

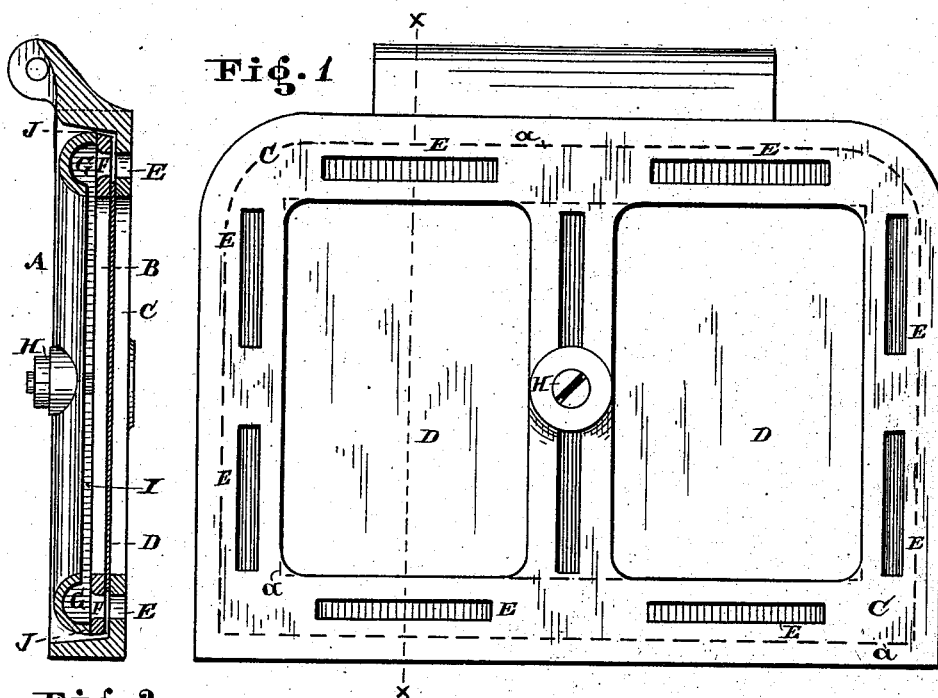
(No Model.)

W. F. BEECHER.

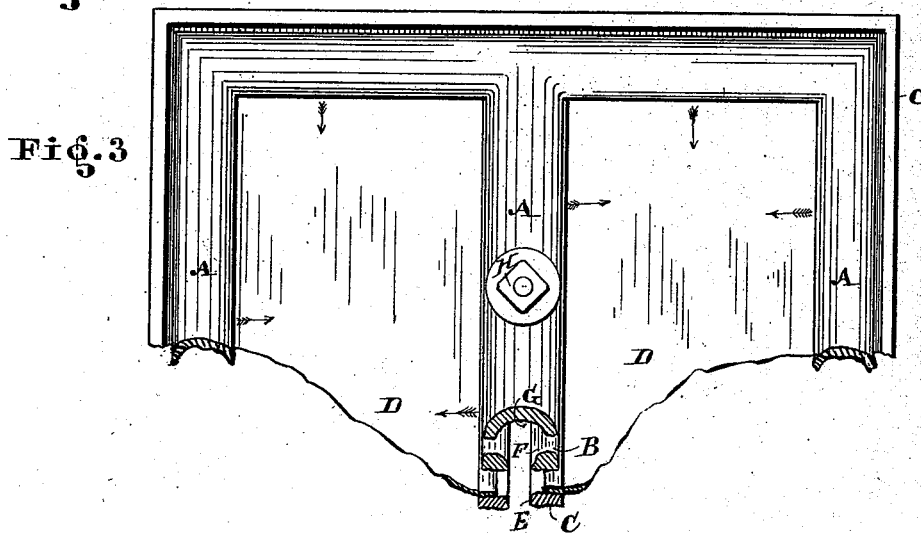
STOVE DOOR.

No. 381,101.

Patented Apr. 17, 1888.



**Fig. 2**



WITNESSES.

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# UNITED STATES PATENT OFFICE.

WILLIAM F. BEECHER, OF CLEVELAND, OHIO.

## STOVE-DOOR.

SPECIFICATION forming part of Letters Patent No. 381,101, dated April 17, 1888.

Application filed October 3, 1887. Serial No. 251,285. (No model.)

### *To all whom it may concern:*

Be it known that I, WILLIAM F. BEECHER, of Cleveland, in the county of Cuyahoga and State of Ohio, have invented certain new and useful Improvements in Stove-Doors and Parts of Stoves, which improvements are also applicable to furnace-doors; and I do hereby declare that the following is a full, clear, and complete description thereof.

