

Dec. 2, 1941.

C. H. NAUERT

2,264,543

REFRIGERATOR

Filed Jan. 12, 1940

2 Sheets-Sheet 1

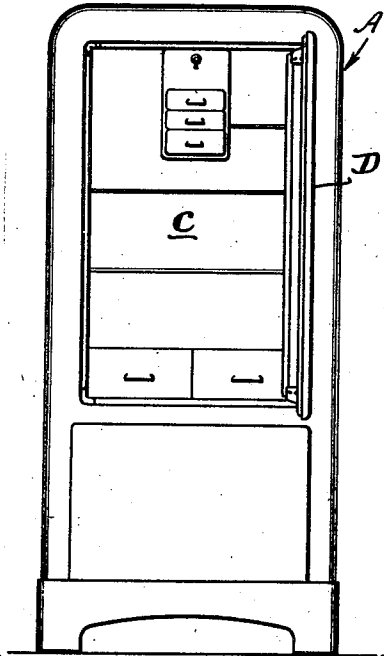


Fig. 1.

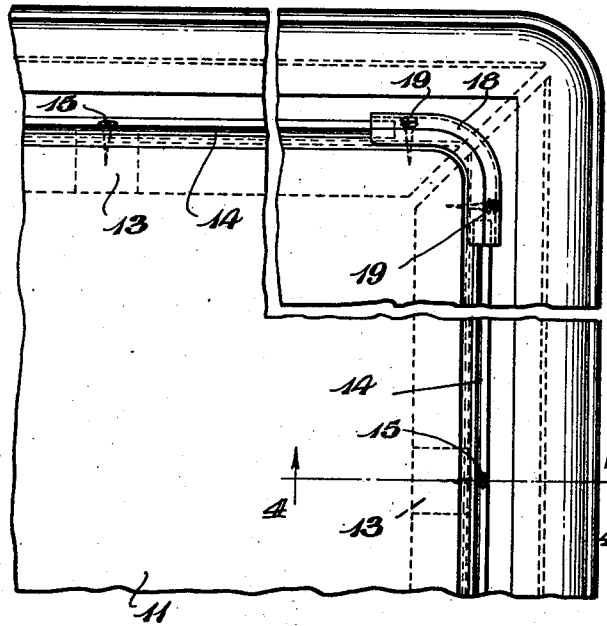


Fig. 2.

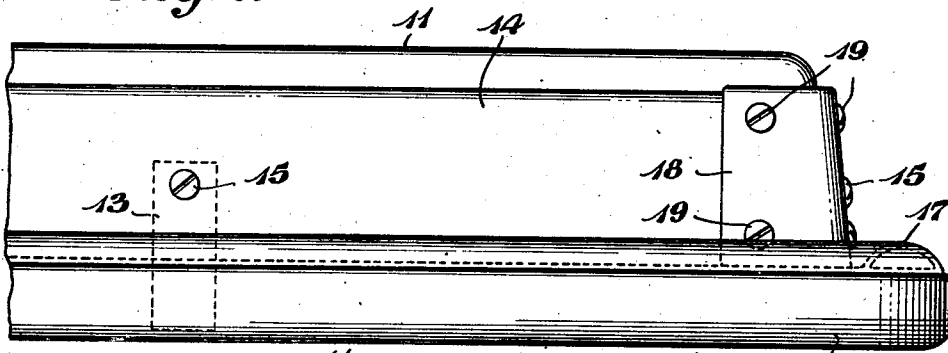


Fig. 3.

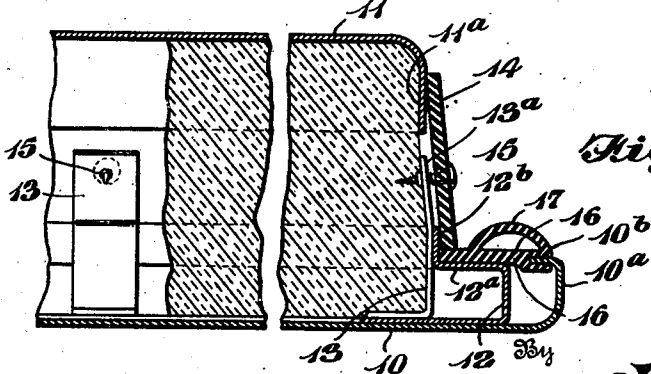


Fig. 4.

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Fig. 5.

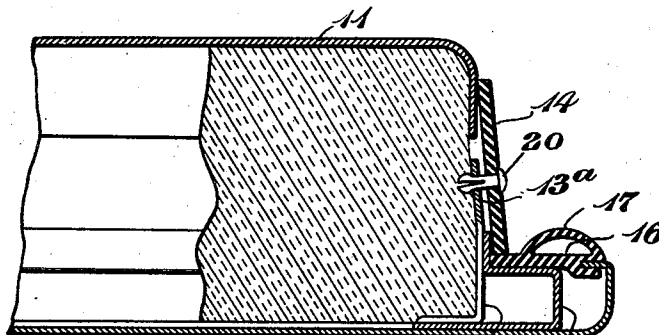


Fig. 6.

