

J. GEIST.
 OVERDRAFT BLAST FOR FORGES.
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999,985.

Patented Aug. 8, 1911.

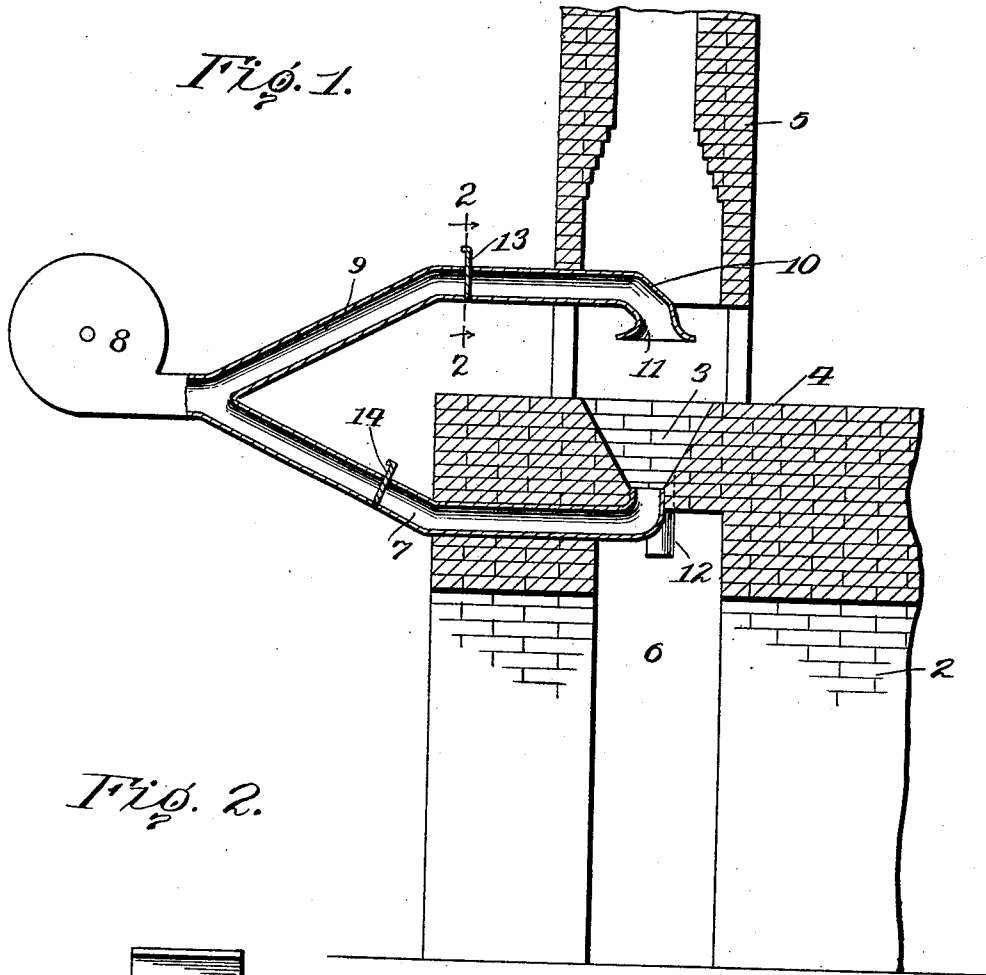


Fig. 2.

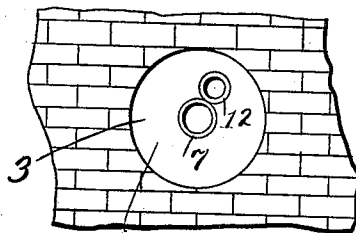
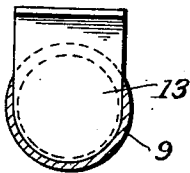


Fig. 3.

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UNITED STATES PATENT OFFICE.

JOHN GEIST, OF NASHVILLE, TENNESSEE.

OVERDRAFT-BLAST FOR FORGES.

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Specification of Letters Patent.

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To all whom it may concern:

Be it known that I, JOHN GEIST, citizen of the United States, residing at Nashville, in the county of Davidson and State of Tennessee, have invented certain new and useful Improvements in Overdraft-Blasts for Forges, of which the following is a specification.

My invention relates to forges and particularly to blacksmith forges.

