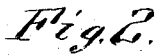
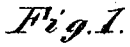


Smiths' Forges.

Patented Feb. 17, 1874.



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UNITED STATES PATENT OFFICE.

STEPHEN A. CASE AND T. EMMET ALLEN, OF AMSTERDAM, NEW YORK.

IMPROVEMENT IN SMITHS' FORGES.

Specification forming part of Letters Patent No. 147,602, dated February 17, 1874; application filed January 24, 1874.

To all whom it may concern:

Be it known that we, STEPHEN A. CASE and T. EMMET ALLEN, of Amsterdam, in the county of Montgomery and State of New York, have invented a new and valuable Improvement in Forges; and we do hereby declare that the following is a full, clear, and exact description of the construction and operation of the same, reference being had to the annexed drawings making a part of this specification, and to the letters and figures of reference marked thereon.

Figure 1 of the drawings is a representation of a side view of our forge. Fig. 2 is a sectional view of the same.

Our invention has relation to smiths' forges; and it consists in novel means for keeping the hinged front of a forge comparatively cool, and also in means for warming the air and utilizing for blowing the fire and for warming purposes, as will be hereinafter explained. Our main object is to dispense with the use of water for cooling the fronts of forges, and to use air in its stead, thereby obviating all the objections attending the use of water for this purpose.

The following is a description of our invention:

In the annexed drawings, A designates the body of a forge, and *a a* openings through the ends thereof. B is the fire-space, and C the ash-pit. D represents the furnace-front, which is hollow and connected, by means of tubular hinges *b¹ b¹*, to the ends *c c* of two pipes, *b b²*. The blast-pipe *b* leads from a suitable air-forcing engine, and communicates with the interior of the hinged front D by

means of the lower tubular hinge *b¹*. The pipe *b²* forms a communication between the interior of the front D and a chamber, E, on top of the forge by means of the upper tubular hinge *b¹*. Chamber E on top of the forge, receives through it the smoke-pipe F, and communicates with the ash-pit C by means of a descending flue, *b³*, in which a suitable valve, *g*, is applied for regulating the amount of air forced into the forge.

It will be seen, from the above description, that the air which supplies combustion is forced through the front D to cool the same, thence through the top chamber E, and, through pipe *b³*, into the ash-pit, thus giving a hot blast. The air, thus highly heated, may also be used for warming purposes generally by conducting it out of the chamber E through a pipe, *e*, and conveying it wherever desired.

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

1. The tubular hinge of the front D, connected to air-pipes *b b²* of a forge, substantially as described.

2. The air-chamber E, communicating with the hollow front D and with the ash-pit of the forge, as and for the purpose specified.

In testimony that we claim the above we have hereunto subscribed our names in the presence of two witnesses.

STEPHEN ALBERT CASE.
T. EMMET ALLEN.

Witnesses:

GEO. S. DEVENDORF,
JOHNSON I. SNELL.