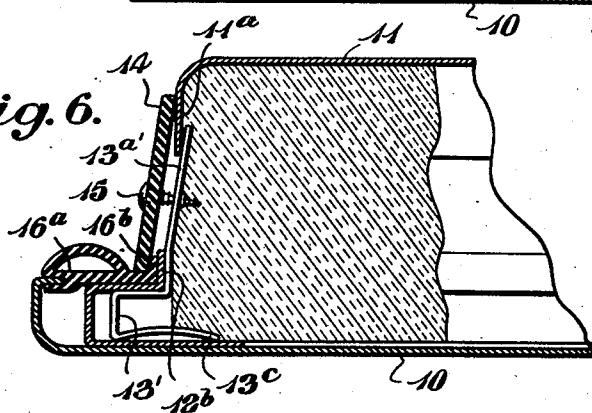
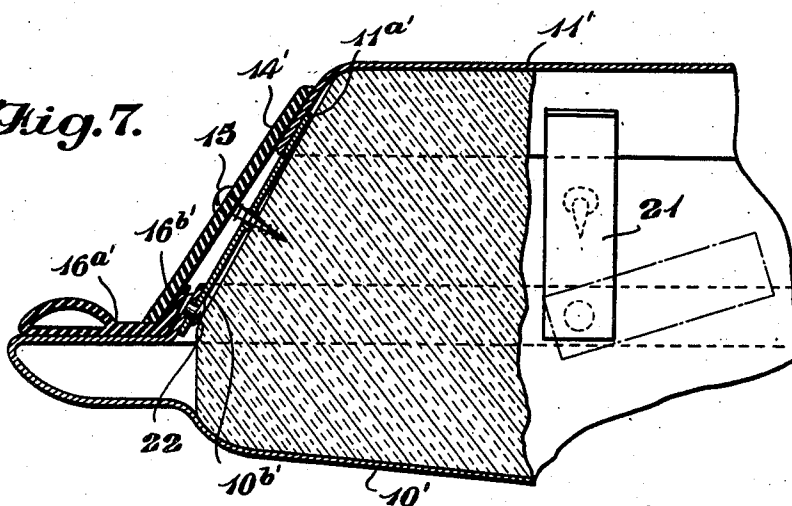


Fig. 7.



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2,264,543

REFRIGERATOR

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7 Claims. (Cl. 20—35)

This invention relates to refrigerators and is particularly concerned with the construction of refrigerator cabinets.

An object of the invention is to provide an improved type of marginal wall construction and coacting molding or breaker strip assembly for the space between the marginal portions or edges of the outer and inner shells or walls of a refrigerator cabinet resulting in economy in materials and expedition of the assembling operation, while at the same time maintaining a neat and attractive exterior appearance and stability and rigidity of construction without the use of the conventional wood or analogous framework. The invention is particularly applicable to doors for refrigerator cabinets, and is illustrated and described in such embodiment herein.

The foregoing and other objects and advantages will become apparent in view of the following description taken in conjunction with the drawings, wherein:

Fig. 1 is a view in front elevation of a refrigerator of the domestic or household type with the door to the food compartment shown in open position;

Fig. 2 is an enlarged fragmentary view in elevation of the inner side of the door, the corner being broken and moved inwardly to conserve space;

Fig. 3 is a plan view of Fig. 2;

Fig. 4 is a section taken substantially on the line 4—4 in Fig. 2; and

Figs. 5, 6 and 7 are transverse sectional views taken through the edge of the door as in Fig. 4 but illustrating modifications in structure.

Referring to the drawings in detail and first to Figs. 1 to 4 inclusive, a refrigerator cabinet is generally indicated at A and is provided with a door D affording access to the food compartment C.

The improved breaker strip or molding assembly constituting the features of the present invention is shown herein applied to the door D, the latter having an outer wall or shell 10 with a marginal edge portion 10a terminating in an outturned flange 10b, and an inner shell or door pan 11 terminating in an inturned flange 11a. The walls 10 and 11 are spaced apart to receive insulation material of any suitable type therebetween.

The molding or breaker strip assembly includes one or more reinforcing members in the form of a metal molding strip or strips 12 which are secured as by spot welding to the outer wall or shell 10 and are each formed with a doubled

back portion 12a terminating in an outturned edge or flange 12b. Breaker strip retaining members 13 are provided and may be in the form of spring metal clips having a portion thereof secured, as by spot welding, to the inner side of the strip 12 and a finger or prong 13a projecting outwardly into the space between the flanges 10b and 12b. This portion 13a constitutes in effect a resilient prong to which a breaker strip 14 is connected as by means of screws 15 and held in place under tension.

A sealing gasket 16 overlies the wall 12a of the strip 12 and has its outer edge bifurcated to receive the edge 10b of the outer shell 10, said gasket at its inner edge being held in place by the adjacent edge of the breaker strip 14, note Fig. 4. A compressible hollow sealing bead 17 is provided on the gasket to effect a seal between the food compartment and the exterior of the cabinet when the door is closed.

