

Feb. 15, 1927.

1,617,431

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OVEN DOOR FOR STOVES AND THE LIKE

Filed Sept. 8, 1925

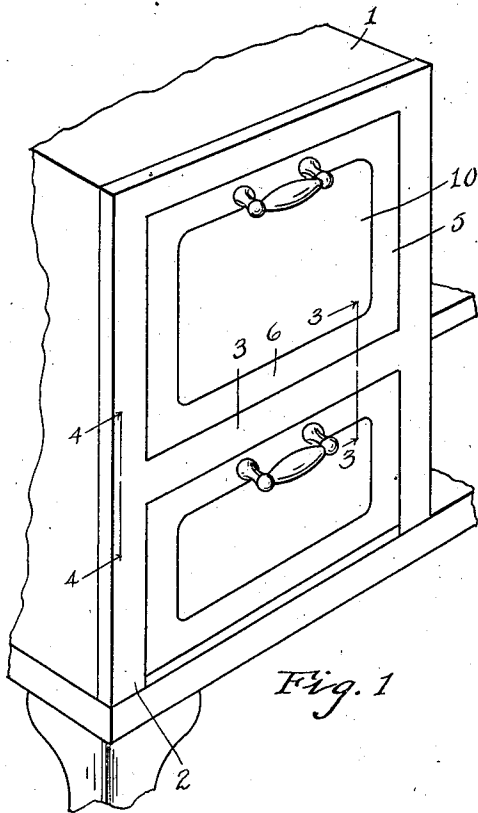


Fig. 1

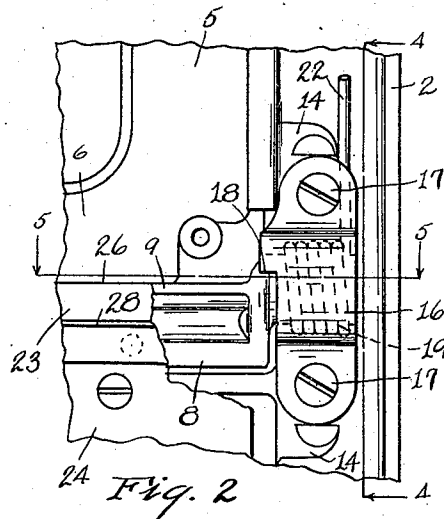


Fig. 2

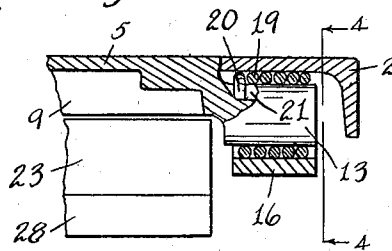


Fig. 3

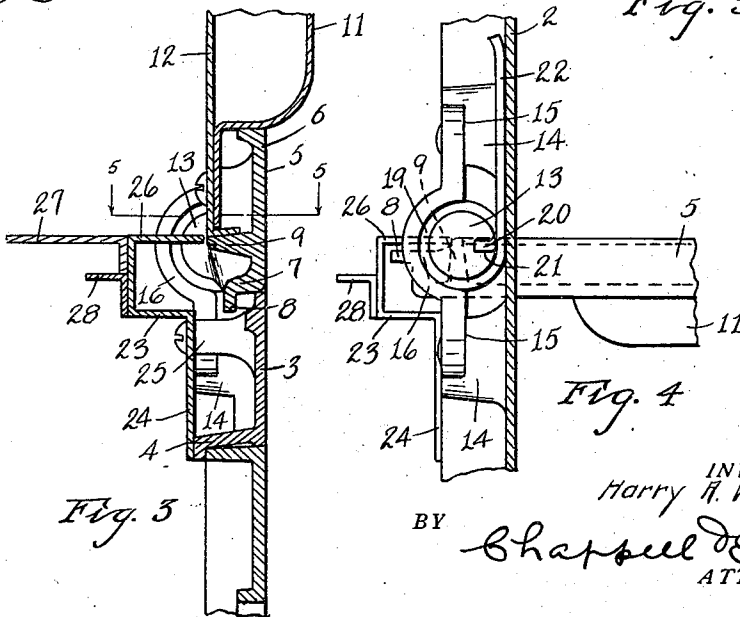


Fig. 4

Fig. 5

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OVEN DOOR FOR STOVES AND THE LIKE.

