

No. 665,484.

W. E. STOEFFLER.  
FURNACE OR SIMILAR DOOR.  
(Application filed Sept. 14, 1900.)

Patented Jan. 8, 1901.

(No Model.)

2 Sheets—Sheet 1.

Fig. 1.

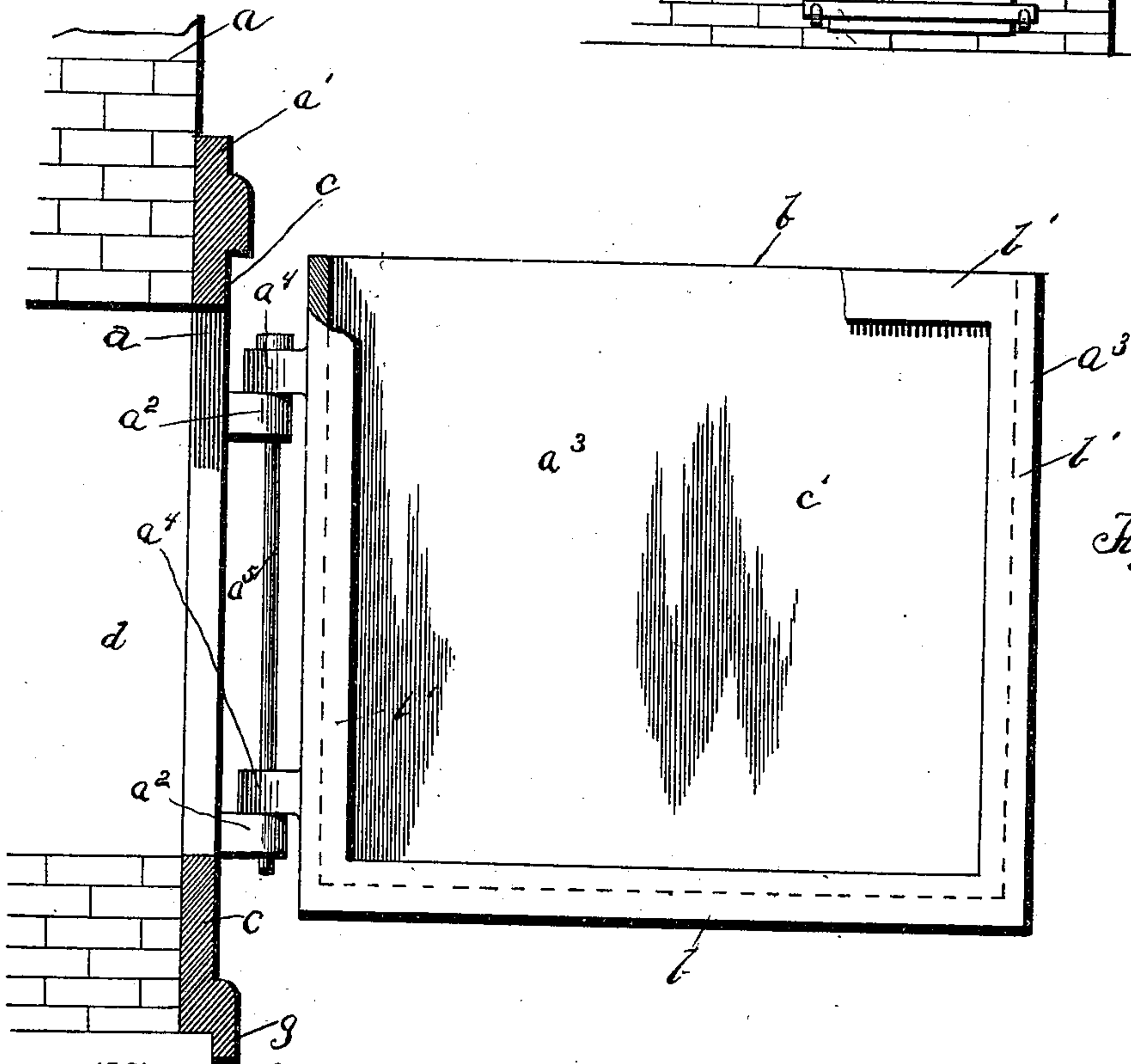
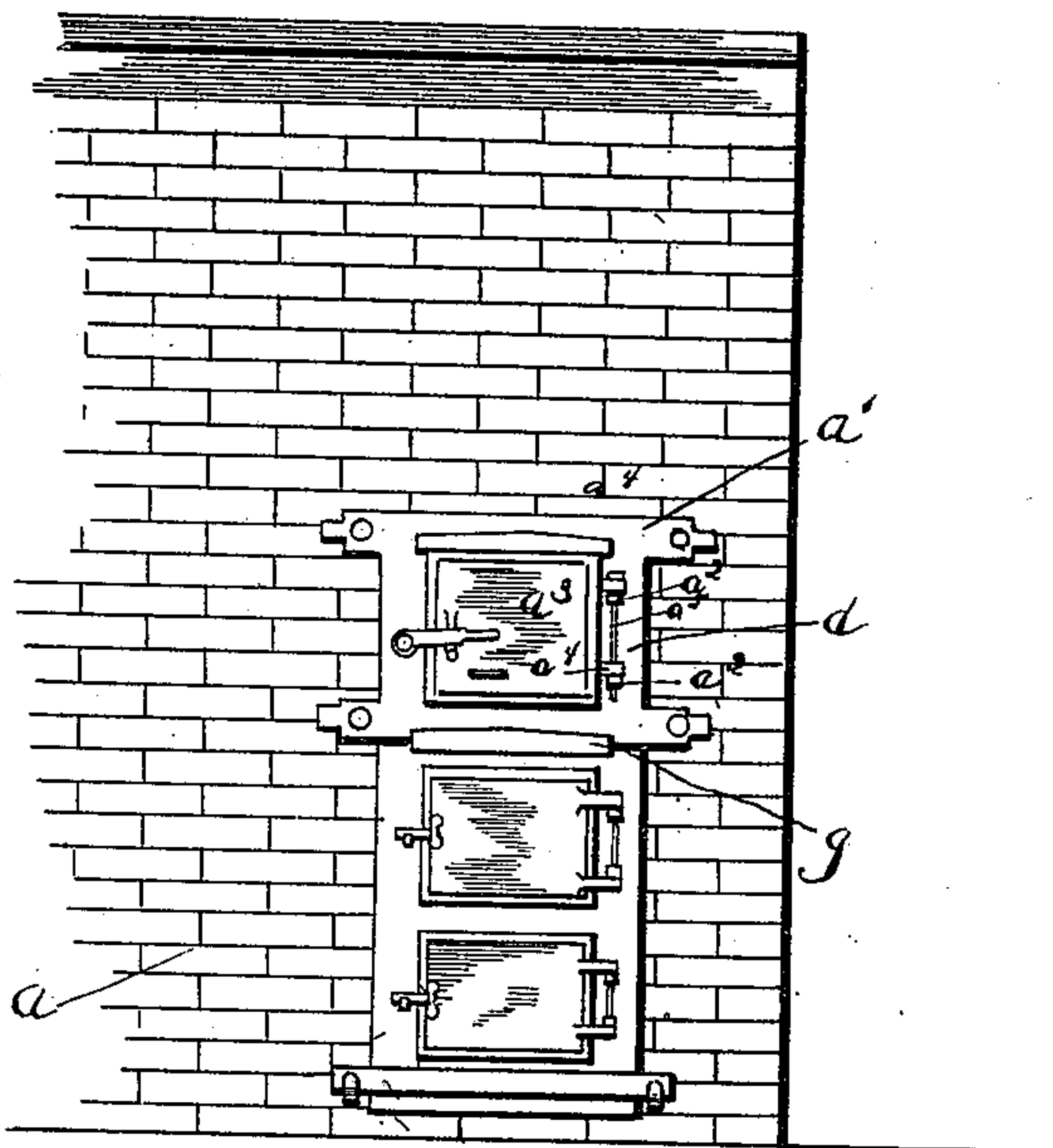


Fig. 5.

