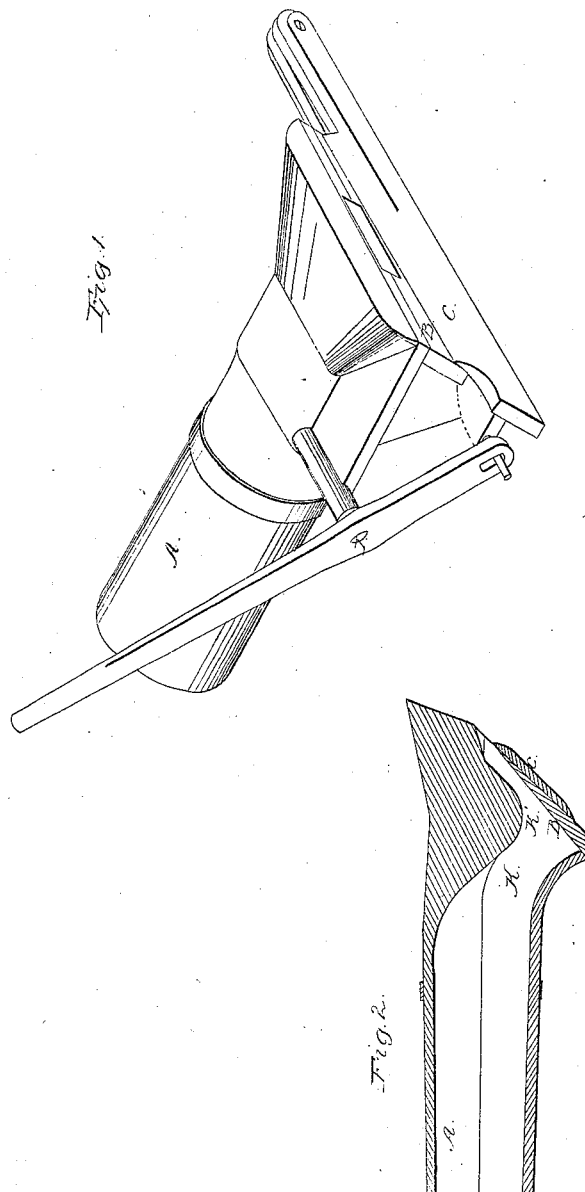


C. W. Grannis,

Tuyere,

Patented June 16, 1846

N^o 4,581.



UNITED STATES PATENT OFFICE.

CHARLES W. GRANNIS, OF COLLINS, NEW YORK.

IMPROVEMENT IN TUYERES.

Specification forming part of Letters Patent No. 4,581, dated June 16, 1846.

To all whom it may concern:

Be it known that I, CHARLES W. GRANNIS, of Collins, in the county of Erie and State of New York, have invented a new and useful Improvement in the Blacksmith's Tuyere; and I do hereby declare that the following is a full, clear, and exact description of the principle or character which distinguishes my invention from all other things before known, and of the manner of making, constructing, and using the same, reference being had to the accompanying drawings, making part of this specification, in which—

Figure 1 is an isometrical view of the apparatus, and Fig. 2 a longitudinal section.

The same letters indicate like parts in all the figures.

The nature of my invention consists, principally, in the construction of the tube or pipe, so as to obtain a blast bearing directly on the fire, thereby making a speedy and convenient heat without being liable to clog or fill up with the melted lava from the fire; also, a gage at the issue, the object of which is to lessen or increase the blast at pleasure.

The construction is as follows: The pipe or tuyere is made with a sink or depression, K K', which is near the aperture whence the blast issues, and in this rests whatever drops from the fire, and is thrown out by the first blast of the bellows, the sink or depression being such that it will prevent any substance from the fire falling back to the bellows-pipe. The orifice from the depression out is somewhat enlarged to prevent clogging, and by this arrangement a perfect blast can always be had.

My tuyere is also provided with a gage, C, attached to the front plate, B, to increase or diminish the blast as a greater or less fire shall be requisite, adapting the blast and heat to

the work, so that the expense of a large fire shall not necessarily be made for doing light work. The blast is regulated by the said gage moved by a lever. F represents the pivot on the end of the gage where the lever is attached, in order to move it, and I the fulcrum where the lever is fastened, and on which it hangs to increase the blast. This gage or valve is lowered, and when the blast is to be decreased it is to be raised, thus keeping the valve below the blast, whereby it is cooled and can always be brought into action, which would not be the case if it was in any other position on the front plate, and if it was inside it would allow the dirt to get past it. The blast at K' is in an upward direction, blowing under the fire, so that I have all the advantages of an elevated blast.

I construct my tuyere of cast-iron in two parts, in order to obviate the necessity of making the core for molding the cavity or inside of the iron. The two parts are fastened together by bands and flanges.

The tube or pipe A is made of sufficient length to pass through the chimney-back, and connect with the bellows-pipe, and is made stationary in the chimney.

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

Causing the blast to descend and then ascend before leaving the tuyere by curving the orifice down, and then enlarging it upward, by which I obtain an elevated blast and prevent the tuyere from clogging, in combination with a valve placed below the draft, so that on elevating it the draft will be contracted from below, as hereinbefore specified.

CHAS. W. GRANNIS.

Witnesses:

J. J. GREENOUGH,
S. W. SELBY.