A. Herbig,

Tuyere Iron,

No. 84,059, Patented Nov. 17, 1868

Fig: 1.

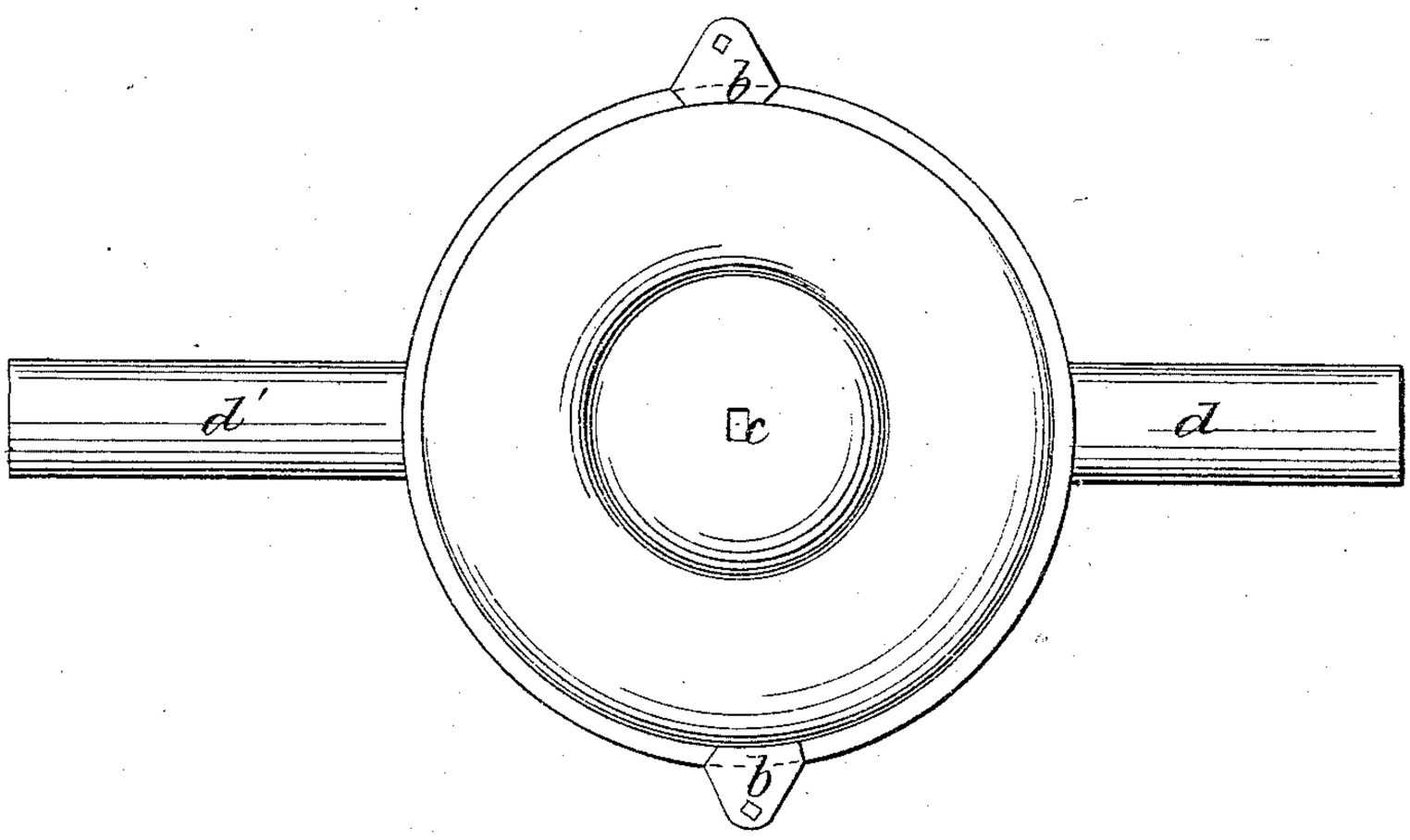


Fig: 2.

