March 5, 1940. S. KLUTE 2,192,231

RANGE DOOR

Filed Feb. 28, 1938

FIG. 1.

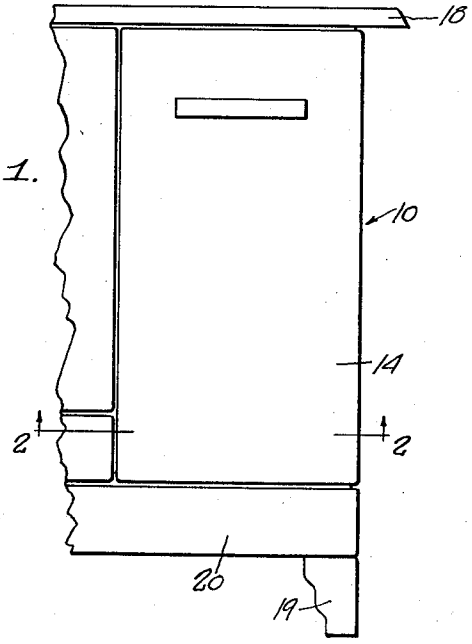


FIG. 5.

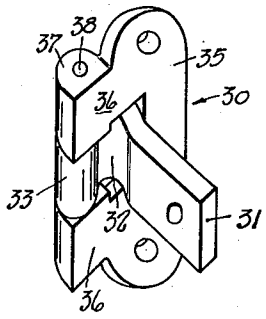


FIG. 2.

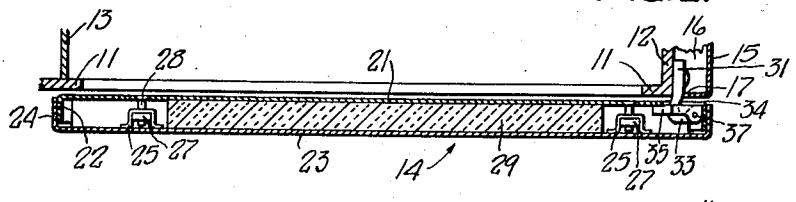


FIG. 4.

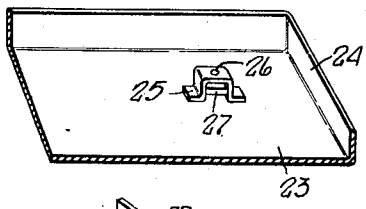


FIG. 3.

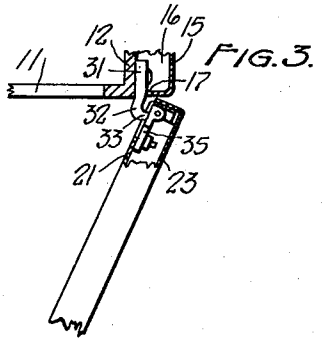
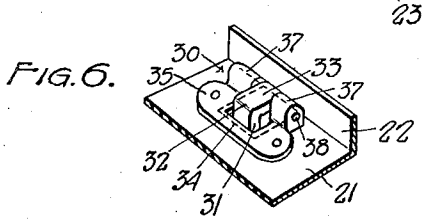


FIG. 6.



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UNITED STATES PATENT OFFICE

2,192,231

RANGE DOOR

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Application February 28, 1938, Serial No. 192,978

3 Claims. (Cl. 126—194)

This invention relates to range doors and particularly to the construction and mounting of the doors of a cooking range.

The primary object of the invention is to provide a novel door construction formed of sheet metal.

A further object is to eliminate the use of castings in a door construction.

A further object is to provide a novel hinge construction.

A further object is to provide a novel range wherein the hinge mounting for the range door is concealed.

Other objects will be apparent from the description and appended claims.

In the drawing:

Fig. 1 is a fragmentary front elevation view of a range.

Fig. 2 is a fragmentary horizontal sectional view taken on line 2—2 of Fig. 1.

Fig. 3 is a fragmentary sectional view similar to Fig. 2 and illustrating the door in open position.

Fig. 4 is a fragmentary perspective view of the outer panel of the range door.

Fig. 5 is a perspective view of the door hinge.

Fig. 6 is a fragmentary perspective view of the inner panel of the range door.

