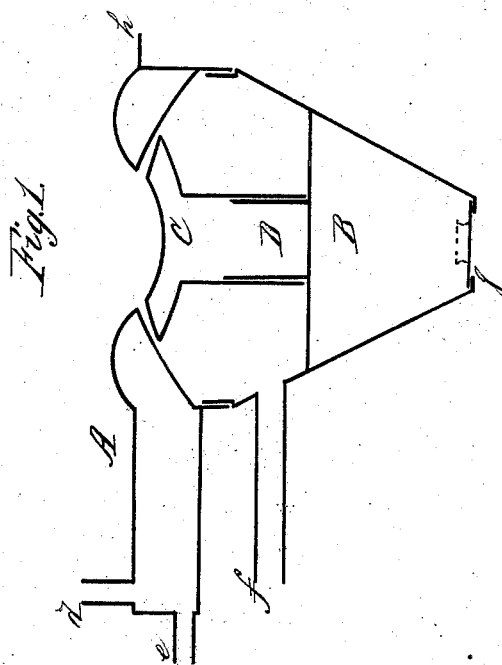


J. Kriegbaum,
Tuyere,
Nº 54, 562 *Patented May 8, 1866.*



Witnesses.
Joseph W. Steele
Gaspar Billings.

Inventor.
John Kriegbaum

UNITED STATES PATENT OFFICE.

JOHN KRIEGBAUM, OF MILTON, OHIO.

IMPROVEMENT IN TUYERES.

Specification forming part of Letters Patent No. 54,562, dated May 8, 1866.

To all whom it may concern:

Be it known that I, JOHN KRIEGBAUM, of Milton, in the county of Miami, in the State of Ohio, have invented a new and Improved Tuyere; and I do hereby declare that the following is a full and exact description thereof, reference being had to the accompanying drawings, and to the letters of reference marked thereon.

The nature of my invention consists in constructing a tuyere in such manner as to provide for a flow of water through it to protect it from the action of the fire, and also to direct the current of air so that it is directed to the center of the fire, and also to render it convenient to remove the ashes which may accumulate within it.

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

Figure 1 represents a sectional view of the tuyere.

A is a hollow vessel. The part forming the bed for the fire is circular and the other part is rectangular, and to this part is connected pipes, one of which, *e*, is an induction water-pipe, the other, *d*, a steam-eduction pipe. The pipe *e* is connected to a tank of water, and has a stop-cock by which to draw off the water from the tuyere when desirable. The end of the pipe *d* is immersed in the tank.

Operation: The water flows from the tank through the pipe *e* into the vessel A, and, as the water is converted into steam, it passes freely off through the pipe *d* and the water from the tank continues to flow into the vessel to supply the place of the water converted into steam. The vessel A closes onto the vessel B the same as a box-lid.

B is a hollow vessel having a pipe, *f*, to which the nozzle of the bellows is attached, and to the bottom of this vessel is a slide, *g*, closing the opening through which the ashes are removed. D is a thimble, supported by a bar attached to the sides of the vessel, for the support of the piece C, and this piece thus supported, its upper surface is near that of the under surface of the part A, and between which surfaces the air supplied by the bellows issues to the fire. The rectangular portion of the vessel A, when in position for use, passes through the base of the chimney, and the concavity for the fire is brought to the proper position in relation to the chimney.

At *h* is shown a projection to support the tuyere in the masonry. The part of the piece C near its periphery is convex, and the center is concave, and forms in part the bed for the fuel, and the lower part is hollow and sets over the thimble D.

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

1. The piece A, with its pipes *e* & *d*, constructed substantially as described, and for the purpose specified.

2. The combination of the piece C with the piece A, substantially as described, and for purposes set forth.

3. The part B, with its pipe *f* and slide *g*, in combination with the piece A, substantially as described, and for the purposes specified.

4. The thimble D and arm to support the part C, substantially as described.

JOHN KRIEGBAUM.

Witnesses:

JOSEPH H. STEEL,
JASP. BILLINGS.