Nov. 15, 1938. J. L. KNIGHT 2,137,165

REFRIGERATOR CABINET

Filed April 9, 1938

Fig. 1.

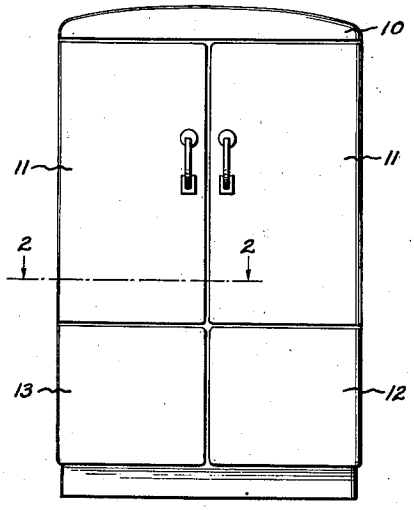
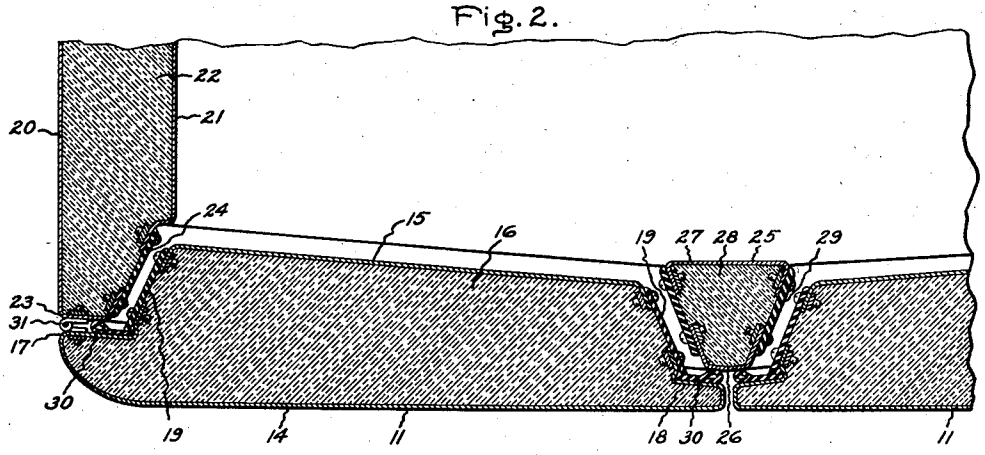


Fig. 2.



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REFRIGERATOR CABINET

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7 Claims. (Cl. 20—35)

My invention relates to refrigerator cabinets and more particularly to a door construction for such cabinets.

The objects and advantages of my invention will become apparent as the following description proceeds and the features of novelty which characterize my invention will be pointed out with particularity in the claims annexed to and forming a part of this specification.

For a better understanding of my invention reference may be had to the accompanying drawing in which Fig. 1 is a front elevation of a refrigerator cabinet embodying my invention and Fig. 2 is an enlarged cross sectional view of the door construction taken along the line 2—2 of Fig. 1.

Referring to the drawing, a refrigerator cabinet 10 is provided with hinged doors 11 of the full width type for closing the opening to a food compartment. The machinery compartment is closed by a door 12 and a door 13 is provided to close the opening to a third compartment, which, for example, may constitute a vegetable bin. Doors 12 and 13 are also of the full width type.

Each door 11 comprises an outer metallic wall or casing 14 and an inner metallic wall or casing 15 with suitable heat insulation 16 therebetween. The outer casing 14 is provided with a flange adapted to engage the walls of the cabinet about the opening to the food compartment as well as a mullion 25 located in the center of the door opening. The flange is provided with a portion 17 at the hinged edge of the door and a portion 18 at the free or swinging edge of the door 11. In accordance with my invention, the space between portion 17 and the outer casing 14 is thickened as compared with the space between portion 18 and outer casing 14, the cross section of the door increasing from the free edge toward the hinged edge of the door. By this construction trapping of air within the cabinet as the doors are closed and the resulting air cushioning effect is minimized. The hinged edge of the door is shown as having a relatively large radius of curvature which improves the appearance of the cabinet. The inner and outer casings 14 and 15 are connected by breaker strips 19 of non-metallic, non-hydroscopic material, for example, resinous products such as those known under the trade names Bakelite, Textolite, etc., in order to reduce the conduction of heat into the cabinet.

The cabinet side walls comprise an outer wall or casing 20 and an inner wall or casing 21 having suitable heat insulation 22 therebetween. Casing 20 is provided with an inwardly directed flange 23 which forms the front corner of the refrigerator cabinet. Inner casing 21 and flange 23 of outer casing 20 are separated by breaker strips 24 of the same material as that used for the door breaker strips 19.

