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REFRIGERATING APPARATUS

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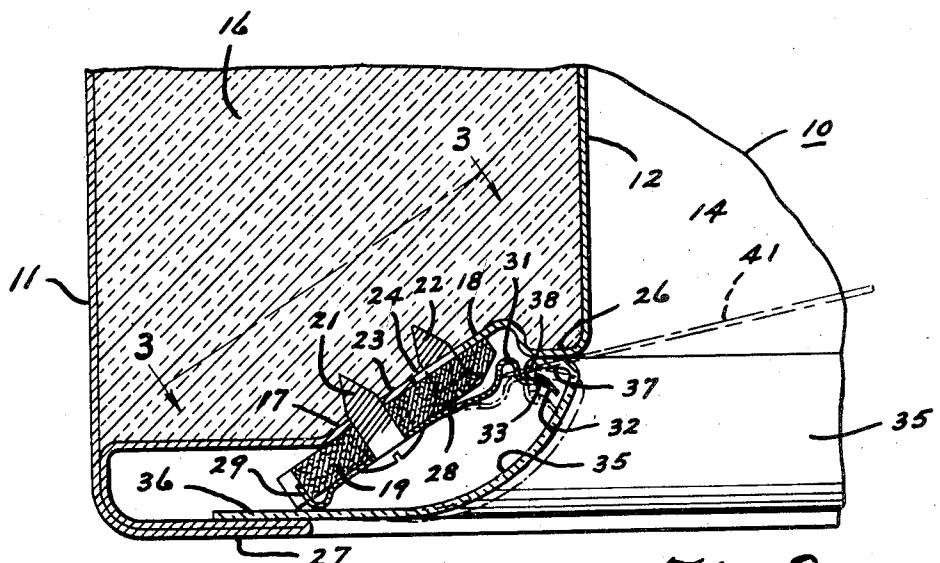


Fig. 2

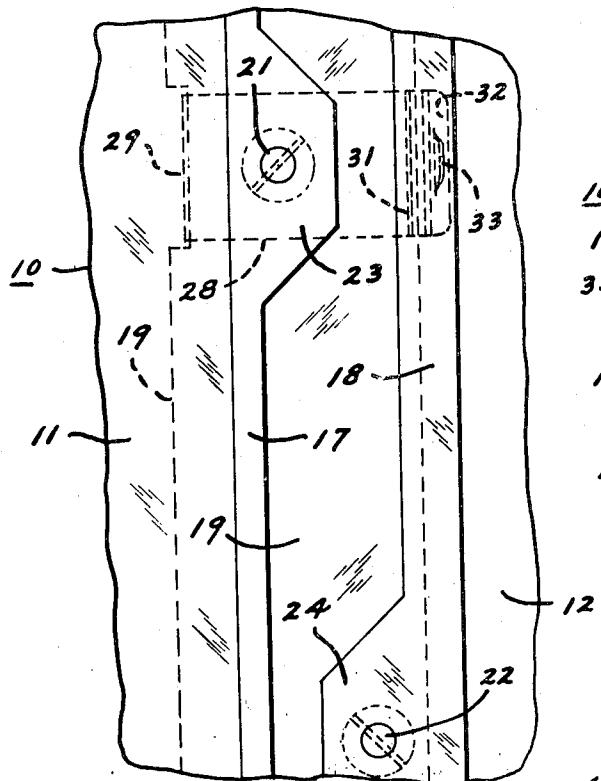


Fig. 3

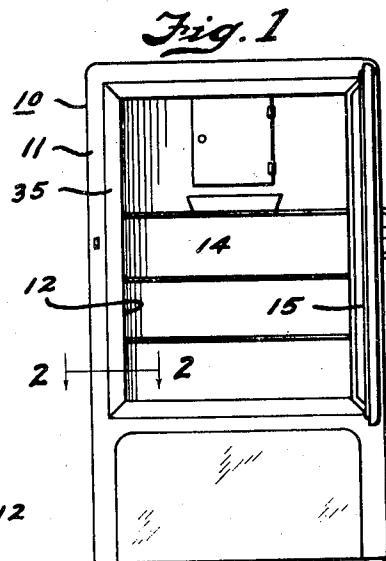


Fig. 1

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REFRIGERATING APPARATUS

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This invention relates to refrigerator cabinet wall constructions and particularly to the wall structure at the door opening providing access to the interior of the cabinet.

An object of my invention is to provide an improved molding and trim strip structure between metal wall members of a refrigerator cabinet at the door opening or throat of a food storage compartment.

Another object of my invention is to provide a trim strip between the inner and outer metal walls of a refrigerator cabinet which is held in place without passing screws or the like therethrough to thereby provide a smooth surface which improves the appearance of the cabinet at the throat of the food storage compartment.

In carrying out the foregoing objects it is a further and more specific object of my invention to provide a trim strip between the inner and outer metal walls of a refrigerator cabinet at the throat of the food storage compartment thereof which conceals its securing means and which means is accessible in a novel manner to permit removal of the strip from the cabinet.

