

D. W. ABBOTT.
HEATING APPARATUS.

No. 172,364.

Patented Jan. 18, 1876.

Fig. 1.

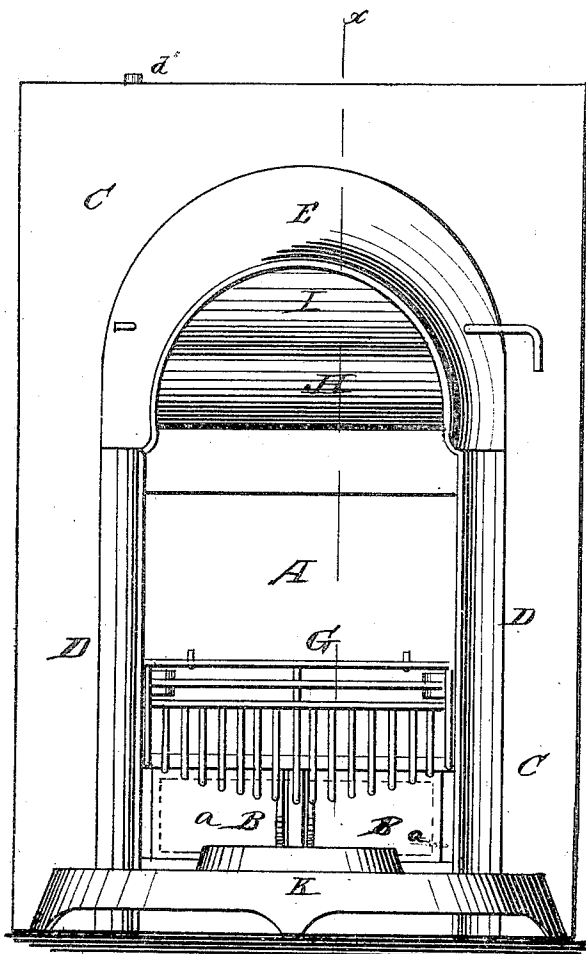


Fig. 2.

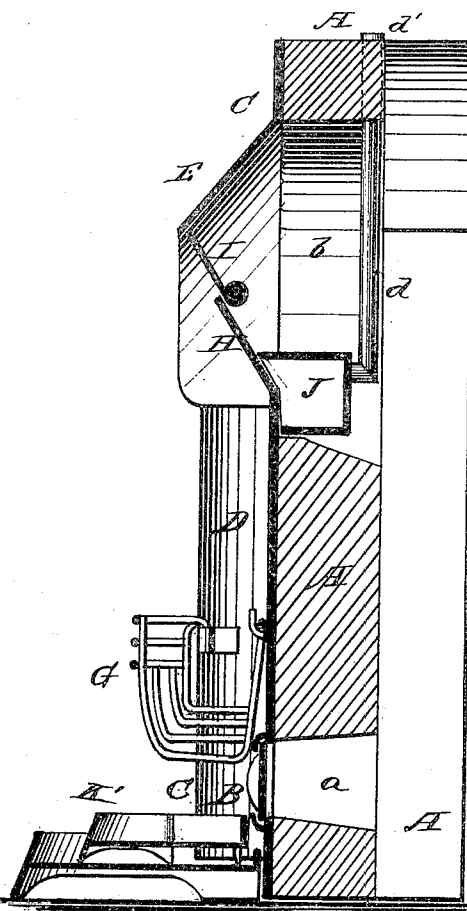
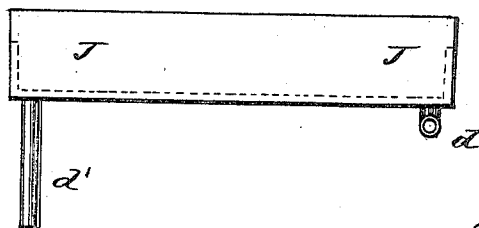


Fig. 3.



Witnesses:

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UNITED STATES PATENT OFFICE.

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IMPROVEMENT IN HEATING APPARATUS.

Specification forming part of Letters Patent No. **172,364**, dated January 18, 1876; application filed March 30, 1875.

To all whom it may concern:

Be it known that I, D. W. ABBOTT, of Leetonia, in the county of Columbiana and State of Ohio, have invented certain new and useful Improvements in Heating Apparatus; and I do hereby declare that the following is a full, clear, and exact description thereof, reference being had to the accompanying drawings, and to the letters of reference marked thereon, which form part of this specification.

The nature of my invention consists in the arrangement of a fire-place heater, in the manner hereinafter set forth.

Figure 1 is a front elevation. Fig. 2 is a central vertical section on line *x x*, Fig. 1; and Fig. 3 is a detail view of hot-air chamber J.

A represents an ordinary brick chimney, in which there is no fire-place. To adapt this chimney to receive my fire-grate two openings, *a* and *b*, are made in the front thereof. The opening *a* is near the floor, and provided with sliding doors B B, set in a metallic frame, attached in any suitable manner to the front of the chimney. The opening *b* is at a suitable height above the lower opening, and large enough to receive the devices hereinafter described.

On the front of the chimney is secured a sheet or other metal frame, C, provided with inclined vertical flanges D D, extending from the floor upward for a suitable height, and connected with a hood, E, surrounding the sides and top of the upper opening *b*, and projecting outward for a suitable distance, to prevent the smoke from getting out into the room. G is the basket-grate, attached to the chimney and to the side flanges D D above the opening *a*. Above the grate G is an inclined deflector, H, to throw the heat forward into the room, and above said deflector is a damper, I, to diminish the space between it and the hood E. Back of the deflector H, within the opening *b* of the chimney, is formed a hot-air chamber, J, which is to be made air-tight, and

provided with a pipe, *d*, for the admission of air into it, either from the outside of the house, from the cellar, or from the same room at or near the floor. The air thus admitted into the air-chamber J becomes heated, and is allowed to escape through a pipe, *d'*, into another room for heating the same.

In connection with this fire-grate I use a metallic hearth, K, upon which the heater stands when there is no hearth in the room where the heater is to be applied. On the hearth K is then placed an ash-pan, K', constructed to leave an air-space between it and the hearth, and as there is an air-space below the hearth there is no danger of the floor underneath catching fire.

The hot-air chamber J, with its pipes, may be applied to ordinary fire-grates in fire-places, if desired.

This heating apparatus may be applied to ordinary chimneys having no fire-places, and it may be used on new chimneys, without the necessity of building a recess in the chimney for the fire.

By means of the damper above and doors below the grate all dust is avoided in stirring the fire, and the draft also regulated.

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

In a fire-place heater, the combination of the frame C, with side flanges D D and hood E, the deflector H, hot-air chamber J, arranged behind the deflector, which forms the front thereof, the inlet and outlet pipes *d d'*, and damper I, all constructed as and for the purposes described.

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

DANIEL W. ABBOTT.

Witnesses:

H. F. CHRISTY,
ALEX. MCGRAW.