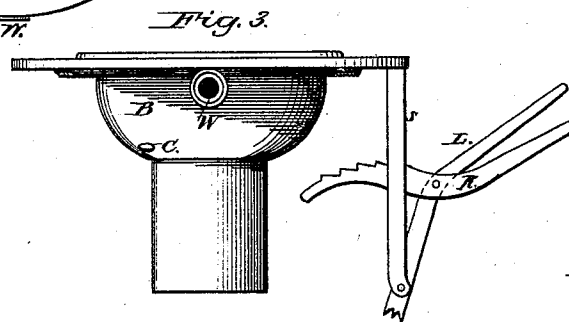
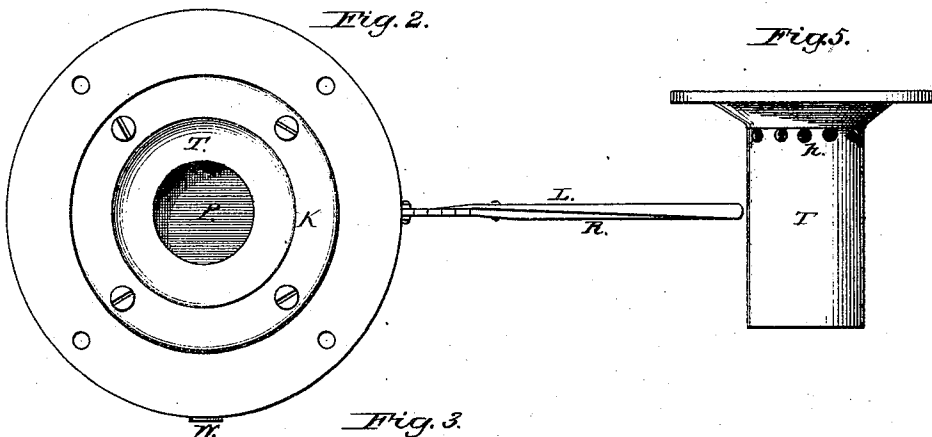
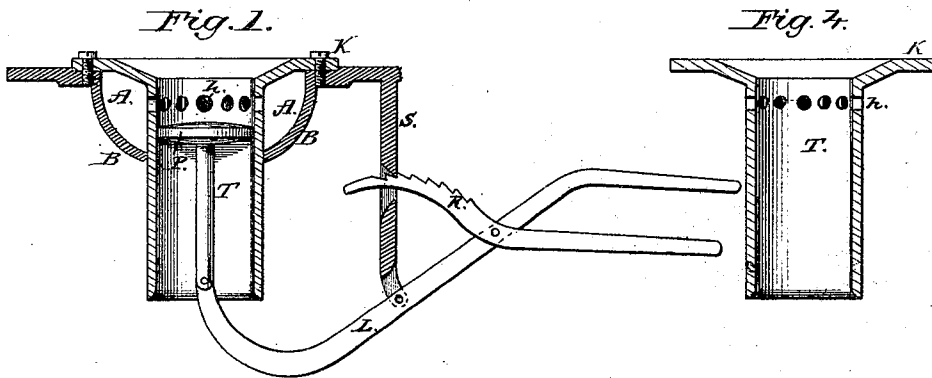


P. H. STANDISH.

TUYERES.

No. 170,313.

Patented Nov. 23, 1875.



Witnesses:

Frank Ellis
Jas E Moore

Inventor:

Philander H Standish.

UNITED STATES PATENT OFFICE.

PHILANDER H. STANDISH, OF JEFFERSON CITY, MISSOURI.

IMPROVEMENT IN TUYERES.

Specification forming part of Letters Patent No. **170,313**, dated November 23, 1875; application filed June 16, 1875.

To all whom it may concern:

Be it known that I, PHILANDER H. STANDISH, of Jefferson City, in the county of Cole and State of Missouri, have invented a new Improvement in Tuyere-Irons, of which the following is a specification:

The invention consists in a peculiar construction of a blacksmith's tuyere-iron, for the purpose of economizing the waste of fuel, keeping a uniform heat, and disposing of the dirt and cinder to advantage, by lowering it gradually away from the focus or hottest part of the fire and the work, at the same time utilizing its heat, and keeping a clean, hot, and uniform fire, as well as the saving of time and trouble in frequent cleaning of the fire, as will be shown in the following description.

Figure 1 is a sectional view, showing the interior of the tuyere; Fig. 2, a plan; Fig. 3, a side elevation, showing the piston down and out for the entire removal of the dirt and cinder; Fig. 4, a section of the tuyere T, showing the interior; and Fig. 5, a side elevation of tuyere T.

Like letters refer to like parts.

B is a bed-piece, of bowl shape, having a wind-passage or blast-pipe, W, which enters the annular chamber A A. T is the tuyere, passing through the bottom of the bowl B, and of suitable capacity to hold a considerable quantity of dirt and cinder. *h h h h* are wind-holes in tuyere T, through which the wind or air passes from the annular chamber A A into the fire. The piston or bottom piece P is held in its proper position by means of the lever L and ratchet R, both supported by stand S. The tuyere T is provided with a flange, K, for fastening down to bed B, is slightly concave

to better contain the fire, and is preserved from burning by being surrounded with cool air. Now, it will be seen that, when the piston P is set at the proper notch for starting the fire, in time, as the dirt and cinder accumulate in the fire to interfere with the work, by lowering the piston P a notch, the cinder is out of contact with the work, and below the tuyere-holes *h h h h*, allowing free access of air to the fire, and keeping the same in good order; yet the heat remaining in the slag or cinder is utilized until a further accumulation requires the lowering of the piston P again another notch, and so on, notch after notch, until the space in the lower part of the tuyere is full, and finally dumped out by means of the entire removal of the adjustable and graduating bottom or piston P, operated and regulated by lever L and ratchet R, which is hinged to same.

Having thus described my invention, I do not claim, broadly, a false or detached tuyere-bottom worked by a lever, for the purpose of removing the dirt and cinder, as such I know to have been used before; but

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

The combination of the tuyere T, provided with the perforations *h* for the admission of the blast, with the bowl-shaped bed-piece B, adjustable piston P, lever L, ratchet-lever R, and stand S, substantially as herein shown and described.

PHILANDER H. STANDISH.

Witnesses:

R. M. MILLS,
FRANK ELLIS.