

Dec. 23, 1941.

O. H. YOXSIMER

2,267,294

REFRIGERATION APPARATUS

Filed Dec. 9, 1938

2 Sheets-Sheet 1

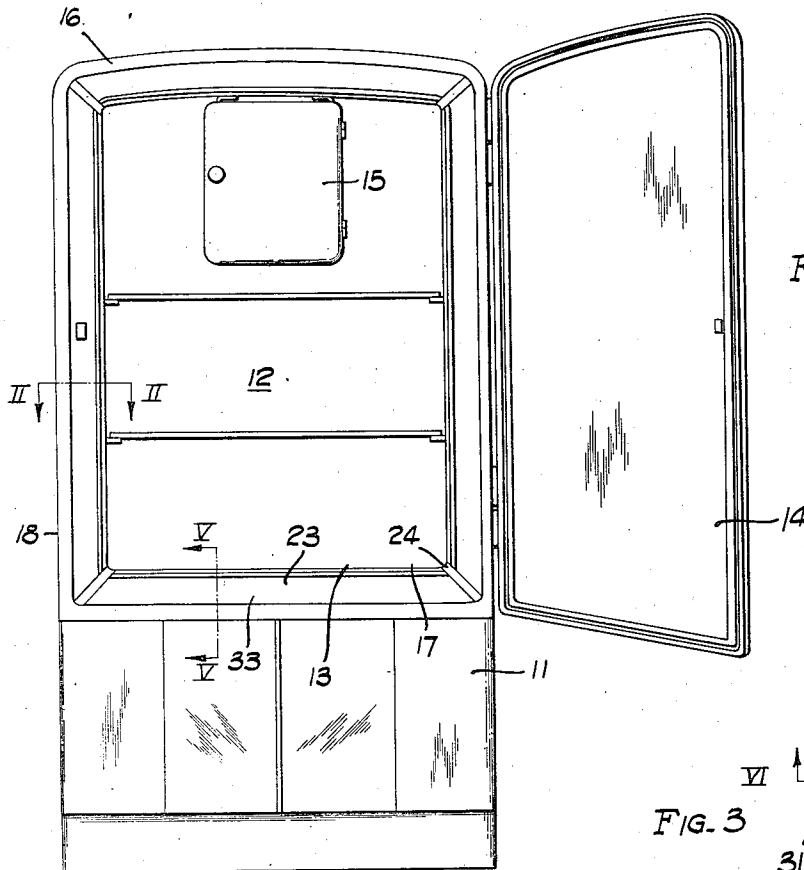


FIG. 1.

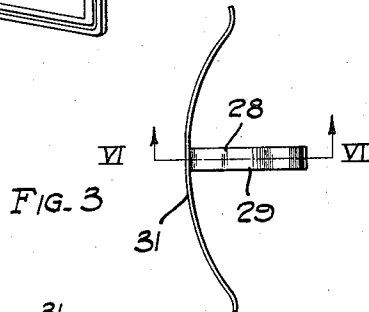


FIG. 3.

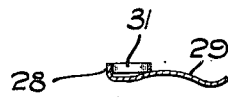


FIG. 4.

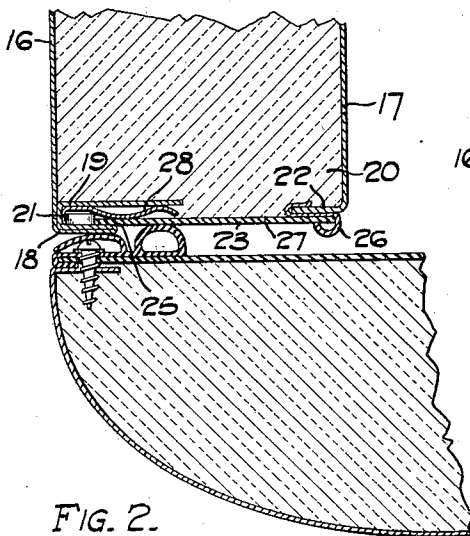


FIG. 2.

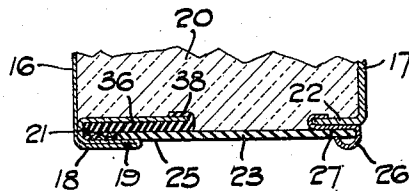


FIG. 7.

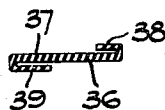


FIG. 8.

