C. A. WOLFF.

TUYERES.

No. 190,108. Patented April 24, 1877.

Fig. 1

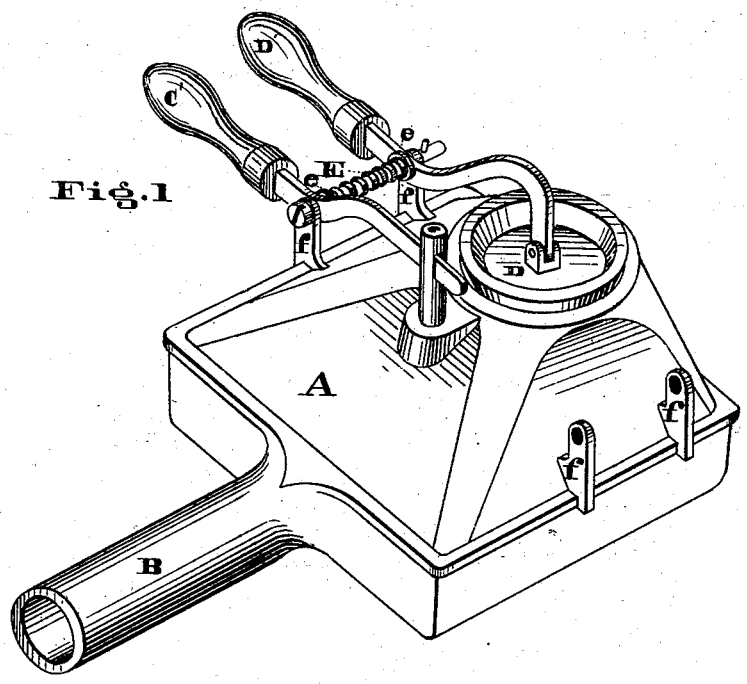


Fig. 2

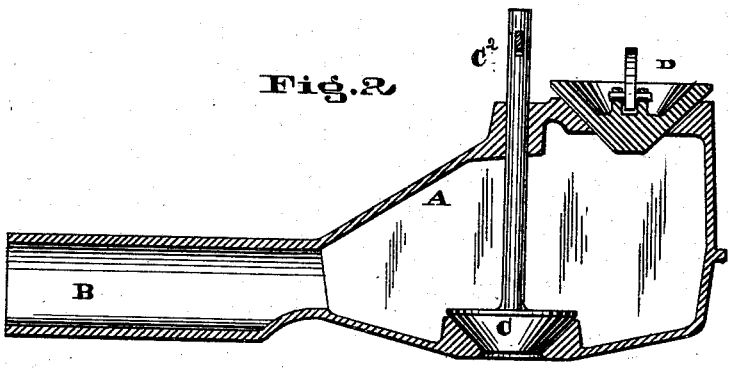
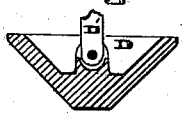


Fig. 3



Attest

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CHARLES A. WOLFF, OF CINCINNATI, OHIO.

IMPROVEMENT IN TUYERES.

Specification forming part of Letters Patent No. **190,108**, dated April 24, 1877; application filed March 16, 1877.

To all whom it may concern:

Be it known that I, CHARLES A. WOLFF, of Cincinnati, in the county of Hamilton and State of Ohio, have invented a new and useful Improvement in Tuyere-Irons, which improvement is fully set forth in the following specification and accompanying drawing, in which—

Figure 1 is a perspective view of the tuyere inverted, to show the operating-levers and their mode of attachment to the case. Fig. 2 is a central vertical section of the same; and Fig. 3 is a detached sectional view of the lower valve, showing the means of attaching its lever.

This invention relates to that class of tuyeres having a downward-sloping bottom, and an upper and lower valve operated by separate levers; and my invention consists in the arrangement of a spring bearing upon washers, and in closely confining the valve-levers between said washers and the fixed standards to which said levers are pivoted, so that they can be retained in any desired position, that the tuyere can be used either right or left, and whose operating-levers are held to any desired position by means of a friction-spring.

In the drawing, A is the case, which, with the pipe B for receiving the blast, is cast in one piece. The lower side of the case A is inclined downward from pipe B to valve D, so as to permit the cinder and ashes from the forge to drop down preparatory to being discharged. C is the valve for regulating the blast, and D the valve for freeing the air-chamber of cinder and ashes. These valves are operated by the levers C′ D′, which are fulcrumed between the standards *f f* by a journal-pin passing through the standards and levers, as shown. E is a steel spring coiled around and compressed upon the journal-pin, so as to press the washers *e* against the levers, and retain them by such pressure in any desired position. The valve D is so secured to its lever as to have only a limited play, so as to secure its return to its seat when the lever is pressed down. The lower opening is made large enough to permit the introduction of valve C within the case. The standards *f*, of which there are two pair, one on each side of the case, to permit the tuyere to be used with either a right or left hand forge, are cast with the case.

The device is set underneath the hearth of the forge, with the handles coming far enough out from the front to permit the convenient operation of the valves without their being in the way.

It will be seen that the device requires but little fitting up after the parts are cast, and is not liable to clog or get out of order.

When it is desired to clean the case of cinder or ashes that may fall from the fire above, the upper valve is closed and the lower one opened, when a blast from the bellows forces all cinder and ashes through the lower opening.

I claim—

In combination with a tuyere-iron fitted with valves C and D, as described, the levers C′ and D′, journaled between standards *f*, and pressed between the sides of said standards and the washers *e* by the spring E, for the purpose of retaining the valves in any desired position, as specified.

CHAS. A. WOLFF.

Witnesses:

FRED. GUETHLEM,

GEO. J. MURRAY.