Witnesses:  
J. A. Richmond

Inw. Cor.  
William E. Stoeffler  
S. B. Augustus B. Stoughlow  
Attorneys

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Fig. 3.

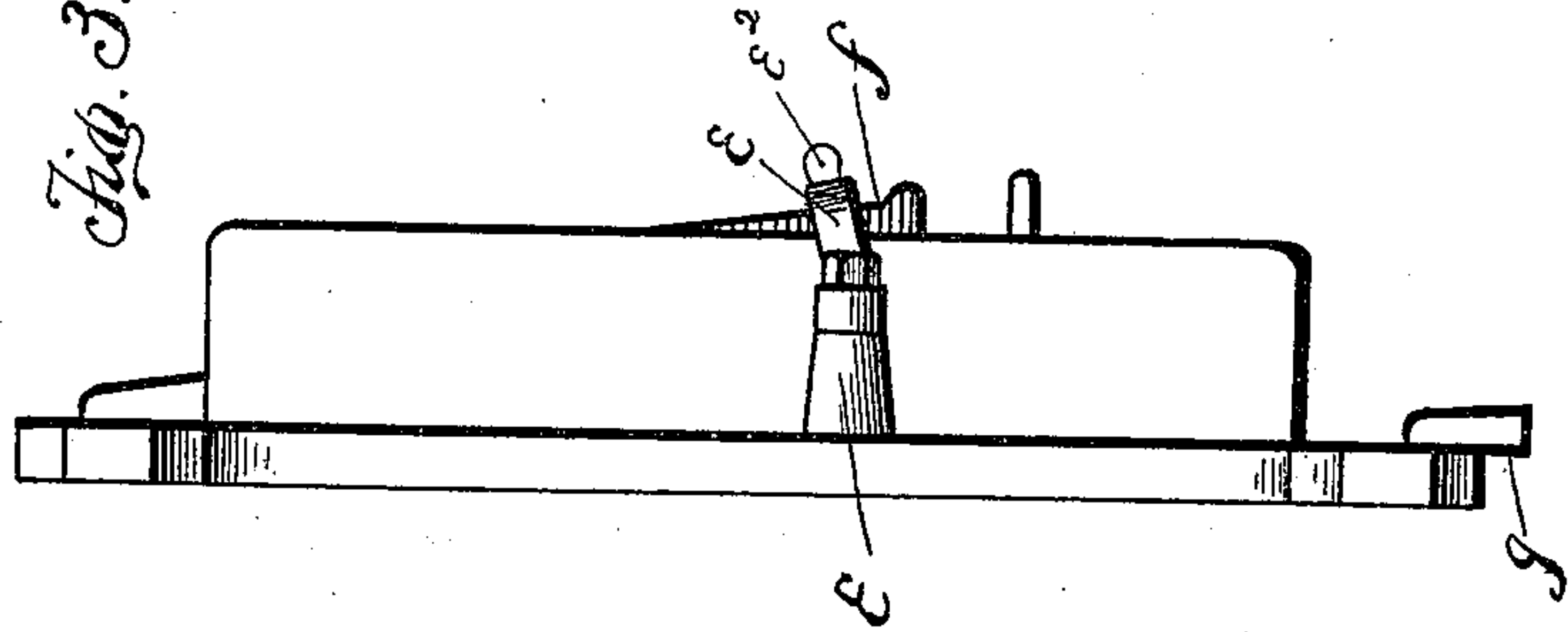


Fig. 4.

