(No Model.)

F. H. VAN HOUTEN.

OVEN DOOR.

No. 536,491. Patented Mar. 26, 1895.

Fig. 1.

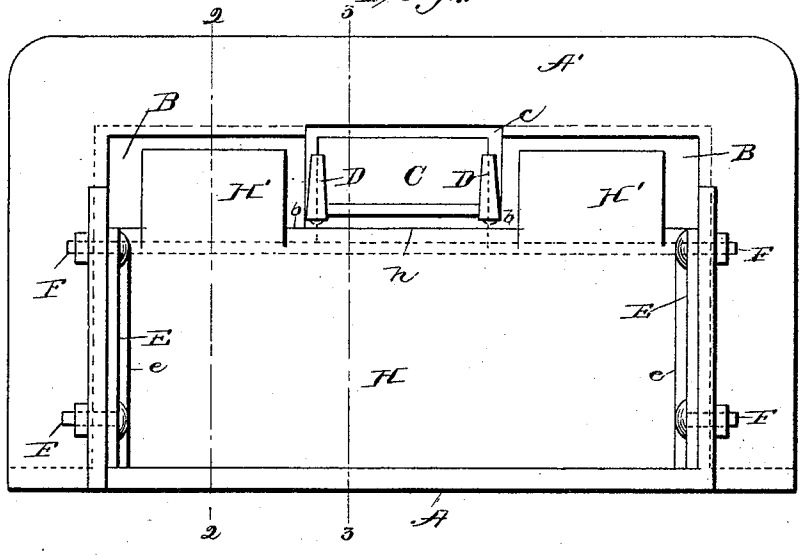


Fig. 2.

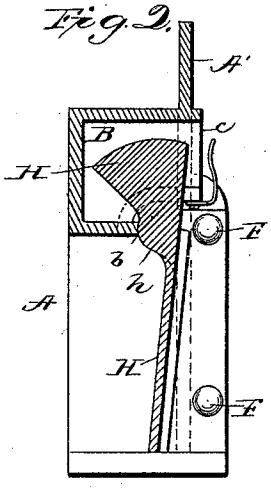


Fig. 3.

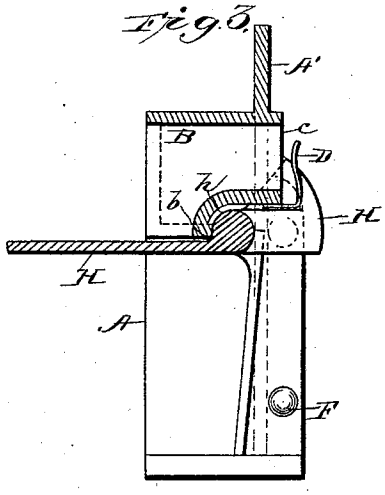


Fig. 4.

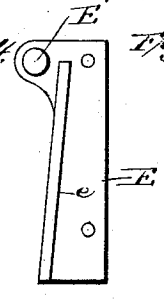
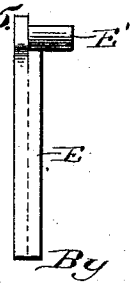


Fig. 5.



Witnesses
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UNITED STATES PATENT OFFICE.

FRANK H. VAN HOUTEN, OF FISHKILL-ON-THE-HUDSON, NEW YORK, ASSIGNOR TO THE DUTCHESS TOOL COMPANY, OF SAME PLACE.

OVEN-DOOR.

SPECIFICATION forming part of Letters Patent No. 536,491, dated March 26, 1895.

Application filed November 2, 1894. Serial No. 527,770. (No model.)

To all whom it may concern:

Be it known that I, FRANK H. VAN HOUTEN, of Fishkill-on-the-Hudson, in the county of Dutchess and State of New York, have invented certain new and useful Improvements in Oven-Doors; and I do hereby declare the following to be a full, clear, and exact description of the same, reference being had to the accompanying drawings, forming a part of this specification, and to the letters of reference marked thereon.

This invention relates to improvements in oven doors and more particularly to such as are designed for use in connection with bakers' ovens, wherein the door frame is more frequently built into the masonry or brick work of the oven.

The objects of the invention are to provide a simple, cheap, easily operated door, the parts of which may be readily renewed or assembled so as to make accurate joints without the necessity of employing highly skilled labor in the construction of the same.

To these ends the invention consists in certain novel details of construction and combinations and arrangements of parts to be hereinafter described and pointed out particularly in the appended claims.

Referring to the accompanying drawings, Figure 1 is a front elevation of a door construction embodying my present improvements. Fig. 2 is a vertical section on the line 2—2. Fig. 3 is a vertical section on the line 3—3, and Figs. 4 and 5 are detail elevations of one of the pintle and jamb pieces.

Like letters of reference in the several figures indicate the same parts.

