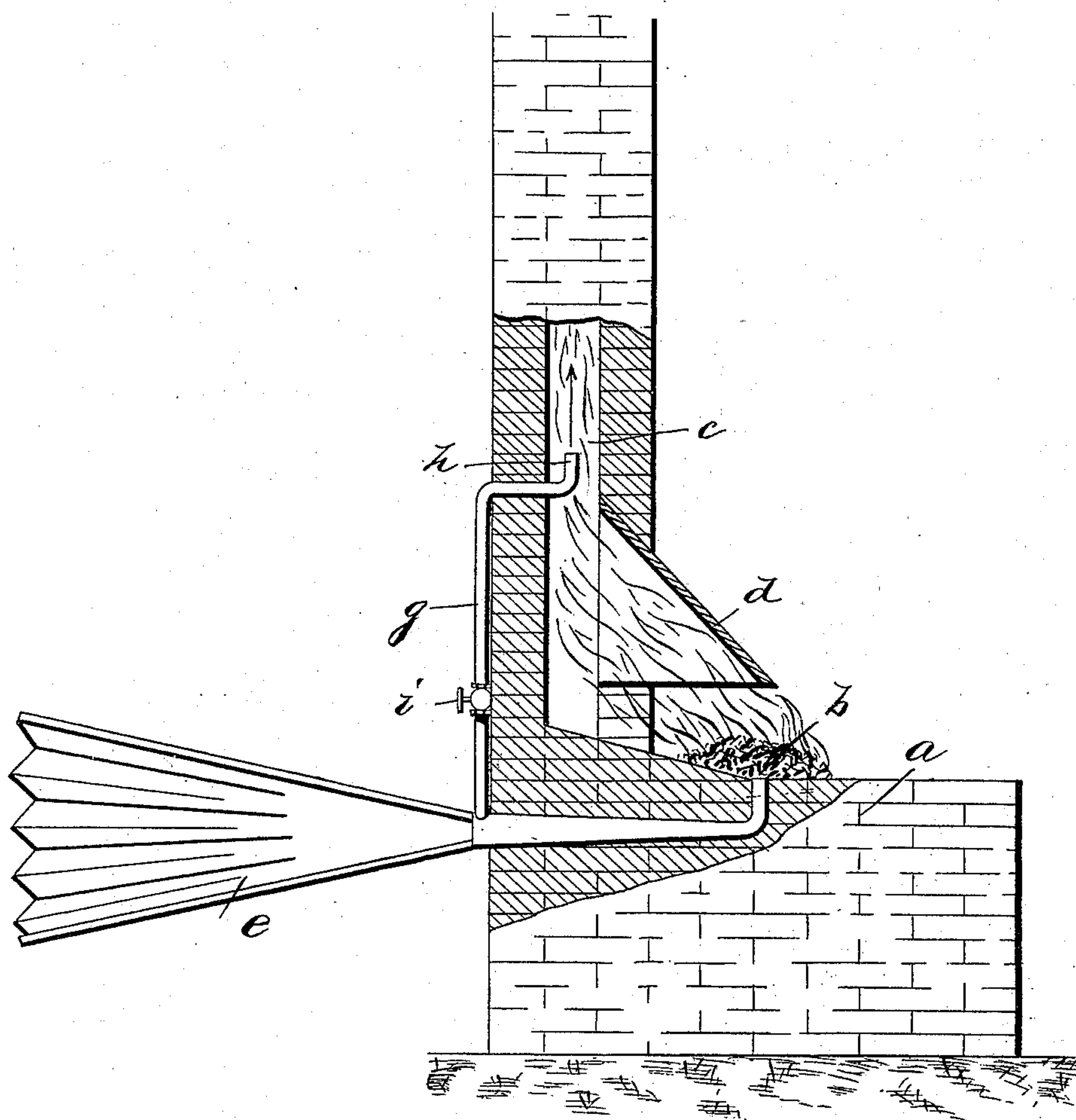


(No Model.)

S. L. FRENCH.
FORGE.

No. 533,287.

Patented Jan. 29, 1895.



Witnesses
E. C. Duffy
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UNITED STATES PATENT OFFICE.

SAMUEL L. FRENCH, OF LIGONIER, ASSIGNOR OF ONE-HALF TO JOHN C. McFADDEN, OF RILLTON, PENNSYLVANIA.

FORGE.

SPECIFICATION forming part of Letters Patent No. 533,287, dated January 29, 1895.

Application filed April 7, 1894. Serial No. 506,750. (No model.)

To all whom it may concern:

Be it known that I, SAMUEL L. FRENCH, of Ligonier, in the county of Westmoreland and State of Pennsylvania, have invented certain
5 new and useful Improvements in Forges; and I do hereby declare that the following is a full, clear, and exact description of the invention, which will enable others skilled in the art to
10 which it appertains to make and use the same, reference being had to the accompanying drawing, and to the letters of reference marked thereon, which forms part of this specification.

This invention relates to certain improvements in forges or the like.

15 The object of the invention is to provide forges or other apparatus wherein a blast is provided for the fire, with a supplemental blast connection arranged in the smoke uptake from the forge to create strong draft and
20 carry out all the products of combustion.

The invention consists in certain novel features of construction and in combinations of parts more fully and particularly pointed out hereinafter and described in the claim.

25 The accompanying drawing shows an ordinary forge provided with bellows, the portion of the forge bed and casing being shown in vertical section.

30 In the drawing *a*, indicates an ordinary forge, having the hearth for the fire *b*, and the smoke uptake *c*, provided with the opening beside the fire and with a hood *d*, arranged over the fire.

35 *f*, is an air blast pipe extending through the bed of the hearth up through the floor thereof with its discharge or tuyere arranged just beneath the fire in any usual or suitable manner. Any suitable air forcing means can be connected with this pipe *f*, to supply the
40 air blast. The bellows *e*, is here shown for supplying the blast through the pipe *f*. This bellows can be operated in any suitable manner and I do not here show any particular means for operating them as such means
45 forms no part of this invention.

g, is a branch pipe extending upwardly from the air blast pipe *f*, and entering the uptake *c*, near the smoke receiving opening thereinto and having its discharge end arranged upwardly in the direction of the draft. 50 This branch pipe can be provided with a suitable cut off valve *i*, so that connections from the branch pipe can be cut off when desired.

It will be observed that when the blast is being forced through the pipe *f*, a blast is also 55 forced through the pipe *g*, and into the smoke uptake thereby creating suction therein which draws in the smoke and gases from the fire thereby obviating the unpleasant smoke and gases usually filling rooms wherein forges are 60 located.

Whenever the air blast is forced into the forge there is an extra amount of smoke and gas generated, but by this improvement there is simultaneously an extra and artificial draft 65 created in the smoke uptake which draws off the smoke, &c., from the furnace.

This invention also produces a better and quicker fire by reason of the greater suction or draft in the chimney or smoke uptake. 70

This invention is generally applicable and I do not wish to limit myself to particular constructions herein disclosed.

Having thus fully described my invention, what I claim as new, and desire to secure by 75 Letters Patent of the United States, is—

A forge having an open hearth and hood, an air compressor having the blast pipe opening into the hearth, and the valved branch blast pipe extending into the smoke uptake 80 in the direction of the draft and just above the hearth, as set forth.

In testimony that I claim the foregoing as my own I affix my signature in presence of two witnesses.

SAMUEL L. FRENCH.

Witnesses:

ROBERT M. GRAHAM,
W. H. COVODE.