Further objects and advantages of the present invention will be apparent from the following description, reference being had to the accompanying drawings, wherein a preferred form of the present invention is clearly shown.

In the drawings:

Fig. 1 is a front view of a refrigerator cabinet having my invention embodied therein and showing the food storage compartment door in open position;

Fig. 2 is an enlarged fragmentary sectional view taken on the line 2—2 of Fig. 1 showing the trim strip of the present invention applied to the cabinet; and

Fig. 3 is a fragmentary sectional view taken on the line 3—3 of Fig. 2 with the insulation removed showing the relation of the edges of the metal cabinet walls and showing one of the clips employed to secure the trim strip upon the cabinet.

Referring to the drawings, for illustrating the present invention, I have shown in Fig. 1 thereof a refrigerator cabinet of the household type generally designated by the reference character 10. Cabinet 10 includes a metal exterior shell, panel or wall 11 and an interior metal wall or lining 12 (see Fig. 2) forming a food storage compartment 14 within the cabinet. Any suitable insulating material 16 may be interposed between the wall members 11 and 12. A closed refrigerating system associated with cabinet 10 includes

a refrigerant compressing and liquefying unit, which may be mounted in the bottom of the cabinet, and a refrigerant evaporator located in the upper portion of the compartment 14 for cooling and causing circulation of air therein. The compartment 14 may be provided with a plurality of shelves as is conventional in the art for the support of food products to be cooled and/or preserved. A door 15 of any suitable or desirable construction normally closes the food storage compartment and includes a flexible seal extending therearound which engages the front of the cabinet 10.

The metal members 11 and 12 each have their edge portion terminating in marginal flanges 17 and 18 respectively at the front of cabinet 10 in the vicinity of the door opening which provides access to compartment 14. These flanged edges 17 and 18 of members 11 and 12 are spaced apart (see Fig. 3) so as to break metal-to-metal contact therebetween and prevent conduction of heat into the compartment 14. In order to securely hold the edges 17 and 18 of the metal members 11 and 12 in fixed position relative to one another about the cabinet door opening a rigid insulating breaker strip or element 19, such as a fibre board or the like, connects the members 11 and 12 together by being secured thereto by screws 21 and 22 which are threaded into spaced apart ears 23 and 24 located in staggered relation (see Fig. 3) relative to one another along the edges of members 11 and 12. A portion of the liner or member 12 adjacent flange 18 is bent to provide a shoulder 26 which projects outwardly toward the front of the cabinet. A portion of the outer metal member 11 adjacent its marginal flange 17 is also bent to provide a shoulder or extension 27 which projects beyond one edge of the strip 19 toward the cabinet door opening. The flexible seal on door 15 is adapted to engage the outer wall member 11 of cabinet 10 in the vicinity of shoulder 27 to seal the compartment 14. The screws 21 also mount a plurality of spring clips 28 along the door opening by securing same to the insulating strip 19. Each clip 28 includes a bent tail portion 29 which overlaps and engages an edge of the breaker strip element 19 to prevent rotation or shifting of the clip about the mounting screw 21. Each clip 28 also includes a bent or half loop portion 31 provided with a curved lip end portion 32 which is slotted and raised as at 33 to provide a short catch portion thereon.

In order to cover or conceal the insulating breaker strip element 19, the plurality of spring

clips 28, and to form a rounded wall corner for the cabinet 10 at the throat or door opening of the food storage compartment 14 which is neat in appearance, I provide a trim strip 35. This trim strip 35 may be formed of any suitable or desirable material of poor heat conductivity. For example, a cellulose acetate material known to the trade as "Tenite" or a material known to the trade as "Polystyrene" can be used to form the trim strip 35. Preferably a resilient material which will withstand some deflection or distortion should be used in the formation of the strip 35. Each of the trim strips 35 about the cabinet door opening are substantially arc-like in cross-section and extend between and abut against the outwardly directed or opposed shoulders 26 and 27 on the metal members 11 and 12. Each trim strip 35 includes a relatively straight tail edge portion 36 which lies in a groove, formed by the bending of the metal of the outer cabinet wall 11 intermediate flange 17 and shoulder 27, and abuts against the inner wall surface of shoulder 27 on member 11 adjacent the bent tail part 29 of the clips 28. The other edge portion of strip 35 is flanged inwardly as at 37 and the edge of flange 37 has a short flanged ear or hook 38 formed thereon. Flanged ear or hook 38 on strip 35 fits between the bent portion 31 and the raised catch portion 33 on the lip 32 of clips 28 to removably lock the trim strips 35 upon the cabinet 10. The trim strips 35 are assembled to the cabinet by inserting the tail end or edge portion 36 thereof under the shoulder 27 on member 11 and by pushing the flanged edge portion 37 inwardly toward the breaker strip element 19. This inward movement of the trim strip 35 causes the short flange or ear 38 thereon to engage lip 32 on spring clips 28 whereby lip 32 is depressed permitting the flanged ear 38 to ride over the catch portion 33. The tension of spring clips 28 cause that portion thereof intermediate the catch portion 33 and the bent or half loop portion 31 to snap over the flanged ear 38 on trim strip 35. Loop portion 31 of the spring clips 28 forms a stop for the inward movement of the strip 35. The plurality of clips 28 thus lock and securely maintain the trim strips 35 upon the cabinet in a position to conceal other elements of the throat structure of the compartment access opening.