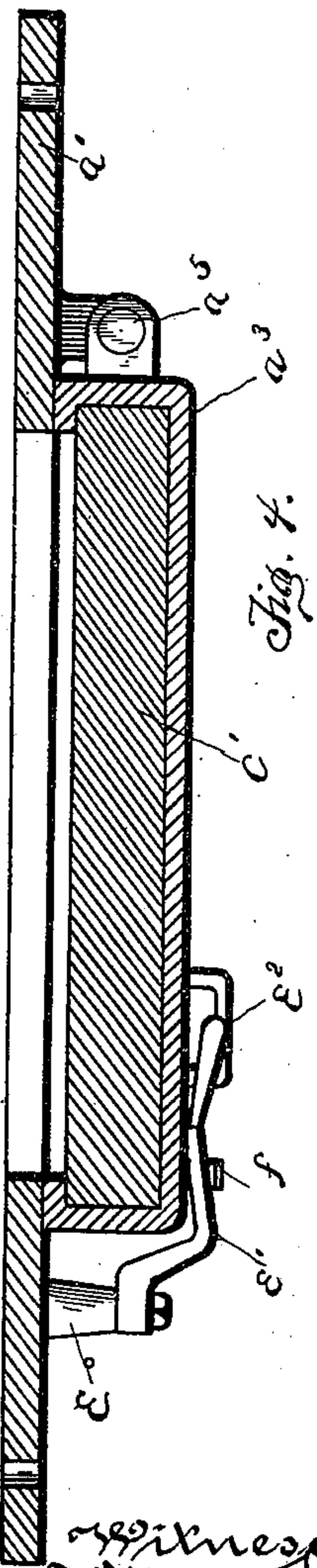
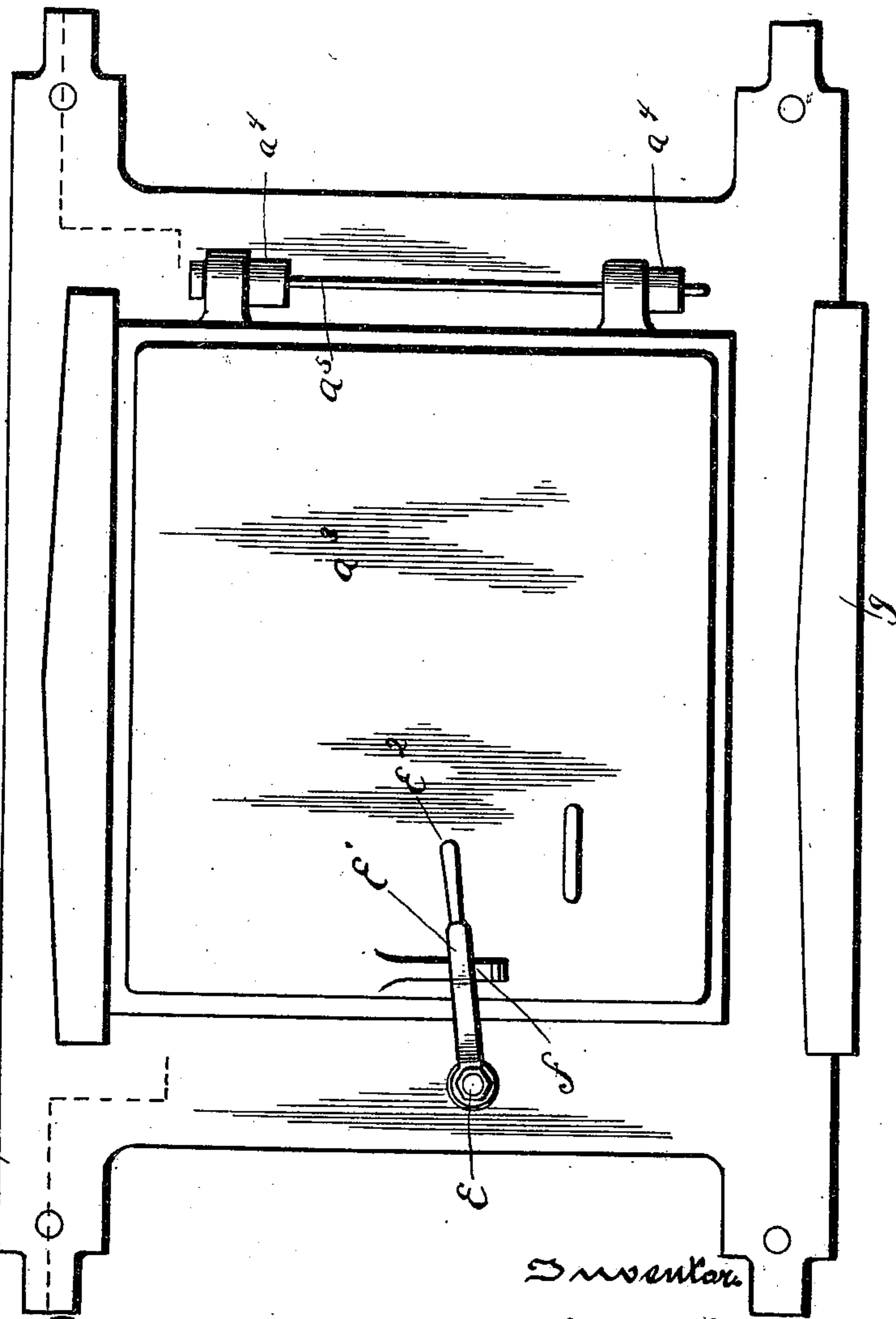