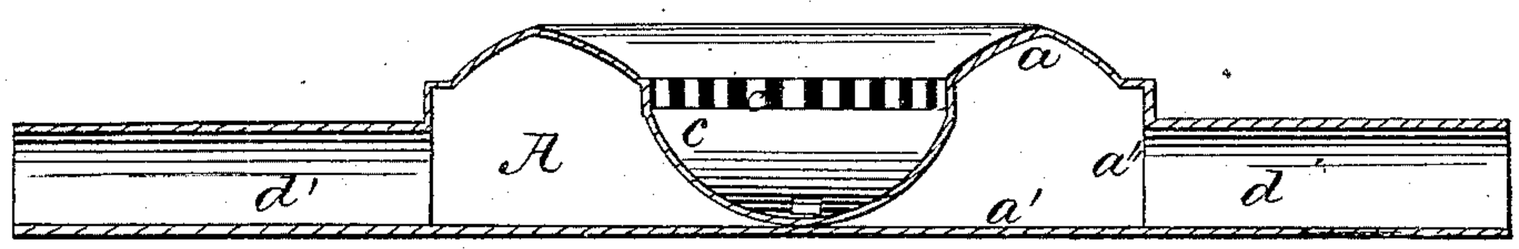
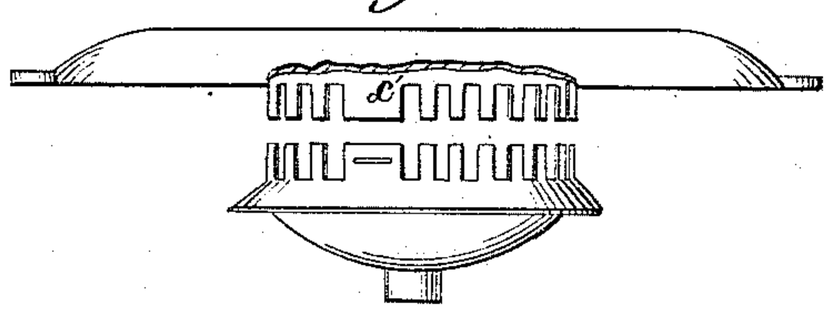


Fig: 3.



Witnesses;
Thomas Blackburn
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Inventor;
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ADAM HERBIG, OF CORRY, PENNSYLVANIA, ASSIGNOR TO HIMSELF AND THOMAS BLACKBURN, OF SAME PLACE.

Letters Patent No. 84,059, *dated November* 17, 1868.

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, ADAM HERBIG, of Corry, in the State of Pennsylvania, have invented a new and useful Improvement in Tuyere-Irons; and I do hereby declare that the following is a full, clear, and exact description of the same, reference being had to the accompanying drawings, and letters of reference marked thereon, making a part of this specification, in which—

Figure 1 is a plan view,

Figure 2, a longitudinal vertical section, and

Figure 3, a side elevation, of the upper disk detached, with the damper separated from it.

This invention consists in applying to the "duck's-nest" of a tuyere-iron for blacksmiths' forges, an arrangement whereby the same may be conveniently blown out, in order to dislodge the debris which always collects therein.

To enable those skilled in the art to make and use my invention, I now proceed to describe its construction and operation.

Similar letters, in the drawings, refer to like parts.

In the drawings, A represents what is frequently termed by blacksmiths a "duck's-nest," the same consisting of two metallic disks, *a a'*, of a size to suit the forge where it is employed, said disks being placed horizontally in the forge.

A metallic flange, *a''*, projects upward from the rim of the lower disk, *a'*, which flange sustains, upon its upper edge, the upper disk, *a*.

The two disks are connected by vertical bolts, passing through lugs *b*, two on each disk, projecting from opposite points in each.

The upper disk is removable from the flange. Said upper disk is provided with a concentric basin, *c*, occupying its central portion, and projecting nearly down to the lower disk, said basin being provided, at its upper edge, with a damper, *c'*, for regulating the draught. In all this I do not claim that there is anything new.

Opening horizontally into one side of the flange *a''* is a pipe, *d*, through which passes the air from the bellows to fan the flame.

It should be understood that the fire is kindled in the basin *c*, and that the blast passes through the damper *c'*.

Opening into the flange *a''*, at a point directly opposite the mouth of pipe *d*, is the pipe *d'*, of similar dimensions, The function of the pipe *d'* is to form a way of exit for debris.

When the interior of the duck's-nest becomes choked up with cinders, and it is found desirable to remove the same, let the damper *c'* be closed, and the plug that is kept in the outer end of the pipe *d'* be removed. The full force of the bellows may then be exerted to drive all accumulations out through the pipe *d'*.

I am well aware that both slides and valves in the bottoms of ducks'-nests have been used for withdrawing debris from tuyeres, but not, so far as I am aware, in connection with a blast. It is obvious, moreover, that the corners on each side of such a slide can be but imperfectly cleansed in this way.

It will be seen that there is no part of my duck's-nest where dirt can effect a lodgment against the blast, as the pipe *d'* opens out of a curved surface, directly opposite the inlet-pipe, and its bottom is on a level with the disk *a'*. The current has, therefore, full sweep, and, as has been found by actual trial, most effectually removes the debris.

Having thus described my invention,

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

The circular duck's-nest A, provided with the inlet-pipe *d* and the outlet-pipe *d'*, placed opposite each other, and with the damper *c'*, all arranged and operating substantially as described.

ADAM HERBIG.

Witnesses:

THOMAS BLACKBURN,

C. O. BROWN.