A mullion 25 located in the center of the refrigerator door opening comprises an outer metallic wall or casing 26 and an inner metallic wall or casing 27 having suitable heat insulation 28 therebetween. The inner and outer walls 26 and 27 are separated by breaker strips 29 of the same material as that used for the breaker strips 19. Mullion 25 is so positioned that the distance from the face of the refrigerator door to the forward edge of the mullion is less than the distance from the face of the refrigerator door to the front corners of the cabinet. The breaker strips 19 fit into the cabinet opening at an angle with respect to the front of the cabinet and are of uniform width. Hence, the inner wall or casing 16 of the door is at an angle with respect to the front of the refrigerator cabinet thus providing more room in the interior of the cabinet than would be the case if the forward edge of the mullion and the front corners of the side walls of the cabinet were located in the plane of the front corners of the side walls.

A gasket 30 of suitable material, such as rubber, is arranged to seal the door opening when the doors are closed. The doors 11 are swingably supported from the front corners of the cabinet by means of hinges 31.

It will be apparent from the foregoing description that I have provided a refrigerator door construction in which the front face of the cabinet is substantially flat when the doors are closed but by thinning the swinging edges of the doors more space is provided within the cabinet and the air cushioning effect which might otherwise be present is minimized.

While I have shown a particular embodiment of my invention in connection with a refrigerator cabinet, I do not desire my invention to be limited to the particular construction shown and described and I intend in the appended claims to cover all modifications within the spirit and scope of my invention.

What I claim as new and desire to secure by Letters Patent of the United States is:

1. A cabinet having a door opening, a plurality of doors swingably supported on said cabinet and adapted to close said opening, said doors increasing in cross section from the free edges of said doors to the supported edges of said doors whereby the air cushioning effect is minimized

and the front of said door is substantially flat when said door is closed.

2. A refrigerator cabinet having a door opening, a plurality of doors swingably supported on said cabinet and adapted to close said opening, each of said doors having a relatively deep flange at the supported edge and a relatively shallow flange at the free edge and thickening in cross section from said shallow flange to said deep flange.

3. A refrigerator cabinet having a door opening, a plurality of doors swingably supported on said cabinet and adapted to close said opening, said doors having inner and outer metallic walls, breaker strips of uniform width connecting said walls, each of said doors having a relatively deep flange at the supported edge and a relatively shallow flange at the free edge and thickening in cross-section from said shallow flange to said deep flange.

4. A refrigerator cabinet having a door opening, a plurality of doors swingably supported on said cabinet and adapted to close said opening, each of said doors having a relatively deep flange at the supported edge and a relatively shallow flange at the free edge and thickening in cross section from said shallow flange to said deep flange, the hinged edges of said doors having a relatively large radius of curvature.

5. A thermally insulated cabinet having a door opening, a plurality of doors adapted to close said opening, hinge means at the outer edges of said door to swingably support said doors in said door opening, a center mullion, said outer walls being provided with a flange adapted to engage said mullion and the wall of said cabinet about said opening, said doors being thickened between the flange and the outer wall at the hinged end and tapering toward the free end of said doors whereby the air cushioning effect is minimized and the front of said doors is substantially flat when said doors are closed.

6. A cabinet having a door opening, a plurality of doors adapted to close said opening, said doors having inner and outer metallic walls with thermal insulation therebetween, strips of thermally resistant material connecting said walls, said strips being of substantially uniform width, hinge means at the outer edges of said doors to swingably support said doors in said door opening, a center mullion, said mullion being placed nearer said outer wall than are the front corners of said cabinet so that said inner walls of said doors are at an angle with the front of said cabinet, said doors increasing in cross section from the free edges of said doors to the hinged edges of said doors so that the air cushioning effect is minimized and the front of said doors are substantially flat when said doors are closed, the hinged edges of said doors having a relatively large radius of curvature.

7. A refrigerator cabinet, a plurality of doors for said cabinet, said doors having inner and outer metallic walls with thermal insulation therebetween, strips of thermally resistant material connecting said walls, said strips being of substantially uniform width and extending into the opening into said cabinet at an angle to the front of said cabinet, hinge means to swingably support said doors from said cabinet at the outer edges of said doors, a center mullion, said mullion positioned so that the distance from the front of said cabinet to the forward edge of said mullion is less than the distance from said front of said cabinet to the front corners of said cabinet so that said inner walls of said doors are at an angle with the front of said cabinet, said outer wall being provided with a flange adapted to engage the sides of the opening in said cabinet and said mullion, said doors being thickened between the flange and the front wall at the hinged edge and decreased in cross section from the hinged edges of said doors to the free edges of said doors whereby the front of said door is substantially flat when said doors are closed.

JAMES L. KNIGHT.