Fig. 2.



Witnesses:  
Jas. A. Richmond

Inventor  
William E. Stoeffler  
By  
Augustus B. Stoughton  
Attorney



# UNITED STATES PATENT OFFICE.

WILLIAM E. STOEFFLER, OF PHILADELPHIA, PENNSYLVANIA.

## FURNACE OR SIMILAR DOOR.

SPECIFICATION forming part of Letters Patent No. 665,484, dated January 8, 1901.

Application filed September 14, 1900. Serial No. 30,024. (No model.)

*To all whom it may concern:*

Be it known that I, WILLIAM E. STOEFFLER, a citizen of the United States, residing at Philadelphia, in the county of Philadelphia and State of Pennsylvania, have invented certain new and useful Improvements in Furnace or Similar Doors, of which the following is a specification.

One of the objects of the present invention is to prolong the life of furnace and similar doors both with regard to the lining as well as the metal-work, and a further object is to provide a door and its locking attachment that will accomplish this end. This is accomplished by the novel arrangement, construction, and combination of parts; and it consists of the improvements hereinafter described, and pointed out in the claims.

The nature, characteristic features, and scope of the invention will be more fully understood from the following description, taken in connection with the accompanying drawings, forming part hereof, and in which—

Figure 1 is a front elevational view of a portion of an oven having applied thereto a door embodying my invention. Fig. 2 is a front elevational view of a door embodying the invention. Fig. 3 is a side elevational view of the same. Fig. 4 is a sectional view taken on the line 4-4 of Fig. 2; and Fig. 5 is a view, partly in section and partly in elevation, illustrating the door in open position.

In constructing furnace-doors it is customary to permit the metal-work on the inside of the door to extend into range of the intense heat of the furnace or oven, as the case may be, the door of a railroad-locomotive furnace being a good example. Exposure to such intense heat shortens the life of doors and necessitates the constant renewal of the same. This is most expensive, since the outside is usually in fair condition. Another great disadvantage of the present type of furnace-doors is the constant breaking of the fire-brick which is carried on the inside of said doors. It is customary after firing the furnace to slam the door shut by means of a shovel. Such an operation, as is readily apparent, ends disastrously to the fire-brick. In the drawings there is illustrated a door suitable for application to a baker's oven, although it should be borne in mind that by

the merest mechanical skill the shape may be altered to accommodate itself to all forms of ovens or furnaces—for instance, two doors might be hung side by side on the same casting or the shape of the casting could be made round or oval. In fact, many ways could be employed to accomplish the same end.

