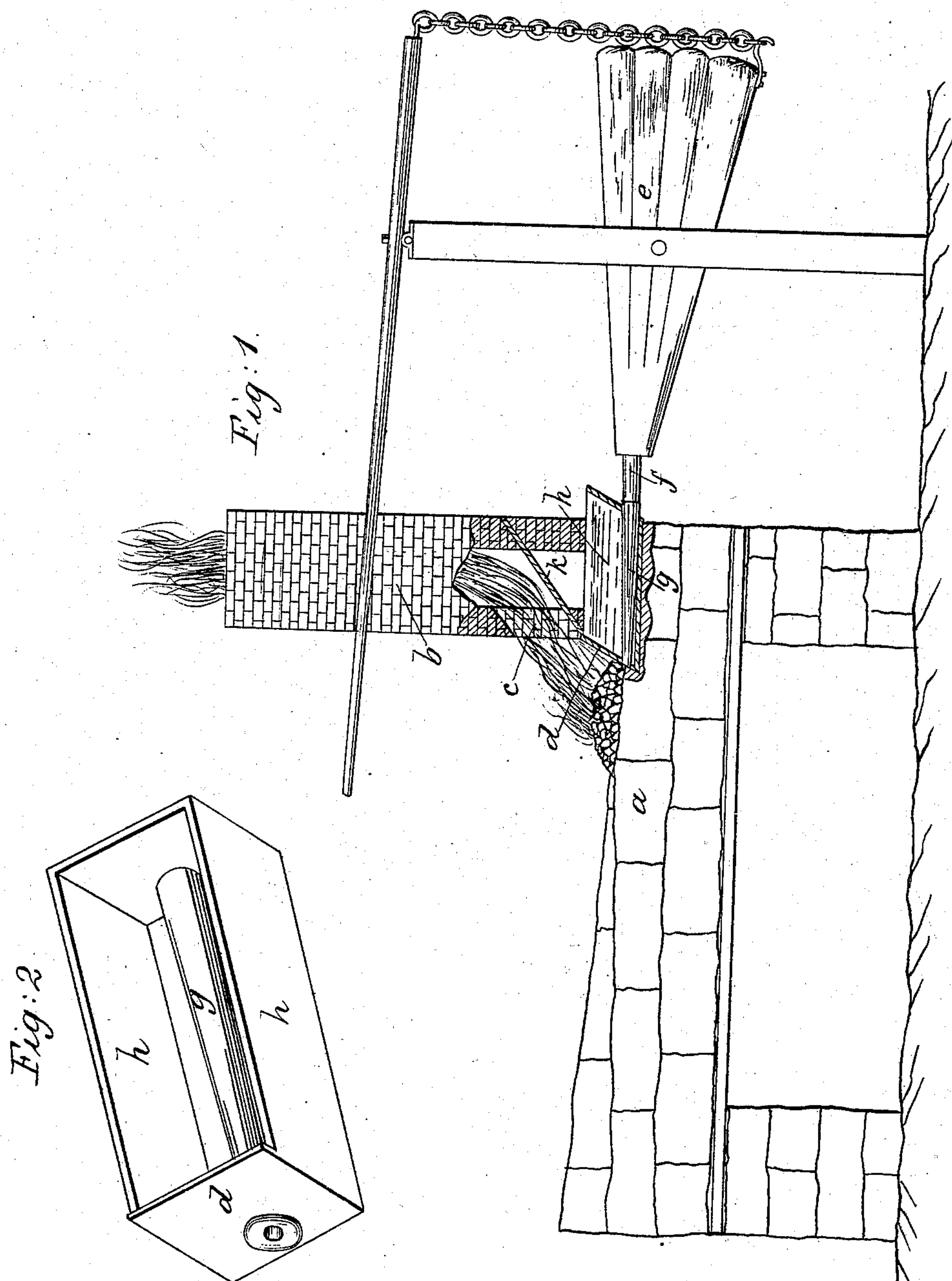


G. M. ROBINSON.
Water Box for Tuyeres.

No. 56,098.

Patented July 3, 1866.



Witnesses.

Inventor.

UNITED STATES PATENT OFFICE.

GEORGE M. ROBINSON, OF NEW WILMINGTON, PENNSYLVANIA.

IMPROVED WATER-BOX FOR TUYERES.

Specification forming part of Letters Patent No. 56,098, dated July 3, 1866.

To all whom it may concern:

Be it known that I, GEORGE M. ROBINSON, of New Wilmington, in the county of Lawrence and State of Pennsylvania, have invented a new and useful Improvement in Tuyere-Boxes for Blacksmiths' Fires; and I do hereby declare the following to be a full, clear, and exact description thereof, reference being had to the accompanying drawings, forming part of this specification, in which—

Figure 1 is a side view of a blacksmith's forge furnished with my improved tuyere-box, which is shown in section. Fig. 2 is a perspective representation of my improved tuyere-box.

Like letters of reference denote similar parts in both of the figures.

The object of my invention is to prevent the rapid burning away of the iron plate which forms the back of the hearth in a blacksmith's fire, and of the end of a nozzle of the tuyere, and to prevent the dross and cinder from adhering to the back plate.

In the accompanying drawings, *a* is the hearth of a blacksmith's fire. *b* is the chimney, placed, as usual, at the back of the hearth. *c* is the opening in the chimney, just above the back plate, *d*, through which the flame and smoke of the fire pass into it; and *e* are the bellows, situate, as usual, in the rear of the hearth, with the bellows-pipe *f* entering the tuyere-pipe *g*.

The tuyere-box *h* may be made of any desired shape. As shown in the drawings, it is a four-sided cast-iron box, closed at the bottom and open at top. The forward end of the box serves as the back plate, *d*, of the hearth, and inclines backward at the proper angle for that purpose, the box being set in the chimney *b* just under the opening *c*, and extends backward far enough to project a little beyond the outer line of the chimney. The box *h*, being uncovered, is protected from the soot and

cinders, which would otherwise fall into it from the chimney, by an inclined plate, *k*, the lower end of which rests on the front edge of the box, and the upper end rests against or is built into the back wall of the chimney.

The tuyere-pipe *g*, which is made of one piece with the box *h*, passes through it from back to front, near to and parallel with the bottom of the box. The diameter of the pipe *g* tapers toward the front end of the box, being smallest at the nozzle *i*, the other end of the pipe *g* receiving the end of the bellows-pipe *f*.

When in use, the tuyere-box *h* is filled with water at the rear end, where it projects beyond the chimney, the water surrounding the tuyere pipe *g*.

As the front end, *d*, of the box *h* forms the back plate of the hearth, against which the fire rests, the water serves to keep it cool, and prevents its burning as rapidly as it otherwise would do. It also keeps it free from the adherence of cinder and dross, which stick to the back plate in blacksmiths' hearths as ordinarily constructed. The box *h* being open at top and projecting backward beyond the chimney *b*, serves to keep the water cool, and enables the tuyere-box to be readily supplied with water when desired.

Having thus described my improvement, what I claim as my invention, and desire to secure by Letters Patent, is—

The water-box *h*, with tuyere-pipe *g* passing through it, when constructed and arranged as described, the box being open on top and projecting outside of the back wall or chimney, for the purpose hereinbefore set forth.

In testimony whereof I, the said GEORGE M. ROBINSON, have hereunto set my hand.

GEORGE M. ROBINSON.

Witnesses:

JOHN N. B. STRONG,
JAMES WATSON.