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2 Sheets-Sheet 2

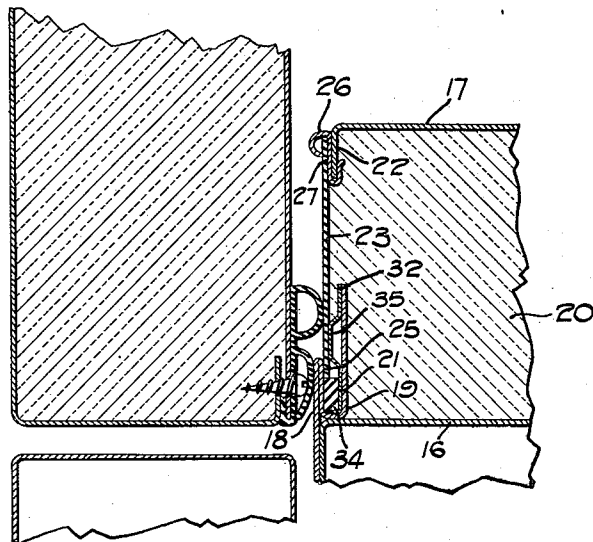


FIG. 5.

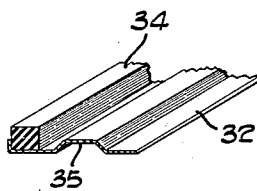


FIG. 6.

WITNESSES:

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2,267,294

REFRIGERATION APPARATUS

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Company, East Pittsburgh, Pa., a corporation
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Application December 9, 1938, Serial No. 244,765

1 Claim. (Cl. 220—9)

My invention relates to refrigerator cabinet construction and particularly to the construction and assembly of the breaker strips for closing the space between the inner and outer shells of a refrigerator cabinet.

It is an object of my invention to provide an improved breaker strip assembly wherein the use of screws, nails and like for fastening the breaker strip to the cabinet are dispensed with.

It is another object of my invention to provide a breaker strip assembly which effectively prevents the entrance of moisture and air into the heat insulation of the refrigerator cabinet.

It is still another object of my invention to provide an improved breaker strip construction from the standpoint of appearance and to insure that the breaker strip will be rigidly retained in position in the normal use of the refrigerator.

It is a further object of my invention to provide improved breaker strips which are easily and quickly assembled to refrigerator cabinets.

It is also an object of my invention to provide readily detachable breaker strip assemblies for refrigerator cabinets of the type wherein the breaker strip lies substantially in the plane of the door opening.

These and other objects are effected by my invention as will be apparent from the following description and claim taken in connection with the accompanying drawings forming a part of this application, in which:

Fig. 1 is a front view of a refrigerator cabinet showing my improved breaker strip construction;

Fig. 2 is a partial sectional view taken on line II—II of Fig. 1 with the cabinet door in closed position;

Figs. 3 and 4 are detail views of a metal spring used preferably in the breaker strip construction;

Fig. 5 is a sectional view taken on the line V—V of Fig. 1, with the cabinet door in closed position;

Fig. 6 is a perspective view of a portion of a combined spring strip and rubber sealing member;

Fig. 7 is a partial sectional view of a refrigerator cabinet and illustrates a second embodiment of my invention; and,

Fig. 8 is a detail view of a rubber member used in the construction shown in Fig. 7.

Referring specifically to the drawings for a detailed description of my invention, numeral 11 designates generally a refrigerator cabinet embodying a food compartment 12 having an opening 13 therein and a door 14 for closing the opening. An evaporator or cooling element 15 is dis-

posed in the food compartment 12 for refrigerating the same.

The refrigerator cabinet 11 is formed of an outer shell 16 and an inner shell or food liner 17 with heat insulation 20 disposed between the inner and outer walls. The food liner 17 is supported in the outer shell 16 in any suitable manner, for example, as shown in my copending application, Serial No. 370,950, filed December 20, 1940, for Refrigeration apparatus.

As best shown in Figs. 2 and 5, the outer shell 16 is bent at right angles peripherally of the door opening 13 to form a flange 18 in the plane of the front of the cabinet 11. The outer shell 16 is then bent in a U-shape as shown at 19 to form a pocket 21 which extends completely around the door opening. The inner shell or food liner 17 is likewise bent at right angles peripherally of the door opening 13 to form a flange 22 in the plane of the front of the cabinet and extending forward the flange 18 on the outer shell. A breaker strip 23 connects the inner and outer shells 16 and 17 and is preferably formed of a material impregnated with a resinous condensate product, so that the breaker strip is non-metallic and non-hygroscopic. Preferably, a flat strip 23 is provided at the top, bottom and each side of the door opening 13 and corner clips 24 cover the meeting edges of the four breaker strips.

