

May 27, 1958

J. L. EVANS
DOOR CONSTRUCTION

2,836,268

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2 Sheets-Sheet 1

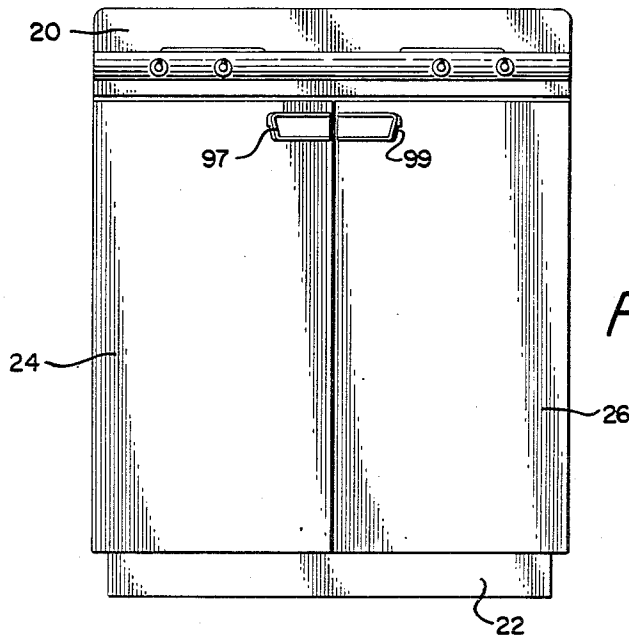


Fig. 1

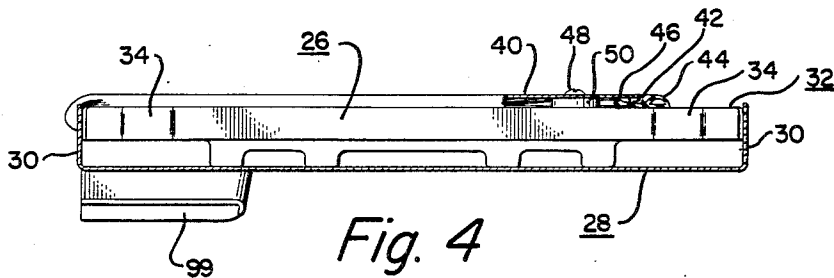


Fig. 4

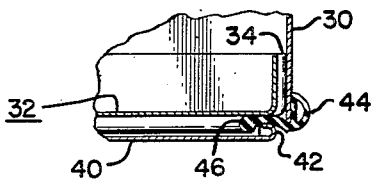


Fig. 5

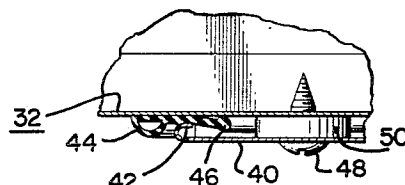


Fig. 6

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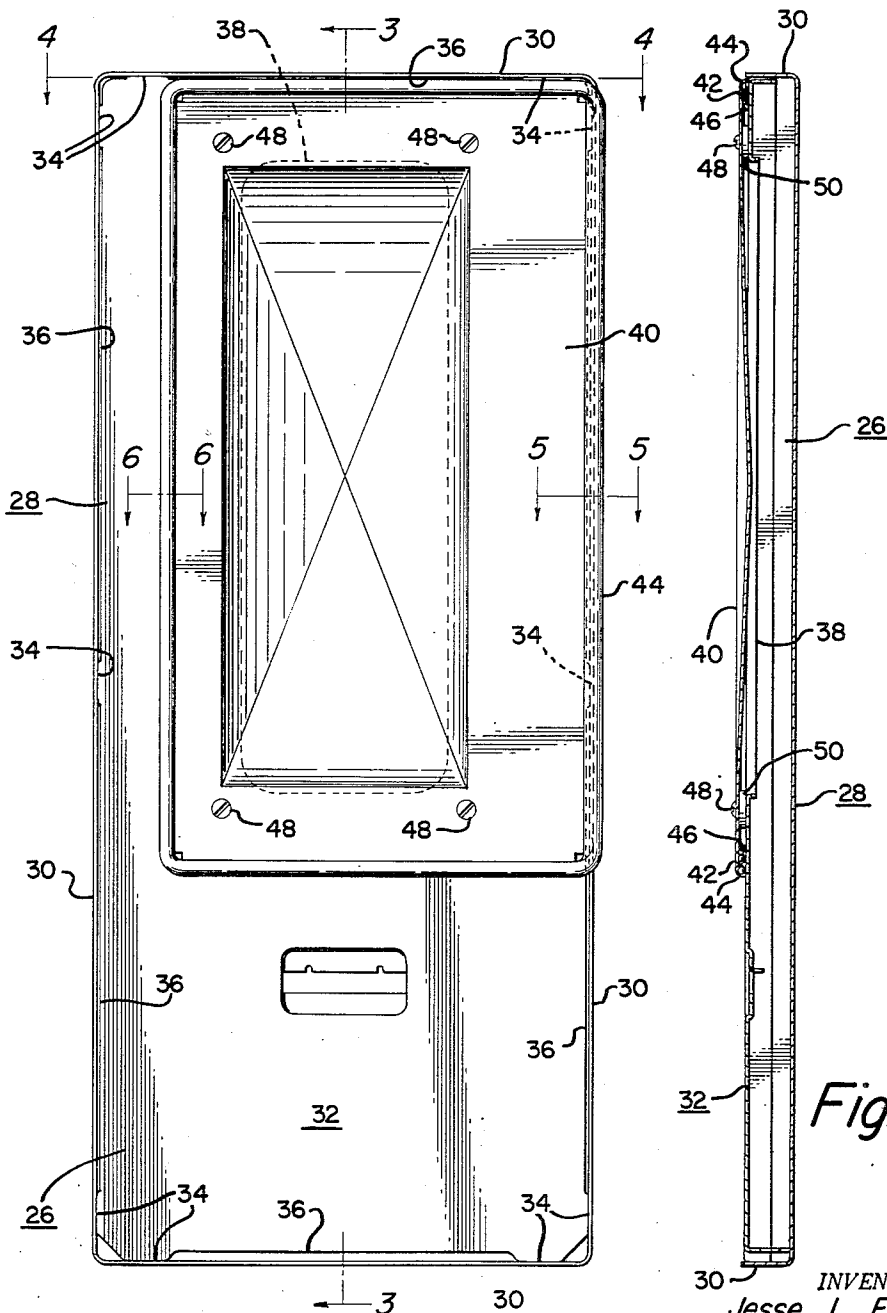


Fig. 2

Fig. 3

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2,836,268

DOOR CONSTRUCTION

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Application November 2, 1953, Serial No. 389,741

2 Claims. (Cl. 189—46)

This invention relates to a domestic appliance and more particularly to a door construction for domestic cabinets and ranges.

It is an object of my invention to provide a simple inexpensive double door arrangement and construction for cabinets and ranges which may be well insulated and have sufficient rigidity and freedom from warping.

This and other objects are attained by providing double doors each made of flanged rectangular sheet metal members with the flanges turned toward each other and nested together. The flanges are welded together at certain points but slightly spaced at other portions to minimize heat transfer between the members. The inner sheet metal member is provided with an opening through which a suitable insulating material may be inserted. This opening is preferably covered by a sheet metal member or plate having the portion directly over the opening dished inwardly slightly in the form of an X-shape. The outer edges of this covering member are provided with a configuration for holding a gasket seal for sealing the door opening.

Further objects and advantages of the present invention will be apparent from the following description, reference being had to the accompanying drawings wherein a preferred form of the invention is clearly shown.

In the drawings:

Figure 1 is a front elevation of a double door type electric range embodying one form of my invention;

Figure 2 is an enlarged rear view of one of the doors shown in Figure 1;

Figure 3 is a sectional view taken along the line 3—3 of Figure 2;

Figure 4 is a sectional view taken along the line 4—4 of Figure 2;

Figure 5 is a sectional fragmentary sectional view taken along the line 5—5 of Figure 2; and

Figure 6 is a sectional view taken along the line 6—6 of Figure 2.

