

G. HARSCH.  
Tuyeres.

No. 138,248

Patented April 29, 1873.

Fig 1

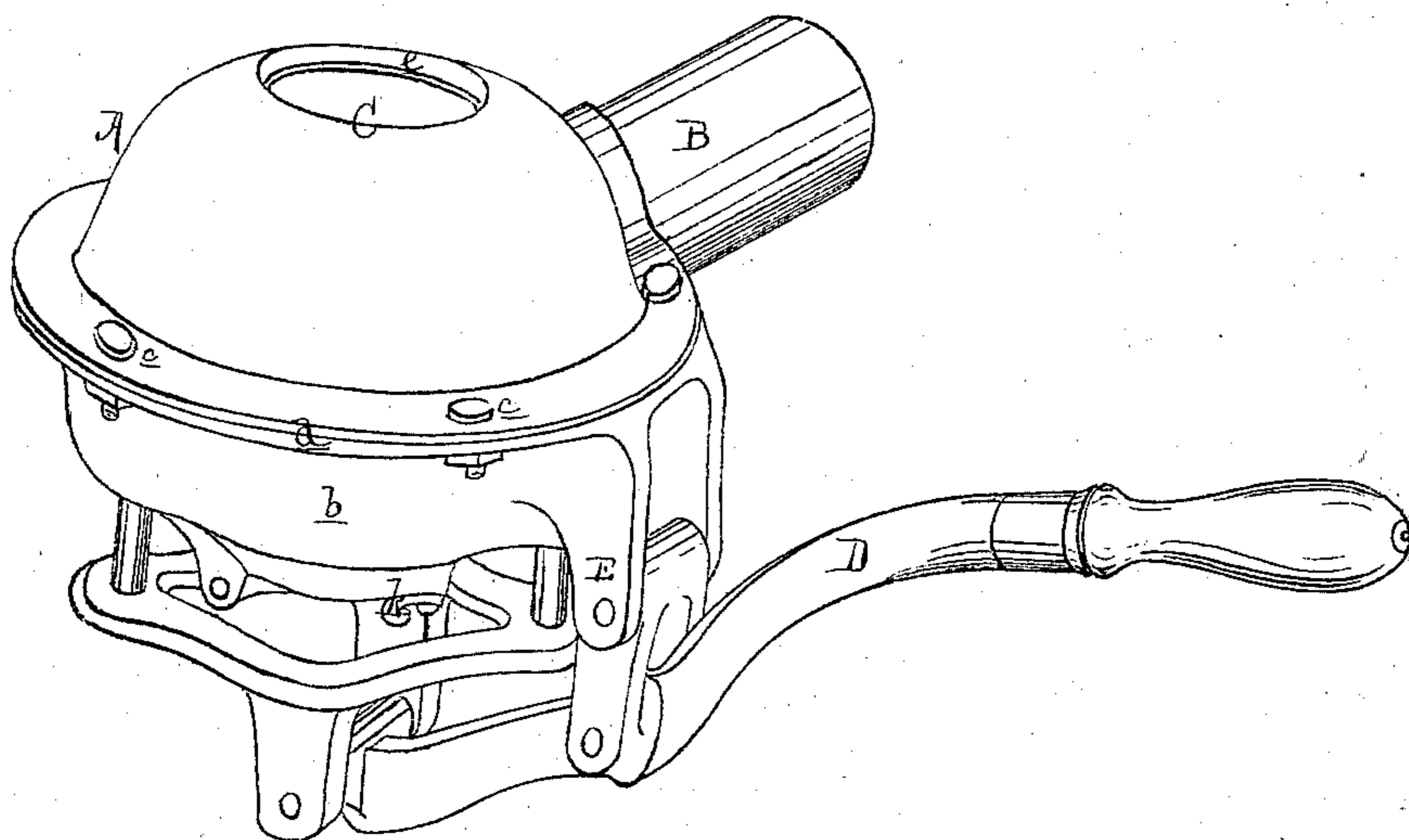
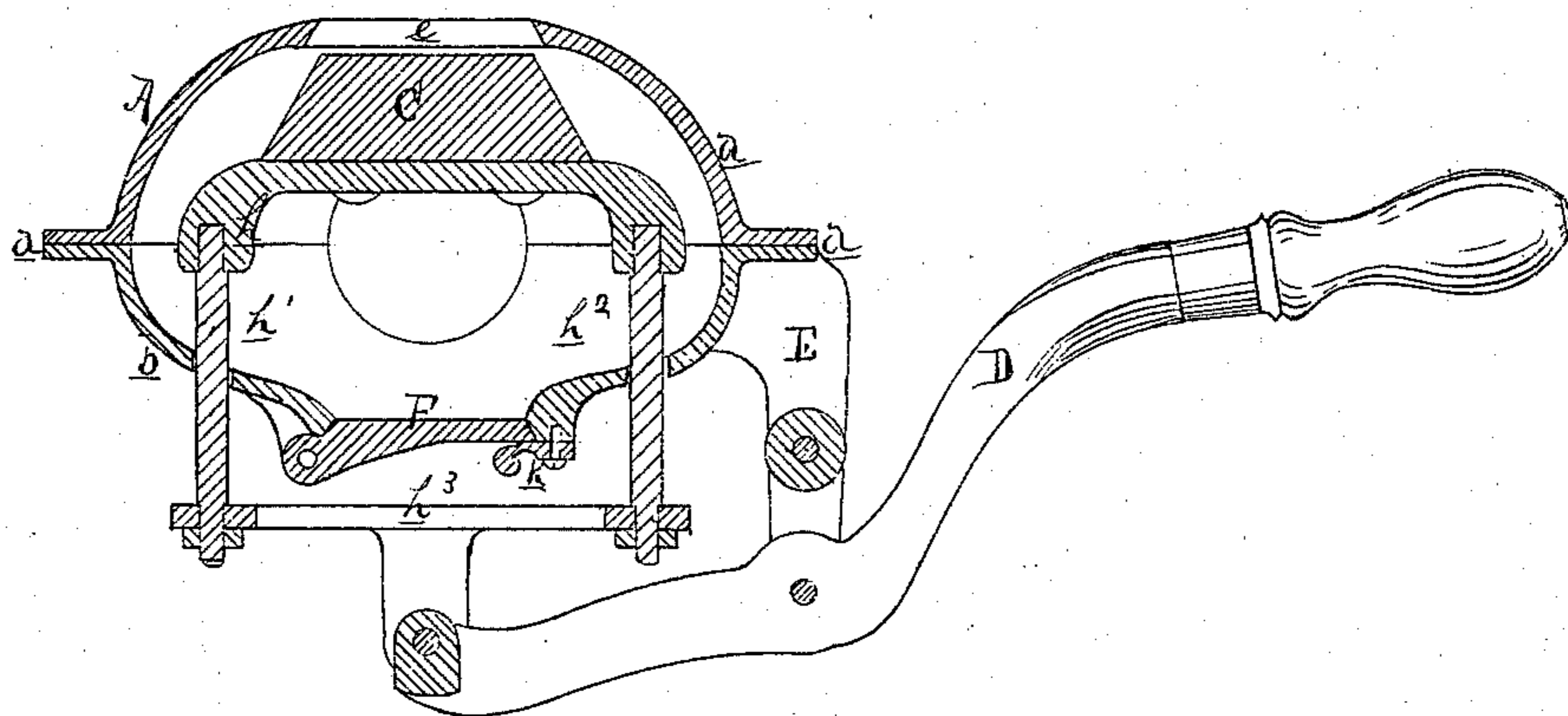