The said improvements relate to the peculiar construction and arrangement of the parts composing the door or section of a stove, whereby the mica or isinglass connected with the door or other part of a coal stove or furnace is prevented from being smoked over or blackened by the deposition of carbon from the coal upon the mica.

It is well-known that mica as generally used in stoves, especially those in which is burned bituminous coal, soon becomes so blackened over by the smoke that the pleasant sight of the fire is obscured, giving a dirty and untidy appearance to the stove. It is the purpose of these improvements to so construct the door or section of a stove or furnace having connected mica therewith as to prevent its being blackened by the smoke from the burning fuel of oil, gas, coal, vapor, &c.

For a more full and complete description of the said invention reference will be made to the following specification, and to the drawings annexed and forming a part thereof.

Figure 1 is a front view of the door. Fig. 2 is a transverse section in the line *xx* of Fig. 1. Fig. 3 is a sectional rear or back view of the door.

Like letters of reference refer to like parts in the drawings and specification.

The door referred to consists of three sections or parts, A B C, excepting the mica, D, which form two panels, as shown in Fig. 1. The door may, however, be so arranged in its parts as to have one, two, or more mica panels. The general contour of the door shown is rectangular, with two panels of mica.

The improvements are applicable to other forms and sections of a stove without departing from the essential features of the said invention.

To the back of the door-section C is fitted the frame B, Figs. 2 and 3. (Indicated by the

dotted lines *a*, Fig. 1.) Between this frame and the back side of the door are placed the panel or panels of mica, D D, as shown in Figs. 2 and 3, which mica is of such size as not to impinge upon or lap over the openings E in the frame B. It is designed that these openings in the front section-frame or section, B, shall be in open relation with each other, as seen in Fig. 2.

On the outside of the frame B is secured the section A, provided with an air passage or conduit, G, which extends around on the under sides thereof, as indicated in Figs. 2 and 3, and over the slots or openings E and F, before mentioned.

By means of the screw-bolt and nut H the parts of the door referred to are fastened together, with the mica interposed between the frame B and the back of the door-section C, with the section A secured upon the frame B. In this way the mica D and frame B are held between the back side of the section C and the section A, as seen in Fig. 2.

The concave G in the section A forms an air-conduit having an outlet or narrow opening, I, Fig. 2, on all the inner sides of the section A in the direction of the mica panels D D. The only part of the section A in contact with the frame B is the edge or rim J, Fig. 2, which holds the said frame and mica panels in place to the back of the door-section C, in connection with the screw-bolt, as before stated. By this construction and arrangement of the several parts the only outlet from the air-conduit G is through the narrow opening or openings I, which extend entirely around the panels of mica.

By means of one or more openings or slots, E F, in the sections C and frame B the air passes from the exterior through the said slots into the air-conduits G, then out through the slit or opening I over the inside faces of the mica panels directly exposed to the combustion of the fuel, as indicated by the arrows in Figs. 2 and 3. As the currents of air pass in and through the said slots or openings into the interior of the stove, they extend over the surface of the mica, and are brought intimately in contact with the smoke from the fuel, which produces a combustion of the inflammable gases and smoke, consuming them or reducing

the carbon of the smoke into carbonic-acid gas or other colorless gas, which will not darken or smut over the mica. It may be considered that it is due to currents of fresh air constantly passing in and over the face of the mica that the smoke is prevented from coming into contact with the mica. In practical operation it is found that an ignition of combustible gases from the fuel takes place on the admission of air from the exterior through the said passages and openings in the door; hence currents of air from various points are admitted from the outside and interposed between the mica and smoke from the fuel, which prevents the mica from being blackened.

The described door may be hinged to the stove or furnace in the usual way or be otherwise connected therewith in a suitable manner.

What I claim as my invention, and desire to secure by Letters Patent, is—

1. In a stove-door or parts of a stove or furnace secured together by suitable means, the door-section C, a frame, B, with the mica interposed between said frame and the back of

section C, in combination with the section A, having an air-conduit arranged in open relation with apertures in said frame B and section C, with an outlet from the conduit, whereby the external air is induced and directed over the interior face of the mica, in the manner and by the means substantially as described.

2. A stove-door provided with one or more mica panels and having air openings or conduits in the sections of said door leading from the front thereof to the inside of the mica, constructed and arranged for the induction of external air through said openings or conduits and directed to and over the interior face of the mica, in the manner substantially as described, and by the means for the purpose set forth.

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

WILLIAM F. BEECHER.

Witnesses:

W. H. BURRIDGE,  
B. F. EIBLER.