Referring more particularly to Figs. 1 and 5, *a* is the oven, which is usually composed of masonry-work. Secured to the oven by means of bolts or otherwise is a heavy casting comprising a door-frame *a'*, provided on its face with seat *c* and with ears *a*<sup>2</sup>. A door *a*<sup>3</sup>, also of very heavy metal and provided with ears *a*<sup>4</sup>, is attached to the framework by means of a pin *a*<sup>5</sup>. This door *a*<sup>3</sup> is open at its top, as at *b*, for the insertion of a block of fireproof composition, as fire-brick *c'*. This is retained by means of the flanges *b'*, that extend all around the inner face of the door. By reference to Fig. 5 it will be noted that the edges of the flanges *b'* are in alinement with the edges of the opening *d* in the framework *a'* and are adapted to abut on the door-seat *c*. It is thus apparent that the heat from the interior of the oven comes in direct contact with the fireproof composition and not with any of the metal parts of the door. Since the door is completely outside of the oven, it follows that air circulates around the edges and all over the outside of said door and thus counteracts to a great extent the tendency of the oven to heat the door.

Another feature of the door is the novel form of locking attachment. With reference now more especially to Figs. 2, 3, and 4, *e* is a boss cast on or secured to the framework *a'*. Pivotaly mounted thereon is a lever *e'* of peculiar shape. As is plainly illustrated in Fig. 4, it consists of a single casting forming a series of angles terminating in a handle *e*<sup>2</sup>. This lever is adapted to contact with an inclined or beveled projection *f*, Fig. 3. Upon closing the door the lever is swung downward on the inclined surface of the projection *f*, and upon pressure being exerted upon said lever the door is securely fastened and the marginal flanges of the door and frame are pressed together, and the more pressure exerted the tighter the door is fastened. It may be remarked here that such a construction is well adapted to furnace-doors, and particu-



larly to the above-recited door. Since the said door comes flush with the inside of the furnace, it stands to reason that unless securely fastened at all points flames and hot  
 5 air would find their way to the exterior of the furnace.

*g* is used in connection with bakers' ovens in order to support the upper portion of the framework, upon which the ash-pit doors are  
 10 hung, the lower portion of said framework being secured in the usual manner. This is illustrated plainly in Fig. 1.

It will be obvious to those skilled in the art to which the invention relates that modifications may be made in detail without departing from the spirit thereof. Hence I do not  
 15 limit myself to the precise construction and arrangement of parts hereinabove set forth and illustrated in the drawings; but,

20 Having thus described the nature and objects of the invention, what I claim as new, and desire to secure by Letters Patent, is—

1. A furnace or similar door comprising a metallic door-frame provided with a door-seat  
 25 adapted to be secured to the exterior of a fur-

nace, a door pivoted to the frame and having a single pocket containing a heat-resisting inside facing surrounded by a marginal flange said flange being arranged to abut against said door-seat, and means for locking the door  
 30 and pressing the flange against the marginal door-seat, substantially as described.

2. A furnace or similar door comprising a door-frame provided with a door-seat and having a clamping-lever, a door pivotally con-  
 35 nected with the door-frame and having a heat-resisting inside facing surrounded by a marginal flange said flange being arranged to abut against said door-seat, and an inclined projection for said clamping-lever arranged on  
 40 the door, whereby the locking of said door presses the flange against the door-seat, substantially as described.

In testimony whereof I have hereunto signed my name.

WM. E. STOEFFLER.

In presence of—

W. J. JACKSON,  
 K. M. GILLIGAN.