Dec. 21, 1943. W. P. DODGE 2,337,316

REFRIGERATOR CABINET

Filed Sept. 20, 1941

Fig. 1.

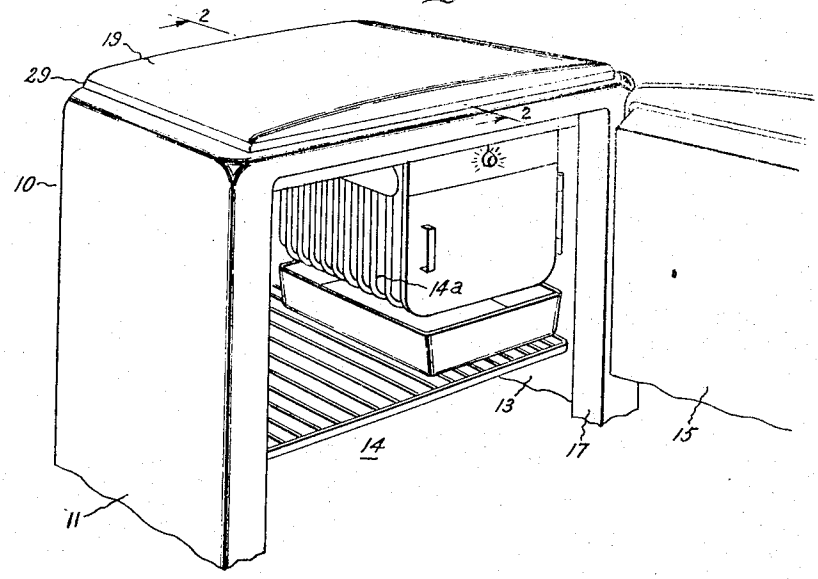



Fig. 2.

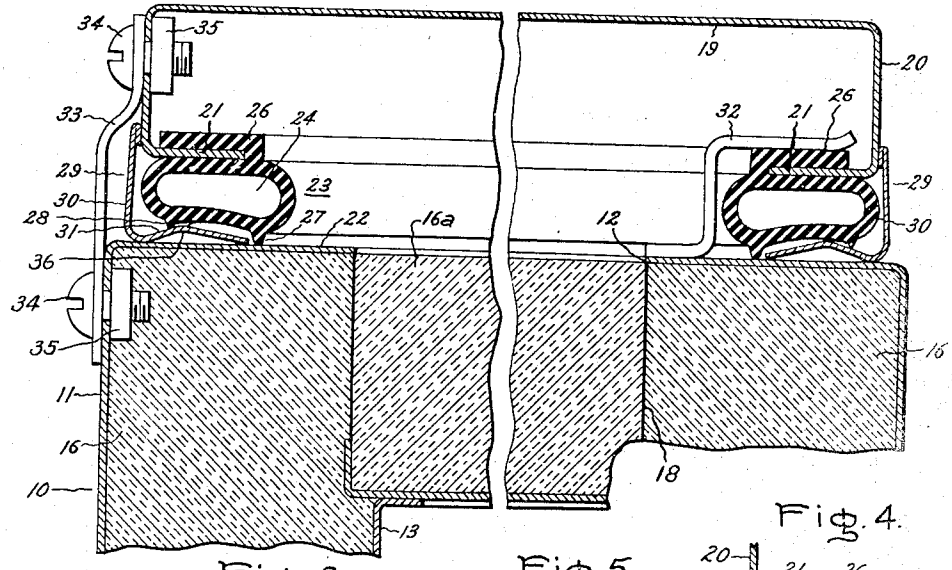



Fig. 3.

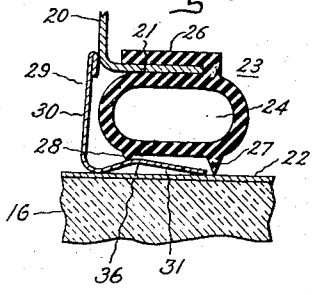



Fig. 5.

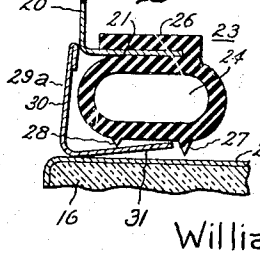
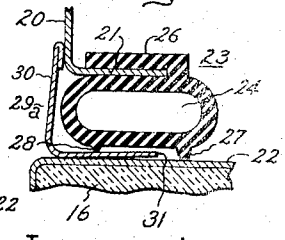



Fig. 4.




Inventor:
William Paul Dodge,
by Harry E. Dunham
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2,337,316

# UNITED STATES PATENT OFFICE

2,337,316

## REFRIGERATOR CABINET

William Paul Dodge, Erie, Pa., assignor to General Electric Company, a corporation of New York

Application September 20, 1941, Serial No. 411,610

5 Claims. (Cl. 220—46)

My invention relates to refrigerators and more particularly to sealing means adapted for use in refrigerator 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 perspective view of a portion of a refrigerator cabinet embodying the principles of my invention; Fig. 2 is an enlarged vertical section taken along the line 2—2 of Fig. 1, partly broken away, of a portion of the refrigerator cabinet shown in Fig. 1; Fig. 3 is an enlarged partial sectional view of the sealing member or gasket and trim strip shown in Fig. 2; and Figs. 4 and 5 illustrate a second embodiment of my invention.