In the drawings letter A indicates the door frame usually made of substantially rectangular shape with a front flange A′ extending around and forming when the door is set in the oven wall a face plate. In the top portion of this frame and on each side of the center, there are formed two chambers, lettered B, the openings to which are on the front side and the bottoms of which form a substantially straight bearing edge *b* extending entirely across the frame for a purpose to be presently described. Between the chambers B and above the level of the bearing edge *b* there is formed a window opening C adapted for the reception of a transparent pane or window light which may be retained in position by the curved spring fingers or arms D arranged at each side and adapted to support the glass as well as retain it flat against the surrounding walls *c* of the window C. The bottom of the window opening is curved back as shown in dotted lines, Fig. 2, and together with the bottom of the chambers B and bearing edge *b* forms the top of the door opening proper.

On each side of the door frame or on the door jambs I fit jamb and pintle pieces E, each consisting essentially of a plate adapted to fit squarely against the frame and be held in position by bolts F or equivalent fastening devices and each having a flange *e* along one edge and a pintle or stud axle E′ projecting inwardly from the upper end and preferably at a point to one side of the flange, as shown clearly in Fig. 4. To fit this construction of door frame a door is provided having a substantially flat portion H adapted to rest at the edges against the flanges *e* with an upper cylindrical portion *h* adapted to lie in juxtaposition or against the bearing edge *b* and having at each end sockets or bearings for the pintles E′, the latter being so arranged as to maintain the position of the curved bearing surface *h* with relation to the edge *e* when the door is swung open and closed, or at least, said parts are arranged in such relation as that the said curved bearing surface will come in contact with or lie very close to the bearing edge when the door is closed. Above the pintles and cylindrical or curved bearing portion the door is provided on each side of the window opening with counterbalance weights H′, preferably of segmental shape and adapted when the door is closed as shown in Fig. 2, to turn into the chambers B, thereby presenting a uniform appearance to the front of the door and what is of greater importance throwing the preponderance of weight on the rear side of the pintle, thereby tending to hold the door closed. When the door is opened by being pushed inward these weights turn out forward of the pintles and hold the door open. To close the door a simple upward push on the weights is all that is necessary and in assembling the parts, it will be understood that the jamb and pintle pieces

are first placed in position on the door itself and then the whole adjusted in place within the frame. Thus it is a simple matter to secure accurate fitting at the sides of the door and against the bearings *b*, and when this adjustment has been properly made it is an equally simple matter to fasten the parts in position by means of the bolts passing through the jamb pieces and jamb.

The whole device is simple, cheaply and easily manufactured, all of the parts being castings of the simplest kind and yet the arrangement is such as to be highly efficient and convenient in manipulation.

The window or sight opening for examining the interior of the oven when the door is closed, it will be observed from Fig. 3, flares inwardly and thus by looking in through the glass, it is possible to examine the contents of the oven even close up to the door opening.

Having thus described my invention, what I claim as new is—

1. In an oven door, the combination with the frame having the central window opening and chambers extending back at each side of said opening with the substantially straight horizontal bearing edge below the chambers and windows, of the door journaled on a fixed center and having the weights above said center on each side of the window opening, the bearing cooperating with the straight bearing on the frame, said weights being adapted to move across the center of gravity in opening and closing, whereby said door may be held in open or closed position; substantially as described.

2. In an oven door, the combination with the frame having the chambers in the upper portion with the substantially straight bearing edge extending way across the frame at the bottom of the chambers of the door journaled on a fixed center for closing the door opening and having the curved bearing cooperating with the straight edge bearing to close the top of the door opening and the weights on the door above the center adapted to turn into the chambers when the door is closed, throwing the preponderance of weight on the inner side of the center and to turn out of the chambers when the door is opened throwing the preponderance of weight outside of said centers whereby the door is held opened or closed, as desired.

3. In an oven door, the combination with the integral frame having the door opening, the window opening above the center of said door opening with the inwardly flared bottom wall, chambers on each side of said window opening and a substantially straight bearing edge below the window and chambers, of the removable jamb pieces against which the door closes having a pintle at the upper end and the door having bearings for the reception of said pintles, a bearing cooperating with the edge bearing on the frame and weights movable into and out of the chambers; substantially as described.

4. In an oven door, the combination with the rectangular frame, of the jamb pieces removably secured within said frame on each side and provided with inwardly projecting pintles and straight flanges, substantially as described, and the door having the bearings for the pintles with the substantially flat portion for cooperating with the flanges on the jamb pieces; substantially as described.

5. In an oven door for bakers' ovens, the combination with the rectangular frame having the door opening and window opening arranged centrally above said door opening, the chambers at each side of the window opening open to the front side of the frame and the edge bearing below the window and chambers of the separate jamb pieces secured in each side of the frame and having the straight flanges thereon and inwardly projecting pintles and the door hinged on the pintles, cooperating with the flanges to close the door opening and having the curved bearing cooperating with the edge bearing on the frame and the segmental weights above the pintles adapted to swing into and out of the chambers on each side of the window, whereby the preponderance of weight may be thrown either side of the pintles to hold the door in either open or closed position; substantially as described.

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