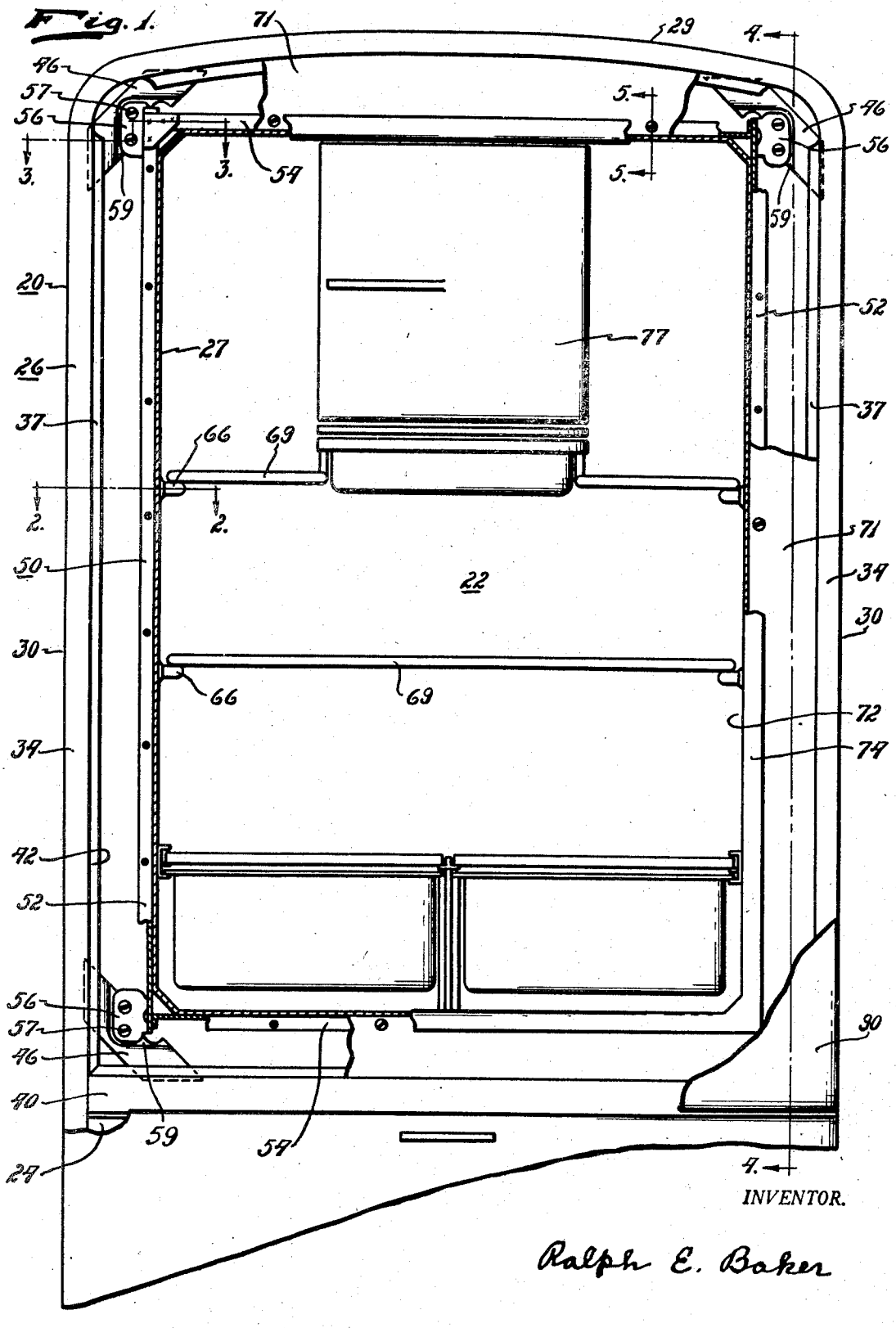
Nov. 16, 1943. R. E. BAKER 2,334,237

REFRIGERATING APPARATUS

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Fig. 1.



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Fig. 2.