Referring to the drawing, there is illustrated a refrigerator cabinet 10 of the domestic type. The cabinet includes an outer sheet metal casing or shell 11 having an opening 12 in the top wall thereof. The refrigerator cabinet is provided with an open top inner liner 13 defining the bottom and side walls of a storage compartment 14. An access opening in the front wall of the cabinet is closed by a suitable heat insulated door 15. The space between the liners or casings 11 and 13 is filled with suitable heat insulation as indicated by the numeral 16 and the space between the edges of the liners or casings is closed by suitable thermally resistant breaker strips 17. The upper portion of the thermal insulation 16 surrounding the opening in the top of the cabinet may be covered by a moisture-proofed cloth band 18 in order to retard absorption of moisture by the insulating material.

The food storage compartment 14 is designed to be cooled by a cooling element 14a inserted through the opening in the top wall of the cabinet. A sheet metal cover member 19 is provided to cover and enclose the cooling unit and heat insulating material 16a disposed between the top cover and the cooling unit. The cover 19 is provided with a downwardly extending peripheral flange 20 having an inturned portion 21 at the marginal edge thereof.

I have provided means for sealing the space between the flange 21 of the top cover and an inturned flange 22 of the outer casing 11 in order to minimize further the entry of moisture into the heat insulation. This means takes the form of a gasket 23 of resilient material such as rubber having a hollow striking bead 24. In order to retain or secure the gasket to the flange 21, I have provided a lip 26 attached to the upper face of the gasket and which extends substantially parallel thereto, thereby providing a recess for receiving the inturned portion 21 of the cover 19. The bead 24 and lip 26 are preferably constructed and arranged for retention by the flange 21. For instance, the lip 26 may be lanced periodically at the junction of the lip 26 and the hollow bead 24 to receive keystone shaped projections blanked into the edge of the flange 21. On the under side of the bead 24 I have provided a pair of spaced-apart longitudinally extending projecting portions or ribs 27 and 28, preferably integral with the gasket striking bead 24 adjacent the inner and outer sides or edges of the gasket respectively. The innermost fin or rib 27 is made relatively thicker and relatively longer than the outermost fin or rib 28.

In order to cover up and conceal the space between the top cover 19 and the top of the cabinet, thereby enhancing the appearance of the cabinet, there is provided a decorative trim strip 29 having a generally vertically extending portion 30 and a generally horizontally and inwardly extending portion 31. The laterally or inwardly extending portion 31 is arranged to be inserted between the striking bead 24 and the flange 22. The portion 31 does not reach the rib 27 but the upper surface thereof is engaged by the rib 28. The rib 27 is made long enough and stiff enough to support the weight of the cover when placed on the cabinet so that the trim strip may be slid freely under the gasket and rib 28 as shown in Fig. 3.

There is provided means for securing the cover in place comprising at the front edge of the cover one or more members 32 suitably secured as by welding at one end to the flange 22 and engaging at the other end the rib 26 of the gasket. The rear edge of the cover is held in place by bracket members 33 suitably secured as by means of threaded fastening members 34 engaging correspondingly threaded nuts 35 secured to the inner surfaces of the cover and outer casing respectively as by welding for example. The fastening devices and the gasket are so proportioned that when the cover is secured in position, the gasket will be compressed as shown in Fig. 2, to seal the space between the cover and the refrigerator cabinet. With the arrangement herein described, the sealing function will be performed by the sealing fin or rib 27. The rib 28 which may be

termed a "locking fin" or "rib" will engage the upper surface of the trim strip and tend frictionally to retain the strip in position.

In the form of my invention illustrated in Figs. 2 and 3 the laterally extending portion 31 of the trim strip is provided with a corrugation as by bending the portion 31 upwardly and then downwardly to provide an upstanding ridge or portion 36 or is made generally convex upwardly in such a manner that the locking fin 28 will engage the corrugation or convex portion outwardly of the highest point thereof. When the cover is drawn down to the compressed position shown in Fig. 2, the force applied to the sloping portion 36 of the trim strip through the rib 28 will tend to cause or urge the generally vertical portion of the trim strip to be moved toward the cabinet into close engagement therewith. If desired, the rib 28 need not engage the portion 36 but may engage the portion 31 of the strip between the vertical portion of the strip and the portion 36.

