

H. R. BASH.
Flue.

No. 201,484.

Patented March 19, 1878.

FIG. 1.

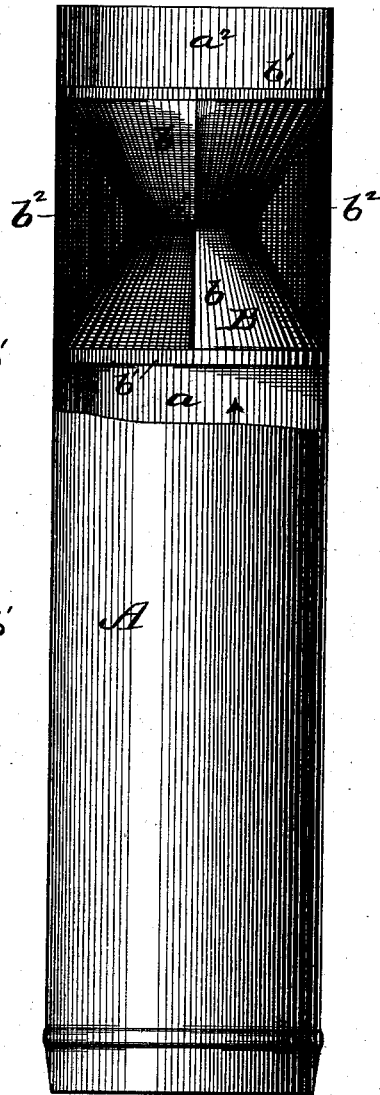


FIG. 2.

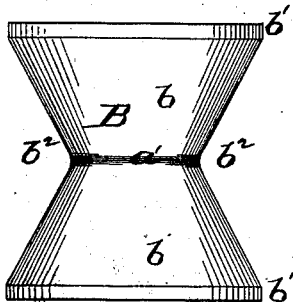
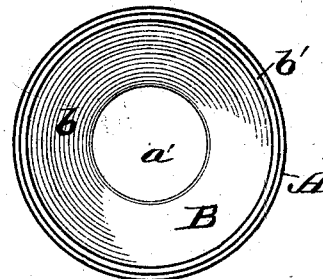


FIG. 3.



ATTEST.

Saml. S. Boyd
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INVENTOR.

Henry R. Bash.
by Chas. S. Moody,
att'y.

UNITED STATES PATENT OFFICE.

HENRY R. BASH, OF HANNIBAL, MO., ASSIGNOR OF TWO-THIRDS HIS RIGHT TO MELVIN T. LOWRY AND HENRY V. P. DRAPER, OF SAME PLACE.

IMPROVEMENT IN FLUES.

Specification forming part of Letters Patent No. 201,484, dated March 19, 1878; application filed January 7, 1878:

To all whom it may concern:

Be it known that I, HENRY R. BASH, of Hannibal, Missouri, have made a new and useful Improvement in Flues, of which the following is a full, clear, and exact description, reference being had to the annexed drawing, making part of this specification, in which—

Figure 1 is a side elevation, partly broken away, of a flue having my improvement; Fig. 2, a side elevation of the flue attachment, and Fig. 3 an end elevation of a flue having the improvement.

Similar letters refer to similar parts.

The present invention is applicable to many kinds of flues. It is especially useful in the escape-pipes of stoves, furnaces, and heaters wherein ordinary fuel is used. It is also very valuable in boiler-flues.

It consists in a peculiarly-shaped device adapted to be readily inserted in and withdrawn from a draft-flue, substantially as hereinafter described.

Referring to the annexed drawing, A represents a flue having the improvement. The flue at *a* is of uniform cross-section, and of the usual cylindrical form; but at *a*¹ it is caused to contract, and to a diameter, say, about one-half that of the main portion *a*. It then enlarges again to its original diameter at *a*².

The contraction from the diameter at *a* to the narrowest part or throat, *a*¹, must be gradual, as shown, and the throat should not be extended longitudinally, but should immediately begin to enlarge, and the enlargement should be gradual, as shown.

The invention is carried out by inserting in the flue A a construction, B, of the shape of two hollow conical frustums, *b b*, arranged as shown, and whose bases *b*¹ *b*¹ in diameter equal the diameter of the flue. If the flue A in cross-section is other than round, the construction B in cross-section must correspondingly vary,

the essential being the gradual contraction and enlargement of the flue, which otherwise is of uniform cross-section, as described.

The part B must be arranged longitudinally in the flue, according to the character of the latter. If in the escape-pipe of a stove, the best place I have found to be at the top of the first joint of the pipe. If the draft is weak, it may be located higher up. If it be applied to a boiler-flue, it should be arranged at the exit end of the flue.

The result of the application of this improvement is to check the escape of the heat, and to confine the smoke and unconsumed carbon in the flue *a* for a sufficient time to be thoroughly burned. Not only is much more heat thereby attained, but the entire body of heat throughout the heater is rendered more uniform. At the same time the draft, by reason of the shape of the part B, is not unfavorably affected.

As that portion *b*² of the part B is not utilized, it may be either filled in solid or left hollow, as shown, while the part B is detachable from the flue. The bases *b*¹ *b*¹ of the frustums, however, should be large enough to come in contact with the shell of the flue and close the latter at that point.

I am aware that draft-flues have heretofore been contracted for various purposes, and hence I do not broadly claim a contracted flue; but

I claim—

The combination of the flue A and the detachable part B, the latter consisting of the conical frustums *b b*, arranged and extended inward from the shell of the flue, which otherwise is of uniform cross-section, substantially as described.

HENRY R. BASH.

Witnesses:

CHAS. D. MOODY,
SAML. S. BOYD.