Referring now to the drawings there is shown in Figure 1 a domestic electric range provided with a top 20, a bottom 22 and the double doors 24 and 26 which are hinged at their outer side edges to the cabinet. The doors are provided with matching door handles 97 and 99. The construction of the door 26 is used as an example for both doors since they are similar except for being left and right hand. Referring now more particularly to Figures 2 to 6 there is provided an outer sheet metal member 28 which is rectangular and has flanges 30 formed on all four sides which are slightly rounded at the corners. Nesting in this rectangular outer sheet metal member is an inner sheet metal member 32 having flanges extending oppositely to the flanges of the member 28 and extending within the flanges 30 in a nested arrangement.

The flanges of the member 32 include the ten raised pads 34 which are located adjacent all four corners and the mid points of the two long sides which extend closely

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adjacent to the adjacent portions of the flange 30 and which may be provided with welding projections. Through these welding projections the inner and outer members 28 and 32 are welded together at these raised pads 34. The remaining portions 36 of the flange of the member 32 between the raised pads 34 are recessed slightly to facilitate the nesting together of the members 32 and 28 and minimize heat transfer by conduction between these members.

To make it possible to insert heat insulation into the space between the members 28 and 32 the inner member 32 is provided with an inwardly flanged opening 38 which is rectangular in shape. This makes it possible to fill the door with any suitable form of insulation after the members 28 and 32 are welded together. This opening 38 is covered by a sheet metal cover 40 having a substantially central portion 42 dished slightly inwardly in the form of an X impression. This dished portion stiffens the cover 40 as well as the entire door and gives direction to the expansion of the panel when heated. This insures that any buckling will be directed toward the insulation space. The cover 40 is made considerably larger than the opening 38 and is provided with a curled under edge 42 extending completely around its perimeter for holding the gasket seal 44 of natural or synthetic rubber such as silicone. This gasket seal 44 has a D-shaped portion to which is connected a web-portion 46 extending beneath the cover 40 and held by the flange 42. The cover 40 extends substantially to the central edge of the door 26 so as to hold the seal 44 in position to make sealing engagement with the corresponding portion of the gasket of the door 24. This makes it possible to omit any central mullion which might otherwise be required for sealing purposes.

The cover 40 extends down far enough and up far enough to make sealing engagement with the upper and lower edges of the oven liner of the range and it also extends close enough to the outer edge of the door 26 to make sealing engagement with the outer edge of the oven liner or compartment wall. Thus the cover 40 not only closes the opening 38 but also aids in stiffening the door and holds the sealing gasket in proper location. The cover 40 is held in place by suitable sheet metal screws 48 which extend through apertures in the cover 40 and thread into suitable apertures in the inner sheet metal member 32. If desired a gasket 50 may be provided beneath the cover 40 around the flanged opening 38.

In accordance with the provisions of Rule 78a, reference is made to the following prior filed applications: S. N. 325,248 filed December 11, 1952; S. N. 348,257 filed April 13, 1953; S. N. 365,142 filed June 30, 1953, now Patent No. 2,751,486, issued June 19, 1956; S. N. 376,718 filed August 26, 1953.

While the form of embodiment of the invention as herein disclosed constitutes a preferred form, it is to be understood that other forms might be adopted as may come within the scope of the claims which follow.

What is claimed is as follows:

1. A door construction including two flanged generally rectangular sheet metal members having their flanges extending toward each other and nesting together, one of said members having an aperture therein with an integral flange surrounding the aperture, and a removable rectangular sheet metal cover extending over said aperture and being fastened to said one member, said cover having diagonal creases and having curled edges outside and overlapping the edges of said aperture in said one member.

2. A door including two flanged metal members with their flanges turned oppositely and nested together, a gasket extending as a rectangle with three of its sides

located on the inner face of the door and the fourth side extending along an edge portion of the door, one of said members being provided with an opening therein for access to the interior, and a removable rectangular plate having a central portion covering said opening and marginal portions overlapping the exposed face of said member with the aperture and having one edge portion extending substantially to one edge of the door, said rectangular plate having curled edge portions curled toward the inner face of the door for holding said three sides of said gasket upon the inner face of the door and the fourth side of said gasket upon the edge portion of said door, said gasket having a bead within said curled edge portions, and threaded fastening means for pulling said plate towards the inner face of said door.

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