In Figs. 4 and 5, I have illustrated a second embodiment of my invention in which the trim strip 29 does not have the upstanding ridge or portion 36 but in which the generally horizontal portion of the strip is substantially flat. The sides of the trim strip 29 in this embodiment of my invention may be at right angles but are preferably disposed a few degrees less than a right angle for the purpose to be described. During assembly of the gasket, cover and trim strip, the trim strip 29a will be inserted between the gasket and the cabinet by moving the same inwardly with the generally vertical portion substantially vertical so that the horizontal leg will be in substantially the position shown in Fig. 5. In this position, when the cover is forced downwardly, thereby tending to compress the gaskets, it will be apparent that the locking fin 28 will engage the upper surface of the generally horizontal portion of the strip 29a and tend to force downwardly that portion. Inasmuch as relatively stiff resilient material is employed for the strip, it will be apparent that the force applied in this manner will tend to rock the generally vertical portion in a clockwise direction as viewed in the drawing, thereby insuring that the upper edge of the strip will firmly engage the side wall of the cover.

The material from which the trim strips are made may be sufficiently light to permit slight bending thereof in order to cause the generally vertical portion of the trim strip to move more easily into engagement with the side of the cover. However, it will be understood that material stiff enough to resist bending under the relatively light pressures developed in assembling the cover may be employed, if desired, the locking or outer rib or fin 28 providing sufficient friction to prevent ready withdrawal of the trim strip or movement thereof caused by vibration of the cabinet or movement thereof by some other cause, as during delivery or transportation of the cabinet.

While I have shown a particular embodiment of my invention, 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. Sealing means for sealing the opening between two members comprising means for securing the sealing means to one of said members, the surface of said sealing means presented to the other of said members having two longitudinally extending spaced-apart projecting portions, a trim strip for concealing the opening between the members and also the sealing means, a portion of said trim strip being disposed between said sealing means and the other of said members and being retained in position solely by engagement between one of said portions and the surface of the other of said members, the other of said portions engaging the said other of said members for sealing the space between the members.

2. In a refrigerator, a cabinet body member having an opening in a wall thereof, a cover member for closing the opening and spaced from said body member, a resilient gasket carried by one of said members and arranged to extend about the opening in engagement with both said members for sealing the opening in said body member and for closing the space between said members, a trim strip having a face portion extending across the space between said members outwardly of said gasket for concealing said gasket and having an inwardly extending peripheral portion inserted between said gasket and the other of said members, said gasket being provided with a sealing rib engaging said other member and a locking rib engaging said trim strip, said ribs extending longitudinally of said gasket around the opening, said inwardly extending portion of said trim strip being generally convex in cross section on its side adjacent said gasket for continuous longitudinal engagement with said locking rib, said locking rib engaging said trim strip along the convex side of said inwardly extending portion and outwardly of the highest point thereof whereby said trim strip is retained in position.

3. In a refrigerator, a cabinet body member having an opening in a wall thereof, a cover member for closing the opening and spaced from said body member, a resilient gasket carried by one of said members and arranged to extend about the opening in engagement with both said members for sealing the opening in said body member and for closing the space between said members, a trim strip having a face portion extending across the space between said members outwardly of said gasket for concealing said gasket and having an inwardly extending peripheral portion inserted between said gasket and the other of said members, said gasket being provided with a sealing rib engaging said other member and a locking rib engaging said trim strip, said ribs extending longitudinally of said gasket around the opening, said sealing rib being longer and stiffer than said locking rib in order to support said cover member when laid on the cabinet, said inwardly extending portion of said trim strip having a portion extending toward said gasket and into frictional engagement with said locking rib, whereby said trim strip may be slid relatively freely between said gasket and said other of said members.

4. In a refrigerator, a cabinet body member having an opening in a wall thereof, a cover member for closing the opening and spaced from said body member, a resilient gasket carried by one of said members and arranged to extend about the opening in engagement with both said members for sealing the opening in said body member and for closing the space getween said members, a trim strip having a face portion extending across the space between said members outwardly of said gasket for concealing said gas-

ket and having an inwardly extending peripheral portion inserted between said gasket and the other of said members, said gasket being provided with a sealing rib engaging said other member and a locking rib engaging said trim strip, said ribs extending longitudinally of said gasket around the opening, said sealing rib being longer and stiffer than said locking rib in order to support said cover member when laid on the cabinet, said inwardly extending portion of said trim strip having a raised portion facing toward said gasket means and in frictional engagement with said locking rib, said locking rib engaging said raised portion of said inwardly extending portion on the outer side thereof in order to retain said strip in its assembled position, whereby said trim strip may be slid relatively freely between said gasket and said other of said members.

5. In a refrigerator, a cabinet body member having an opening in a wall thereof, a cover member for closing the opening and spaced from said body member, a gasket carried by one of said members and arranged to extent about the opening in engagement with both said members for sealing the opening in said body member and for closing the space between said members, a trim strip having a face portion extending across the space between said members outwardly of said gasket for concealing said gasket and having an inwardly extending peripheral portion inserted between said gasket and the other of said members and having a raised portion facing toward said gasket, said gasket being provided with a pair of ribs extending longitudinally about the opening, one of said ribs engaging said other of said members for sealing said opening and the other of said ribs frictionally engaging the raised portion of said inwardly extending portion of said trim strip on the outer side thereof for retaining said strip in position between said members.

WILLIAM PAUL DODGE.