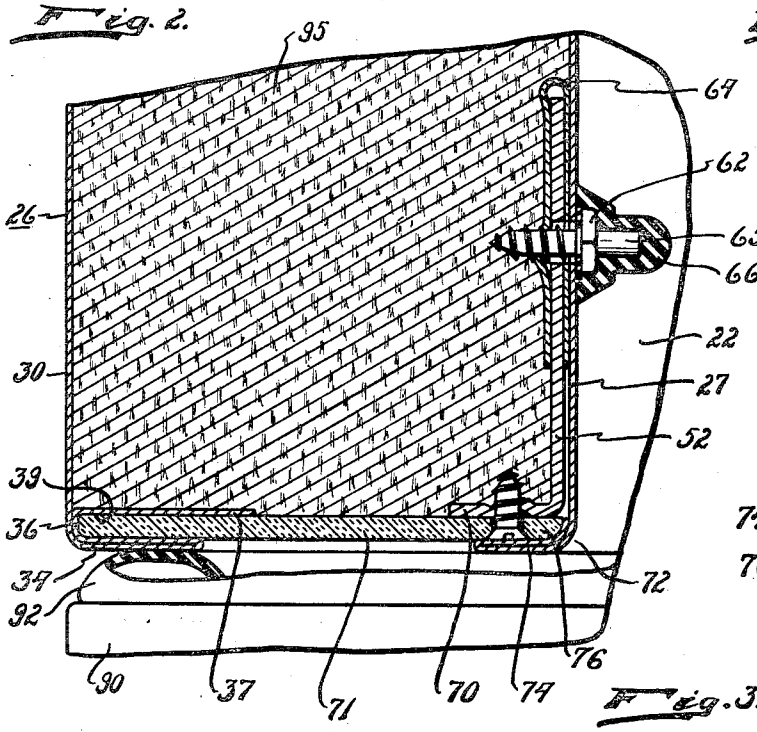


Fig. 6.

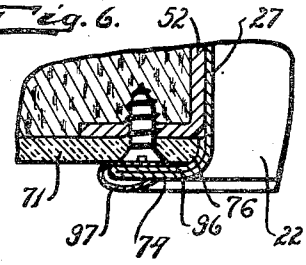


Fig. 5.

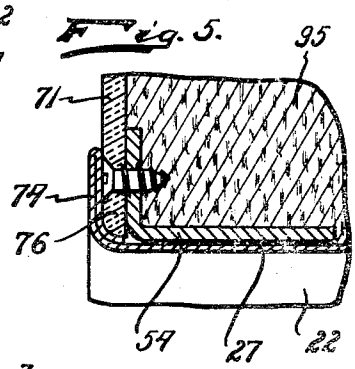


Fig. 3.

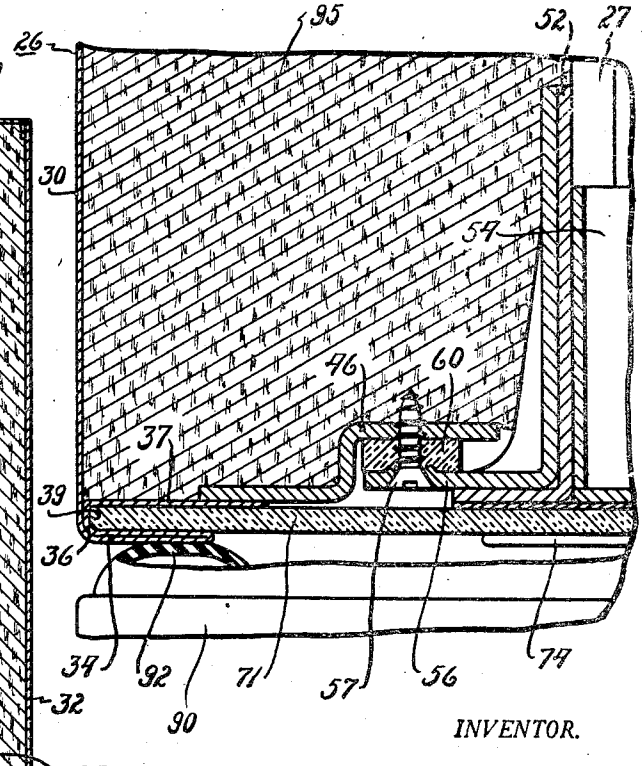
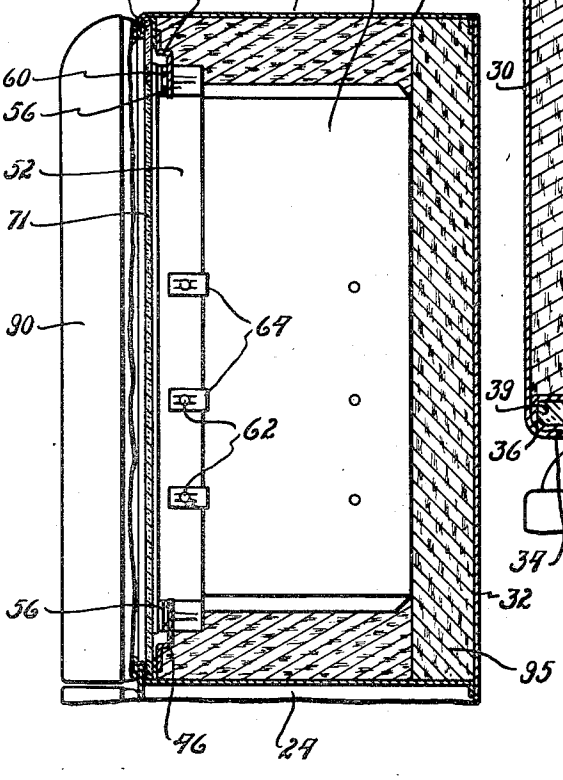


Fig. 4.



