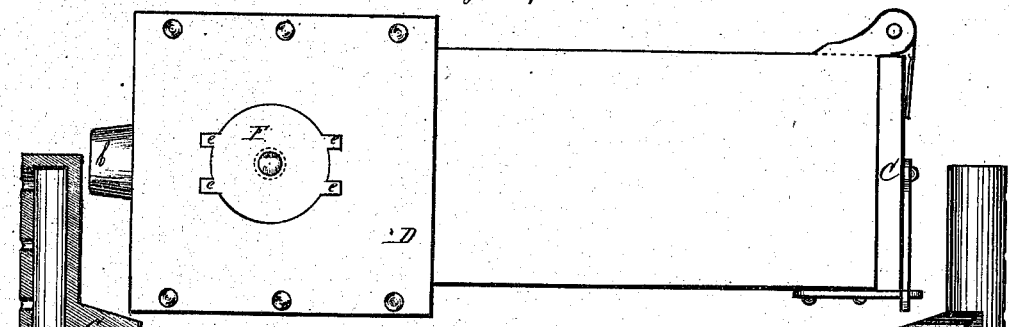


Fig 2 Side View

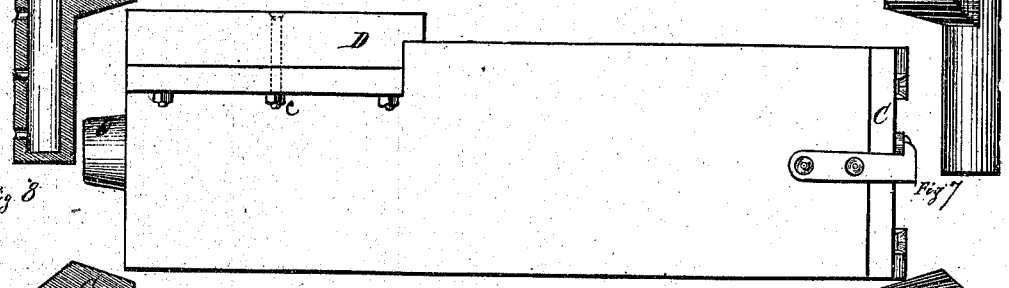


Fig 8 Fig 7

Fig 3 Sectional View

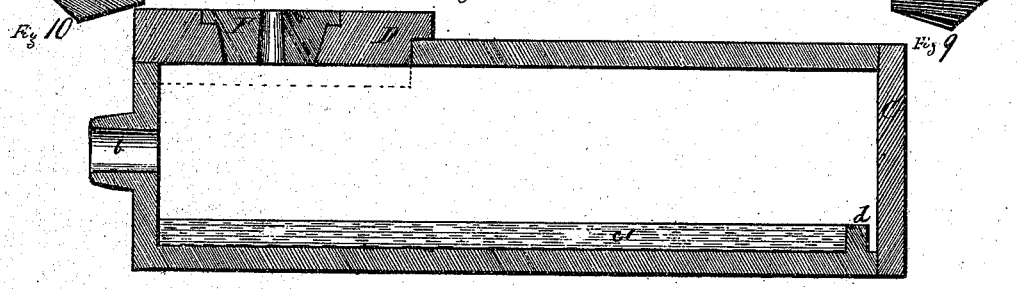


Fig 10 Fig 9

Fig 4

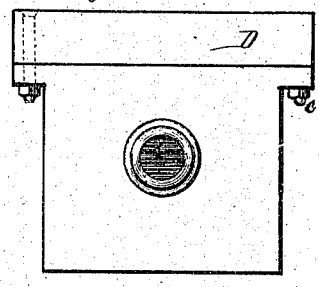


Fig 6 Die Plate

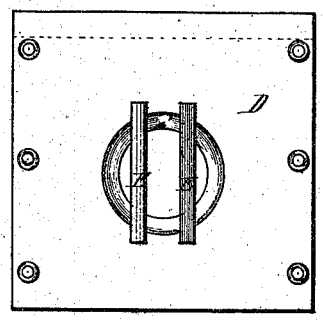
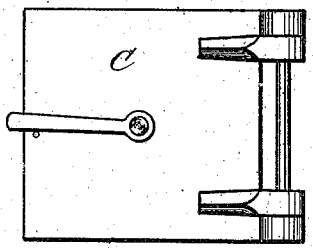


Fig 5 Door



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United States Patent Office.

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Letters Patent No. 107,725, dated September 27, 1870.

IMPROVEMENT IN TUYERES.

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, JOSEPH ROGERS, of Detroit, in the county of Wayne and State of Michigan, have invented new and useful Improvements in Tuyeres; and I do hereby declare that the following is a full and exact description of the construction and operation of the same, reference being had to the accompanying drawing and to the letters of reference marked thereon, making a part of this specification.

My invention relates to tuyeres, and consists in certain devices to be used severally, in connection with a notched and perforated hearth-plate, and which are adapted for use in heating small, large, or long and narrow pieces of metal, all as hereinafter described.

In the drawing—

Figure 1 represents a top view of the hearth-plate and the box, of which it forms a part.

Figure 2 is a side view; and

Figure 3, a central longitudinal section of the same; while

Figures 4 and 5 represent the respective ends of the box.

I provide a rectangular box, A, having a hinged door, C, at one end, and closed at the other, except the aperture of the nozzle *b*, which is to receive the blast-pipe.

The door is secured by a catch and latch, in the usual way.

A hearth-plate, D, is secured to the top of the box at the end, by means of screw-bolts *e* passing through flanges formed on the respective parts, as shown in figs. 2, and 4.

A central aperture is formed in this hearth, and when large pieces of metal are to be heated, two or more bars, E, are laid across the same, as in fig. 6, their ends being let into notches or recesses in the plate.

For heating small pieces, in which case the blast or flame requires to be concentrated, I employ a nozzle, F, which is of such form, and has such projections or ears *e*, as adapt it to fit in the aperture of the plate D flush with the face thereof. This part F has a central vertical perforation, which is made narrower at the top than at the bottom.

An aperture of the same kind is formed in the nozzle G, which is used when long bars or pieces, or several short pieces of metal are to be heated. This part is shown in side view in Figure 7, in longitudinal section in Figure 8, in end view in Figure 9, and in central cross-section in Figure 10.

The lower part is made conical, to fit the aperture in the hearth-plate D, and the long tubular portion provided with a number of perforations on its upper side.

The blast, entering the cylindrical chamber, will be nearly evenly distributed through the small perforations.

A shoulder or transverse rib, *d*, is provided on the bottom of the box, transversely of the same, to form a receptacle for water, C', which keeps the box cooler than it otherwise would be.

Having thus described my invention,

I claim—

Jointly, with the perforated and notched hearth-plate D, for use severally and interchangeably therewith, the bars E, the conical perforated plug or nozzle F, and the tubular perforated nozzle G.

Witnesses: JOSEPH ROGERS.

HENRY BRIDGE,

GEO. A. DAVIS.