Referring to the drawing, which illustrates the preferred embodiment of the invention, the numeral 10 designates the cabinet or body of a cooking range. The range cabinet is preferably of the type illustrated in my copending application, Ser. No. 192,980 filed February 28, 1938, having a main body portion and exterior enameled sheet metal panels. Thus, referring to Fig. 2, the main body portion includes a front portion 11, an end wall 12, and is provided with a partition 13 which defines a compartment in the range body adapted to be closed by door 14. An enameled sheet metal panel 15 covers the end wall 12 of the range body and is suitably secured in spaced relation thereto with marginal flanges 16 in edge abutment with said end wall 12. The front vertical panel flange 16 has spaced cut-outs 17 therein at its edge. The body has a conventional top 18; and is mounted on a base comprising legs 19 and rails 20.

Door 14 comprises an inner sheet metal panel 21 having perpendicularly out-turned marginal flanges 22, and an outer sheet metal panel 23 having perpendicularly in-turned marginal flanges 24 fitting tightly over flanges 22. A plurality of substantially U-shaped brackets 25 are secured to the inner face of outer panel 23 with their central portions in spaced substantially parallel relation to said panel and each provided with a central aperture 26. Brackets 25 are each adapted to receive and position a nut 27 therein. Bolts 28 extend through inner panel 21 and apertures 26 of the various brackets 25 for threaded engagement with nuts 27, whereby the nut is drawn against the bracket to draw and lock the door panels together in operative relation. The brackets 25 grip and hold the nuts 27 in operative relation to aperture 26 preparatory to assembly of the panels and against rotation while bolts 28 are rotated. A suitable rigid panel 29 of insulating material fits snugly between the door panels, and is provided with cut out portions fitting around brackets 25. Panel 29 insulates the door and serves to prevent buckling thereof, though the panel interconnecting structure defined serves to use each panel to reinforce the other against buckling so that the panel 29 is not essential. The door preferably extends with its outer vertical edge substantially flush with the end panel 15, to normally constitute the corner of the range body, considered over all.

The door is mounted on hinges 30. As illustrated, one hinge plate 31 is secured to the interior range body at end wall 12 inwardly of panel 15 and projects forwardly through cut out 17 in the front panel flange 16. Hinge plate 31 has a substantially goose-neck bend 32 therein in forwardly spaced relation to range body front 11, and terminates in an outwardly directed portion 33 substantially perpendicular to end wall 12 and spaced from body front 11 a distance less than the thickness of door 14. Inner door panel 21 is provided with cut outs 34 opposite to and adapted to receive a portion of hinge plates 31. A second hinge plate 35 is secured to the inner wall of inner door panel 21 and is of substantially U-shape and centered relative to cut-out 34. The spaced parallel arms 36 of the hinge plate 35 are sufficiently long to receive goose-neck portion 32 of plate 31 therebetween; and the outer end portions 37 thereof constitute bosses. A hinge pintle 38 passing through bosses 37 of plate 35 and through the end of portion 33 of plate 31, pivotally interconnects said hinge plates within the outline of the door panels.

It will thus be seen that the door hinge is entirely concealed when the door is closed by reason of the mounting of plate 35 within the door and the mounting of plate 31 interiorly of end panel 15. When the door is opened a small portion of the goose-neck 32 of plate 31 is visible, as illustrated in Fig. 3, but is small enough not

to be noticed or to detract from the appearance of the panel construction. The built-up character of the door accommodates concealing of the hinges, and achieves the advantages in respect to enamel finish provided by sheet metal without requiring cast frame or reinforcement, and is simple and inexpensive in construction and assembly.

I claim:

1. In combination, a range body having a front and an end wall, an end panel covering said end wall and spaced therefrom, marginal flanges projecting from said panel and bearing against said end wall, the front vertical flange having a cut-out therein, a door comprising spaced panels, the inner door panel having an opening adjacent said flange cut out, and a hinge comprising a plate secured to said end wall and projecting through said cut-out and opening to terminate within said door, and a hinge plate secured to a door panel and projecting over said opening for pivotal connection with said first plate within the door.

2. In combination, a range body having a front and an end wall, an end panel secured to said end wall in spaced parallel relation thereto, a hollow door covering a portion of said front wall and terminating at its outer vertical edge in the plane of said end panel, and a hinge comprising a hinge plate secured to said end wall inwardly of said end panel and a hinge plate mounted and pivotally connected to said first hinge plate within said door.

3. In combination, a range body including a front and an end wall, an end panel having perpendicular marginal flanges and covering said end wall, a hollow door covering a part of said front with its outer vertical edge terminating flush with said end panel, said door and a panel flange having registering openings, a hinge plate secured to said end wall and including a perpendicularly outwardly directed bent portion within said door, and a hinge plate mounted within the door and pivoted to the bent end of said first hinge plate adjacent the outer edge of the door.

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