J. ASHCROFT.

Furnace-Door.

No. 162,333. Patented April 20, 1875.

Fig. 1

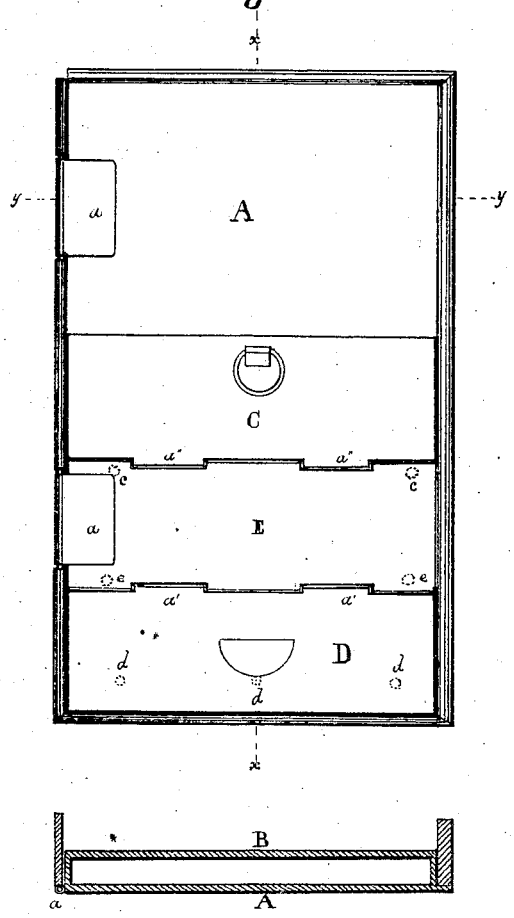

Fig. 2.

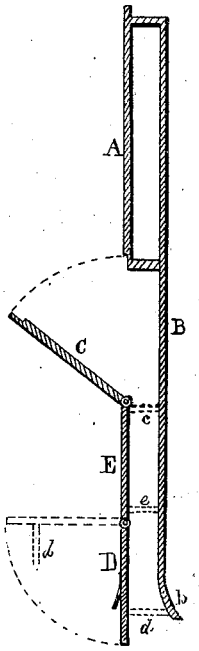

Fig. 3.

Attest

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UNITED STATES PATENT OFFICE.

JOHN ASHCROFT, OF BROOKLYN, NEW YORK, ASSIGNOR OF ONE-HALF HIS RIGHT TO EDWARD H. ASHCROFT, OF BOSTON, MASSACHUSETTS.

IMPROVEMENT IN FURNACE-DOORS.

Specification forming part of Letters Patent No. **162,333**, dated April 20, 1875; application filed January 20, 1875.

To all whom it may concern:

Be it known that I, JOHN ASHCROFT, of Brooklyn, in the county of Kings and State of New York, have invented certain new and useful Improvements in Furnace-Doors; and I do hereby declare that the following is a full, clear, and exact description thereof, which will enable others skilled in the art to which it pertains to make and use the same, reference being had to the accompanying drawings, and to the letters of reference marked thereon, which form a part of this specification.

Figure 1 is a front elevation of the door. Fig. 2 is a section on line *x x* of Fig. 1. Fig. 3 is another section on line *y y* of same figure.

This invention relates to a door for furnaces, and the method of admitting the air to the fuel on the grate-bars, and also to an improved manner of "slicing" the fire, both of which will be hereinafter more fully explained.

A represents the outside sheet of the door, and B the inside lining-sheet, which extends from the top to near the bottom, leaving several inches of space above the bottom frame, and curving inwardly to the fire, as at *b*, Fig. 2. The upper part of the door is closed, as seen in Fig. 2, at A; an opening midway of the length of the door is made, as at B, same figure, and a leaf or flap, C, is made to hinge below and neatly to fit said opening, the purpose of which is to admit the air and let it be conveyed downwardly and into the fire at *b*, which is curved inwardly to direct the air properly upon the coal. Below the fixed part E is another leaf or flap, which is hinged above, and which is designed to be lifted up, as in Fig. 2, when the fire is to be sliced up, without opening the whole door, as represented in dotted lines in Fig. 2. *c c e e* are brace-pins to steady and secure the outer and inner plates of E, between which the air passes down from the opening above. *d d* are gage-pins to prevent the lower leaf D from going too far in when shut down, as in Fig. 2.

Having thus described my invention, what I claim is—

1. A hollow door provided with an inner curved plate, B, which serves as an air-deflector, substantially as shown and described.

2. The combination of a hollow furnace-door, the inner plate of which constitutes an air deflector, with a middle leaf or flap, which serves to admit the required amount of air to the fuel, substantially as set forth.

3. In combination with a hollow furnace-door, the lower leaf or flap, the same arranged to project downwardly beyond the end of the inner curved plate, substantially as and for the purpose set forth.

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

JOHN ASHCROFT.

Witnesses:

HORATIO BATEMAN,

CHAS. L. GUILBAUM.