Application filed September 8, 1925. Serial No. 55,028.

This invention relates to improvements in oven doors for stoves and the like.

The main objects of this invention are to provide an improved oven door of the type which swings to a horizontal position when open with concealed hinges which are not likely to be broken in use and insure uniform smooth operation of the door.

Objects relating to details and economies of operation of my invention will definitely appear from the detailed description to follow.

I accomplish the objects of my invention by the devices and means described in the following specification. The invention is clearly defined and pointed out in the claims.

A structure which is a preferred embodiment of my invention is clearly illustrated in the accompanying drawing, forming a part of this application, in which:

Fig. 1 is a fragmentary front perspective view of a gas stove or range embodying the features of my invention.

Fig. 2 is a fragmentary inside view showing structural details.

Fig. 3 is an enlarged detail vertical section on a line corresponding to line 3—3 of Fig. 1.

Fig. 4 is an enlarged detail section on a line corresponding to line 4—4 of Figs. 1 and 5, the door being shown in open position.

Fig. 5 is a detail section corresponding to line 5—5 of Fig. 2.

In the drawing similar reference characters refer to similar parts throughout the several views, and the sectional views are taken looking in the direction of the little arrows at the ends of the section lines.

Referring to the drawings, 1 represents the walls of an oven and 2 the door casing or frame, the frame in the structure illustrated being common to both the oven and the broiler or in effect comprising two door casings. This frame is provided with a cross member constituting the bottom member 3 of the oven door casing.

This casing bottom member has an inwardly projecting flange 4 at its lower edge.

The door comprises a frame 5, preferably

a casting, this door frame having a bottom member 6 with an inwardly projecting flange 7 having a downwardly turned inner edge 8 at the lower edge of the door. The bottom member of the door frame also has a longitudinal rib 9 spaced from the flange 7.

The door panel 10 comprises an outer wall 11 and an inner wall 12 secured within the frame so that the inner wall is in the plane of the edge of the rib 9—see Fig. 3.

The door frame has pintles 13 thereon, these pintles being inwardly offset relative to the face of the frame and upwardly offset relative to the lower edge of the frame so that the axis of the pintles is in approximately the plane of the edge of the rib 9.

The door frame has bosses 14 on its inner side with seats 15 therein to receive the ends of the bearing member 16 which is secured by means of screws 17 for convenience in assembling. These bearing members are provided with stop shoulders 18 with which the door frame engages when the door is swung to a horizontal position.

Coiled springs 19 are arranged on the pintles 13, the springs having inturned lugs 20 at one end engaging grooves 21 in the pintles, the other ends of the springs being extended into arms 22 engaging the inner side of the door casing. These springs are in the nature of counterbalance springs, not however being of sufficient strength to lift the door when it is swung to a horizontal open position but being of sufficient strength to hold the door in closed position and to completely close it when it is swung upwardly to a position approaching its closed position.

I secure a channel-shaped housing member 23 to the inner side of the door casing bottom member 3, this housing member having a downwardly projecting flange 24 secured to bosses 25 on the door casing and so as to overlap the flange 4. This housing member is supported so that its upper side 26 is in the plane of the axis of the pintles and its edge lies close to the edge of the rib 9 which in effect swings around the edge of the housing as the door is opened

and closed—see Figs. 3 and 4—thus maintaining a close joint at this point and when the door is open the housing lies in the plane of the inner side of the door so that any article can be pulled out from the oven upon the door without striking obstructions or being tilted or jarred, the oven bottom 27 being in the plane of the housing. In the structure illustrated, the housing is provided with a support ledge 28 for the oven bottom 27.