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UNITED STATES PATENT OFFICE

2,334,237

REFRIGERATING APPARATUS

Ralph E. Baker, Detroit, Mich., assignor to Nash-Kelvinator Corporation, Detroit, Mich., a corporation of Maryland

Application February 9, 1942, Serial No. 430,090

2 Claims. (Cl. 220—15)

The present invention pertains to refrigerating apparatus and more particularly to cabinet construction.

It is an object of the present invention to provide in a cabinet having inner and outer casings an improved arrangement for the securing and supporting of the inner casing to the outer casing.

It is another object of the present invention to provide in a cabinet an improved arrangement for securing a breaker strip joining the inner and outer casing, and forming the front wall of the cabinet.

It is a further object of the present invention to provide the outer casing of a cabinet with a suspended box-like frame member within which is set and secured the inner casing or liner which forms the walls of a food storage compartment.

It is a still further object of the present invention to secure the breaker strips to the cabinet prior to the insertion and securement of the liner within the cabinet.

The invention itself, however, both as to its organization, and its method of operation together with additional objects and advantages thereof, will best be understood from the following description of specific embodiments when read in conjunction with the accompanying drawings, in which;

In the drawings:

Fig. 1 is a front elevational view with parts broken away and parts shown in section of a cabinet embodying the present invention;

Fig. 2 is a fragmentary enlarged cross sectional view taken along line 2—2 of Fig. 1;

Fig. 3 is a fragmentary enlarged cross sectional view taken along line 3—3 of Fig. 1;

Fig. 4 is a cross sectional view taken along line 4—4 of Fig. 1;

Fig. 5 is a fragmentary cross sectional view taken along line 5—5 of Fig. 1; and

Fig. 6 is a fragmentary cross sectional view of a modified form of the invention.

Shown in the drawings is a refrigerator cabinet 20 having a food storage compartment 22 and a machine compartment 24 insulated therefrom.

The cabinet 20 comprises an outer shell, casing or liner 26 and an inner shell, casing or liner 27. The outer casing 26 comprises top wall 29 and side walls 30 formed as a unitary structure from a single sheet of metal and to which is secured by weld a panel 32 forming a rear wall of the cabinet. The front marginal edge of the casing 26 is bent to form a front wall portion 34 which is provided with extended metal doubled upon the portion 34, as at 36, and continued a determinate distance along the side wall to be bent at right angles thereto for forming an inwardly extending wall 37 in space parallel relation to the front wall 34. The wall portion 37 forms with the front wall 34 an open pocket 39. Similar construction for forming pocket 39 is formed along the opposite side of the casing 26, in the top wall portion 29, and in the connecting member 40. The connecting member 40 is secured between the side walls 30 of the casing 26 and is flush with the front wall portion 34, and forms therewith a rectangular opening 42 in the front wall of the outer casing 26.

In each corner of the opening 42 is a gusset member 46. Each gusset member 46 is secured at its ends to the rear face portion of the wall portion 37 by weld or the like. Fixedly secured to the gusset members and rigidly supported thereby is a frame member 50. The frame member 50 comprises spaced parallel vertical bar or rail sections 52 joined at their ends by horizontal bar or rail sections 54, and secured together by weld, or the like, in a box-like frome. Securedly affixed adjacent each end of the vertical bars are ears 56 adapted to be secured by screws 57 to a respective gusset member 46. The gusset members are each formed with an indented portion 59 to permit the ear to lie flush or below the surface of the gusset. Suitable spacers 60 are interposed between each ear and gusset member, which may be formed of suitable heat insulation material to prevent heat conduction therebetween.