In the usual blacksmith forges a draft from the bellows or blower is conducted by a flue to a point beneath a fire and constitutes what may be termed an underblast.

My invention comprehends the provision of an overblast in addition to the underblast whereby a blast of air may be directed downward against the fire so that the air will be concentrated upon the work and at a point where the hottest fire is most desired.

A further object of the invention is to provide means whereby the blast of air for either the underblast or the overblast may be controlled so as to secure the right proportion of underblast and overblast.

My invention is illustrated in the accompanying drawings wherein:

Figure 1 is a vertical sectional view through a forge of an ordinary type and showing my invention applied thereto. Fig. 2 is a sectional view on the line 2-2 of Fig. 1 showing the damper. Fig. 3 is a top plan view of the fire pot.

Corresponding and like parts are referred to in the following description and indicated in all the views of the accompanying drawings by the same reference characters.

Referring to these drawings, 2 designates the base of a forge of any suitable construction provided with a fire-pot 3 depressed below the top of the forge 4 as is usual in devices of this character. Located above the fire-pot is the chimney 5 and extending downward below the fire-pot is a cinder-pot 6. All these parts are of usual construction or desired arrangement.

Passing into the base of the forge and delivering at the lower end of the conical fire-pot 3 is the underblast flue 7. This flue or pipe extends out from the forge and is connected to any suitable means for creating a blast of air, such as a blower 8.

Branching off from the blower 8 at its junction with the flue 7 is an overblast flue 9 which at its end is mounted in any suit-

able supports and is shown as being supported in the chimney 5. The extremity of the flue 9 is downwardly turned as at 10 and is outwardly flared as at 11, the opening of the flue being directed immediately downward toward the fire-pot, the opening of the flue 9 being disposed immediately above the opening of the flue 7 and the flared or central portion of the flue 10 being disposed in spaced relation to the walls of the chimney 5. The flared portion 11 is of course vertically spaced from the top of the forge sufficiently to permit the introduction of the work into the forge and permits the blast of air delivered from the flue 9 to spread over the fire in the pot 3. The cinder-pot 6 is connected to the fire-pot 3 by a passage 12 which is preferably slightly to one side of the opening of the flue 7.

The passage of a blast of air through the flues 9 and 7 is controlled by means of dampers or valves 13 and 14. These as illustrated are slide dampers slidably mounted in suitable slots in the walls of the flues 9 and 7, but it will be obvious that any other arrangement of dampers might be used for the purpose of controlling the passage of air through the flues. These dampers 13 and 14 are independent of each other and thus the blast passing through the respective flues 7 and 9 can be controlled.

The operation of my invention will be obvious. A blast of air will be directed not only upward through the fire-pot by means of the blast 7 but a blast of air will be directed downward on the fire-pot. I have found in practice that this construction has a number of advantages over the ordinary under feed blast. This construction enables the blacksmith to make up his fire quicker and get a maximum amount of heat much quicker than with the ordinary construction. It is very economical of coal and I have found in practice that with this construction only about half as much fuel need be used as the draft from the flue 9 keeps the fire steady and gets up no wasted or unnecessary heat.

With my improved overblast the heat attending the work is reduced and the temperature kept down. Thus the workmen do not suffer from being overheated. Furthermore, the overblast in connection with the underblast enables the blacksmith to heat both the top and bottom of the work uni-

formly. When the underblast alone is used, the heat is hottest on its under side and the work has to be turned over to give the other portion sufficient heat.

5 It will be obvious that either the overblast or underblast can be cut off whenever desired and just the proper proportion of overblast may be used with the proper proportion of underblast to secure just the
10 proper degree of heat upon the work.

What I claim is:

15 A forge comprising a fire pot, a chimney located over the same, a fixed flue entering the bottom of the fire pot and having its discharge end upwardly disposed, a fixed
flue located above the fire pot and having its

discharge end downwardly disposed and directly opposite the discharge end of the first mentioned flue, the discharge end of the last mentioned flue being spaced from the
20 fire pot and the chimney, and an air blast means operating in common with both flues to send blasts of air through the same, the air passages through both flues being of the same transverse sectional area. 25

In testimony whereof, I affix my signature in presence of two witnesses.

JOHN GEIST. [L. s.]

Witnesses:

ERNEST C. HARLAN,
F. C. SEIBERT.

Copies of this patent may be obtained for five cents each, by addressing the "Commissioner of Patents,
Washington, D. C."