One method of assembling is to first spot weld the retaining clips to the strips 12, and then spot weld the strips 12 to the inner side of the shell 10. Insulation material may then be inserted in the space between the outer shell 10 and door pan or inner shell 11, and the breaker strip 14 and gasket 16 mounted and secured in position by screws 15. Corner plates or trim 18 may then be applied to the outer and inner wall members 10 and 11 by means of screws 19 to hold the wall members in structurally spaced apart relation and to complete the assembling operation.

With the use of this type of breaker strip assembly the necessity of employing framework around the door or the door opening is avoided. The breaker strips 14 are formed of a material having poor thermal conductivity such as, for example, the material commercially known as "Bakelite."

Fig. 5 shows a construction substantially similar to that illustrated in Fig. 4 with the exception that the breaker strip 14 is connected to the projections or prongs 13a of the members 13 in a quick-detachable manner by means of fasteners 20 of the push type, thereby expediting the assembling operation. In this figure parts corresponding to those illustrated in Figs. 1 to 4 inclusive are given corresponding reference numerals.

In Fig. 6 the breaker strip or molding retaining clips indicated at 13' are "sprung" into engagement with the reinforcing molding strips 12, the clips 13' each being provided with a bowed spring leg 13c tending to maintain the clips in place.

The free spring extremity 13a' of the clip spans the space between the flanges 11a and 12b and engages in back of the flange 11a. The door gasket, here indicated at 16a, is provided with a lip 16b which engages in back of the breaker strip 14, to thereby better retain the parts in assembled relation. The remaining parts of the assembly are similar to those shown in Figs. 1 to 4 inclusive, and are given corresponding reference numerals.

In Fig. 7 the inner edge of the door cover or shell 10' terminates in an inclined flange 10b', to which the outer ends of breaker strip or mold-attaching clips 21 are pivotally connected as by rivets 22. During the first part of the assembling operation, the clips are turned to the dotted line position shown at the right of Fig. 7, and after the insulation has been applied, the clips are moved to the full line position, at which point they engage in back of the edge 11a' of the door pan 11'. The breaker strip 14' may be then applied by means of screws 15, the said breaker strip and clips being drawn together under tension. The gasket 16a' is formed with a lip 16b' which engages in back of the breaker strip 14' in a manner similar to the construction shown in Fig. 6. The assembly shown in Fig. 7 results in the elimination of a number of parts as well as all spot welding operations.

It will be obvious to those skilled in the art that certain changes in construction and design may be adopted without departing from the scope or spirit of the invention as defined by the appended claims.

What is claimed is:

1. In a refrigerator, a cabinet having inner and outer insulated walls terminating in marginal edge portions provided with spaced inturned flanges, a metallic reinforcing strip of generally U-shaped contour in cross section connected to the marginal edge portion of the outer wall and having a flange projected towards the inturned flange of the opposing wall, breaker strip attaching members consisting of spring metal clips each having a substantially U-shaped portion adapted to engage under tension in the said reinforcing strip and a spring leg projecting beyond the flange of said latter strip, and a breaker strip connected to said spring legs.

2. In a refrigerator, a cabinet having inner and outer insulated walls terminating in marginal edge portions provided with spaced inturned flanges, breaker or molding strip attaching means in the form of spring metal strips each having one end pivotally connected to the flange of one of said walls and its opposite end adapted to

project across the space between said flanges, and a breaker strip overlying said flanges and detachably connected to said strips, the strips being sidewardly pivotable to permit the admission of insulation banding between said walls.

3. In an insulated cabinet, inner and outer walls provided with opposed spaced apart marginal edges, said wall members being adapted to receive insulation therebetween, a cover strip member overlying said edge portions, attaching means for resiliently holding said strip member over said edge portions, one end of said attaching means being secured to a portion of one of said walls, the other end of said attaching means comprising a resilient arm portion adapted to project into the space between said edge portions, and means connecting said strip to said arm portion, said arm portion being adapted to resiliently urge said cover strip inwardly and to hold it under tension against said edge portions.

4. The combination of claim 3 wherein said attaching means is pivotally connected to said wall member, whereby said attaching means may be sidewardly pivoted to permit the admission of insulation batting between said wall members.

5. The combination of claim 3 wherein said attaching means is resiliently held under tension in said portion of one of said walls.

6. In a refrigerator cabinet, inner and outer wall members having spaced apart marginal edges, said walls being adapted to receive insulation therebetween, a reinforcing strip connected to one of said wall members adjacent its marginal edge, said reinforcing strip being provided with an inwardly disposed channel portion and a flange portion projecting toward the other of said wall members, a cover strip member overlying said flange portion and the marginal edge of said other wall member, attaching means for resiliently holding said cover strip member over said flange portion and said marginal edge portion, one end of said attaching means being connected to said reinforcing strip, the other end of said attaching means comprising a resilient arm portion adapted to project into the space between said flange portion and said marginal edge portion and means connecting said cover strip to said arm portion, said arm portion being adapted to resiliently urge said cover strip inwardly and to hold it under tension against said edge portion and said flange portion.

7. The combination of claim 6 wherein said attaching means is adapted to resiliently engage said channel portion.

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