Set within the frame member 50 to be supported thereby is the inner liner 27. The liner 27 comprises side, top, bottom and rear walls which forms the walls of the food storage compartment 22. The liner 27 is secured by studs 62 to the vertical bar sections 52. The studs 62 are adapted to thread into a speed nut 64 formed as a U-shaped clip. The nuts 64 are secured at spatial distances along the vertical bar sections 52, and are frictionally tensioned upon the bar, and adapted to embrace opposite sides thereof. The nuts are positioned over enlarged openings formed in the bar through which the threadable shank of a stud is adapted to project to thread into one of the legs of the V-shaped nut. By this arrangement, the nuts are readily movable for alignment with a respective opening in a wall of the liner thereby facilitating production and assembly of the cabinet. If desired, the stud may directly thread into the vertical bar sections 52. The studs are each pro-

vided with a projecting portion 65 over which is fitted a flexible cap 66 and serves as a rest, or hanger for a self 69 provided in the food storage compartment 22.

Each bar section 52 and 54 forming the frame structure 50 is formed with a flange section 70 which lies in the same plane with the wall section 37 of the outer casing in spaced apart relation. Secured to the flange 70 by screws, clips or other fastening means is a breaker strip 71 whose opposite edge is adapted to extend into the pocket 39. The breaker strip may be formed of "Bakelite," "Masonite," plastic or other non-heat conducting material. The breaker strips are attached along the top, sides and bottom of opening 42 and forms with the wall portion 34 the front wall of the cabinet.

To cover and conceal the securing means affixing the breaker strips to the flange 70 the marginal edge of the sides, top and bottom walls of the liner 27 adjacent the access opening 72 is flanged outwardly to overlap a marginal portion of the breaker strip to form a front wall portion 74. The front wall 74 is formed of double thickness having a portion thereof doubled upon itself, as at 76.

The access opening 72 to the food storage compartment is closed by a swingably mounted door 90 having a peripherally extending gasket 92 adapted to seal against the face portion of the front wall 34 to prevent entrance of air into the food storage compartment. The circulating air in the food storage compartment is cooled by a suitable evaporator 77 which is connected to a compressor-condenser (not shown) forming a refrigerating system.

In the assembling of the cabinet the insulation is placed in position and the frame member 50 is secured to the outer shell 26 after which the breaker strips are set in place by having one edge inserted in pocket 39 and the other edge secured by screws to the frame member 50. The liner 27 is then inserted through the front of the cabinet into the frame member 50 and moved within the outer casing until the openings in the liner are aligned with the frame member for securement by the studs 62. The caps 66 are then secured upon the studs. The front wall portion 74 of the liner will rest against the breaker strip serving to cover the securing means, and also provides means for further clamping and holding the inner edge of the breaker strip in securement as well as preventing warping or turning of the edge thereof.

In the coating of the inner liner 27 by vitreous enamel, or the like, it is desirable to protect sharp corners and edges to prevent chipping and to this end there is shown in Fig. 6 a covering comprising of a strip having a portion 96 frictionally held between the breaker strip and front wall portion 74 and a portion bent to extend around the edge of the wall 74 and over a marginal portion of the wall, as at 97. The covering strip is extended longitudinally along the wall portion 74.

While I have shown and described the preferred forms of my invention I do not wish to limit myself to the precise details as shown and described but wish to avail myself of such variations and modifications as may come within the scope of the appended claims.

I claim:

1. A refrigerator cabinet comprising an outer casing arranged to form top and side walls of the cabinet and including an inwardly directed portion extending around the front of the cabinet, an inner casing positioned within said outer casing and being arranged in spaced apart relationship, said inner casing including an outwardly directed portion extending toward the inwardly directed portion of the outer casing but terminating in spaced relation thereto and on substantially the same plane at the front of the cabinet, insulation positioned between said casings, a breaker strip positioned between said casings at the rear of said inwardly and outwardly directed portions of said casings, a rectangular frame embracing said inner casing at the rear of said outwardly directed portion and including a flange, means positioned entirely at the rear of said outwardly directed portion of the inner casing for securing said breaker strip to said flange, means for securing said frame to said outer casing, and means for securing said inner casing to said frame.

2. A refrigerator cabinet comprising an outer casing arranged to form top and side walls of the cabinet and including an inwardly directed portion extending around the front of the cabinet, an inner casing positioned within said outer casing and being arranged in spaced apart relationship, said inner casing including an outwardly directed portion extending toward the inwardly directed portion of the outer casing but terminating in spaced relation thereto and on substantially the same plane at the front of the cabinet, insulation positioned between said casings, a breaker strip positioned between said casings at the rear of said inwardly and outwardly directed portions of said casings, a rectangular frame embracing said inner casing at the rear of said outwardly directed portion and including a flange, means positioned entirely at the rear of said outwardly directed portion of the inner casing for securing said breaker strip to said flange, gussets extending across the corners of said outer casing, means for securing said frame to said gussets, and means for securing said inner casing to said frame, said latter means extending into said inner casing and forming a supporting element within said casing.

RALPH E. BAKER.