With the parts thus arranged, I secure a structure which is very smooth and easy in operation, a close joint is provided at the front of the oven, the hinges are concealed and the door lies in the plane of the oven bottom when the door is open so that it constitutes a shelf-like extension for the oven bottom.

I have illustrated and described my improvements in an embodiment which I have found very satisfactory. I have not attempted to illustrate or describe various embodiments possible as I believe the disclosure made will enable those skilled in the art to embody or adapt my improvements as may be desired.

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

1. The combination of a door casing comprising a bottom member having an inwardly projecting flange at the lower edge thereof, a door frame comprising a bottom member having an inwardly projecting flange at its lower edge and an inwardly projecting rib spaced from such flange, a door panel disposed with its inner side flush with the edge of said rib, laterally projecting pintles on said door frame disposed in an inwardly offset relation relative to the face of the door frame and in an upwardly offset relation relative to said flange thereon and so that the axis of the pintles is in approximately the plane of the edge of said rib, bearings for said pintles on the inner side of the door casing, a forwardly facing channel-shaped housing member having a downwardly projecting flange secured to said door casing bottom member in engagement with the said flange thereon and with its upper side in the plane of the axis of the door pintles so that the front edge of the housing is in close relation to said rib on the said door frame member when the door is open and also when it is closed, and a bottom disposed in the plane of the top of said housing.

2. The combination of a door casing, a door frame comprising a bottom member having an inwardly projecting flange at its lower edge and an inwardly projecting rib spaced from such flange, a door panel disposed with its inner side flush with the edge of said rib, laterally projecting pintles on said door frame disposed in an inwardly offset rela-

tion relative to the face of the door frame and in an upwardly offset relation relative to said flange thereon and so that the axis of the pintles is in approximately the plane of the edge of said rib, bearings for said pintles on the inner side of the door casing, a forwardly facing channel-shaped housing member secured to said door casing with its upper side in the plane of the axis of the door pintles so that the front edge of the housing is in close relation to said rib on the said door frame bottom member when the door is open and also when it is closed, and a bottom disposed in the plane of the top of said housing.

3. In a structure of the class described, the combination of a door casing, a door provided with pintles disposed in an inwardly and upwardly offset relation relative to the bottom edge of the door, said door having a panel, the inner side of which lies in a plane through the axis of the pintles, bearings for said pintles on the inner side of the door casing, a forwardly facing channel-like housing member disposed on the inner side of the door casing so that the top thereof is in substantially the plane of the inner side of the door when in horizontal open position and so that it is in close relation to the inner side of the door when the door is closed, and a bottom disposed in the plane of the top of said housing member.

4. In a structure of the class described, the combination of a door casing, a door provided with pintles disposed in an inwardly and upwardly offset relation relative to the bottom edge of the door, said door having a panel, the inner side of which lies in a plane through the axis of the pintles, bearings for said pintles on the inner side of the door casing, and a forwardly facing channel-like housing member disposed on the inner side of the door casing so that the top thereof is in substantially the plane of the inner side of the door when in horizontal open position and so that it is in close relation to the inner side of the door when the door is closed.

5. In a structure of the class described, the combination of a door casing, a door provided with pintles disposed in an inwardly and upwardly offset relation relative to the bottom edge of the door, bearings for said pintles on the inner side of the door casing disposed so that the door may be swung to a horizontal position when open, a bottom disposed in the plane of the door when in open position, and a housing member at the bottom of the door casing into which the lower edge of the door projects and complementing the said bottom to provide a close joint for the bottom at the bottom of the door when the door is either opened or closed.

6. In a structure of the class described, the combination of a door casing, a door provid-

ed with pintles disposed in an inwardly and upwardly offset relation relative to the bottom edge of the door, bearings for said pintles on the inner side of the door casing disposed so that the door may be swung to a horizontal position when open, and a bottom disposed in the plane of the door when in open position there being an extension for said bottom which overlies the lower edge of the door when the door is swung to open position. 10

In witness whereof I have hereunto set my hand.

HARRY H. WOLVERTON.