Fig II



Attest  
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# UNITED STATES PATENT OFFICE.

GEORGE HARSCH, OF CHICAGO, ILLINOIS.

## IMPROVEMENT IN TUYERES.

Specification forming part of Letters Patent No. 138,248, dated April 29, 1873; application filed October 11, 1872.

*To all whom it may concern:*

Be it known that I, GEORGE HARSCH, of Chicago, in the county of Cook and State of Illinois, have invented a new and useful Improvement in Tuyere-Iron or Blow-Valves for Blacksmith-Forges; and I do declare that the following is a true and accurate description thereof, reference being had to the accompanying drawing and to the letters of reference marked thereon and being a part of this specification, in which—

Figure 1 is a perspective view of my improved implement. Fig. 2 is a vertical section of the same through the center of Fig. 1.

Like letters refer to like parts in each figure.

This invention relates to an improved construction of tuyere-irons, so arranged that the operator can govern the blast, as occasion may demand; and the invention consists in the peculiar devices, and their arrangement for the purpose, as more fully hereinafter described.

In the accompanying drawing, A represents a metallic chamber, cast in two pieces, *a b*, and secured together by bolts *c* through the flanges *d*. The upper or top part of this chamber is provided with an opening, *e*, for the escape of the blast from the chamber, while B is a pipe communicating with the interior of the cham-

ber, and with which the nozzle of a bellows engages to furnish the blast. C is a valve, which has a reciprocating motion by means of frame composed of the parts *h*, *h*<sup>1</sup>, *h*<sup>2</sup>, and *h*<sup>3</sup>, and lever D, fulcrumed to the outbearing E, as shown in Figs. 1 and 2.

This device is set underneath the hearth of the forge, so that the opening *e* is presented to a corresponding hole in said hearth.

Elevating or depressing the lever D increases or diminishes the amount of blast delivered through the opening *e*, as desired.

F is a valve, secured in place by the latch *k*, covering an opening in the bottom or lower part of the chamber A, by means of which entrance is had to the interior of the same for the purpose of removing ashes, cinders, &c., which may drop through the opening *e*.

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

The combination of the chamber A having opening *e* above, opening below, and side opening, pipe B, frame *h h*<sup>1</sup> *h*<sup>2</sup> *h*<sup>3</sup>, with valve C, lever D, bearing E, and valve F with latch *k*, all constructed and arranged as set forth.

Witnesses:

GEORGE HARSCH.

WM. H. LOTZ,

GEO. W. FERRIS.