A plurality of generally T-shaped metal springs 28, bent to the shape shown in Figs. 3 and 4 are disposed in the pocket 21 of the outer shell 16 around the top and sides of the door opening, as shown in Fig. 3. A bent portion 29 of the T-shaped spring 28 forces the breaker strip 23 transversely of its cross-section against the inner face of the pocket 21, thus sealing the heat insulation 20 and holding the outer marginal edge 25 of the breaker strip in position. A rounded top portion 31 of the T-shaped spring forces the breaker strip 23 longitudinally of its cross section and retains the edge 27 and the flange 22 of inner shell 17 into engagement with the metal strip 26. It is thus apparent that the breaker strip is held tightly in position and is disposed in the plane of the front surfaces of the cabinet 11.

As shown in Fig. 5, a strip of spring material 32, shown in Fig. 6, is disposed in the pocket 21 along the bottom edge 33 of the door opening. A strip of sponge rubber 34 is cemented or otherwise fastened to the spring strip 32. A raised portion 35 on the spring strip forces the breaker strip transversely of its cross section against the inner face of the pocket 21, and the sponge rubber strip 34 forces the breaker strip 23 longitudi-

nally of its cross section into engagement with the metal strip 26. The rubber strip 34 in addition to its function of retaining the breaker strip 23 in position, prevents the entrance of moisture into the heat insulation at the bottom of the cabinet. Therefore, if liquids are spilled or collect in the bottom of the food storage compartment 12 and run down the breaker strip they will be prevented from entering the heat insulation.

The breaker strip 21 is assembled to the top and sides of the cabinet 11 in the following manner. The strip of metal 26 is first placed on the inner edge of the breaker strip 23 and the springs 28 are disposed in the pocket 21. The outer marginal edge 25 of the breaker strip is then inserted in the pocket 21 and the springs 28 are compressed by forcing the breaker strip into the pocket until the metal strip 26 may be snapped in place on the flange 22. The breaker strip 23 at the bottom of the cabinet is assembled by placing the strip of metal 26 on the inner edge 27 of the breaker strip 21, disposing the spring strip 32 with the rubber strip 34 in the pocket 21 and forcing the outer edge 25 of the breaker strip into the pocket 21 until the metal strip 26 may be snapped over the flange 22. The corner clips 24 finish the assembly.

A second embodiment of my invention is illustrated in Figs. 7 and 8, wherein like parts are given the same numerals as in Figs. 1 and 2. In this embodiment, a rubber member 36 takes the place of the springs 28 and spring strip 32 and rubber strip 34 described in the first embodiment. The rubber member 36, shown in Fig. 8, has a body portion 37 and upper and lower oppositely extending lips or flanges 38 and 39, respectively. The member 36 is disposed in the pocket 21 and the upper flange 38 overlies the upper leg of the U-shaped portion 19 of the outer shell 16. The lower lip 39 is compressed by the breaker strip 23 and, therefore, forces the breaker strip longitudinally of its cross-section and retains the edge 27 and the flange 22 of the inner shell into engagement with the metal strip 26. The body portion 37 is of sufficient thickness to force the breaker strip 23 transversely of its cross section into engagement with the inner face of the pocket 21. The rubber member 36, therefore, performs the dual function of retaining the breaker strip 23 in position and of sealing the

heat insulation 20 from the ingress of moisture and air.

The breaker strip 23 is preferably assembled to the cabinet 11 in the same manner as set forth with respect to the first embodiment.

From the foregoing it will be apparent that I have provided breaker strip constructions in which the use of nails and screws is dispensed with and which lie parallel to the front of the cabinet. Furthermore, the construction is readily assembled, neat in appearance, and provides an efficient heat break and seal for the refrigerator cabinet.

While I have shown my invention in several forms, it will be obvious to those skilled in the art that it is not so limited, but is susceptible of various other changes and modifications without departing from the spirit thereof, and I desire, therefore, that only such limitations shall be placed thereupon as are imposed by the prior art or as are specifically set forth in the appended claim.

What I claim is:

In a refrigerator cabinet construction, the combination of inner and outer shells having heat insulation therebetween and being provided with a substantially rectangular door opening, said shells having edge portions bent inwardly toward each other and spaced apart peripherally of the door opening, a member spaced from one of said edge portions and parallel therewith forming a rigid pocket opening outwardly toward the edge portion of the other shell, a breaker strip for closing the space between the shells, said breaker strip having an edge thereof extending into said rigid pocket, and means for securing the other edge of the breaker strip to the opposite edge portion of the other shell and independently removable resilient means disposed in said pocket in contact with the end and side of the breaker strip for resiliently urging said breaker strip lengthwise toward said securing means and crosswise against the inner face of the edge portion forming said pocket, said independent resilient means forming a continuous seal between said breaker strip and one of the faces of the edge portion of the shell which forms said pocket at one side of the door opening.

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