Should the trim strip 35 become discolored, damaged or broken necessitating replacement thereof it can be quickly and readily unlocked and removed from the cabinet 10. Since the trim strip 35 is constructed of a material which will permit a certain amount of flexure or distortion thereof, a flat-like tool member, such for example, as a knife blade, a thin steel scale or a similar member may be inserted between the strip 35 and the shoulder 26 on lining member 12. Such a tool member is designated at 41 in the dot-dash lines indicated in Fig. 2 of the drawings wherein I have shown the spring clip 28 moved away from the trim strip 35 and the strip 35 ready for removal from the cabinet 10. The initial insertion of the flat-like tool member 41 will deflect or distort the resilient trim strip 35 outwardly away from shoulder 26 on member 12 and then the member 41 may be pushed into the wall structure a suitable distance to enable its end to engage the bent or half loop portion 31 of the clip 28. Tool member 41 upon being fulcrumed about the outer bent portion of shoulder 26 while engaging portion 31 of the spring clip 28 will move the elements into the sprung or

distorted position shown in dot-dash lines in Fig. 2 of the drawings and the resilient trim strip 35, having its short flange or ear 38 unlocked or released from the catch portion 33 on the clip 28, 10 15 20 25 30 35 40 45 50 55 60 65 70 75 can be removed from the cabinet 10 by merely slipping the tail or edge part 36 thereof outwardly and away from the shoulder 27 on wall member 11. While I have described the release of one of the plurality of spring clips 28 along the door opening, it is to be understood that the trim strip 35 is held in released position at this point while other of the clips 28 are released therefrom to permit sliding of the strip 35 away from the wall structure. Thus while the clips 28 firmly 15 20 25 30 35 40 45 50 55 60 65 70 75 maintain the resilient trim strips 35 secured to cabinet 10 and are concealed, they are also accessible to permit unlocking and removal thereof from the cabinet structure.

I have provided an improved refrigerator cabinet wall construction and a novel trim or molding strip for that portion of the wall construction about the throat or door opening providing access to the food storage compartment of the cabinet. My invention provides trim strips which cover or conceal their securing means while at the same time the resiliency of the strips permit access to the concealed securing spring clips so as to release them from the strips for rendering the strips removable. The trim strips disclosed may be of any desirable color to harmonize with or to provide a contrast to the color of the finish on the refrigerator cabinet.

While the form of embodiment of the invention as herein disclosed, constitutes a preferred form, it is to be understood that other forms might be adopted, as may come within the scope of the claims which follow.

What is claimed is as follows:

1. A cabinet provided with an access opening, 40 said cabinet including inner and outer sheet metal wall members having spaced edges fixed relative to one another in the vicinity of the access opening, the metal adjacent the edge of one of said wall members being bent to provide a first shoulder and being further bent to form a groove adjacent said shoulder, the metal adjacent the edge of the other of said wall members also being bent to provide a second shoulder, a trim strip having its one edge portion fitting in said 45 groove and abutting said first shoulder, a portion of said trim strip adjacent its other edge abutting said second shoulder and having its said other edge directed away from said second shoulder to provide a hook, a spring clip mounted on said 50 cabinet beneath said trim strip and having an end cooperating with said strip, said spring clip being provided with a catch portion adjacent its said end and having a bent part spaced from said catch portion, that part of said spring clip intermediate said catch portion and said bent part bearing against said hook edge of said trim strip to lock the strip upon said cabinet, said trim strip being sufficiently resilient to permit a flat-like member to flex same upon inserting the 55 flexing member between said second shoulder and that part of said strip abutting same, and said bent part of said spring clip extending toward said second shoulder and being disposed substantially in the path of insertion of said flexing member so as to be engageable thereby while said strip is flexed for moving said spring clip to release its said catch portion from said hook edge of said trim strip for unlocking the strip from said cabinet.
2. A cabinet provided with an access opening,

said cabinet including inner and outer sheet metal wall members having spaced edges fixed relative to one another in the vicinity of the access opening, the metal adjacent the edge of said outer wall member being bent to provide a first shoulder and being further bent to form a groove adjacent said shoulder, the metal adjacent the edge of said inner wall member also being bent to provide a second shoulder, a trim strip of curved cross-section having its one edge portion fitting in said groove and abutting said first shoulder, a portion of said trim strip adjacent its other edge abutting said second shoulder and having its said other edge directed away from said second shoulder to provide a hook, a spring clip mounted on said cabinet beneath said trim strip and having an end cooperating with said strip, said spring clip being provided with a catch portion adjacent its said end and having a bent part spaced from said catch portion, that part of said spring clip intermediate said catch portion and said bent part bearing against said hook edge of said trim strip to lock the strip upon said cabinet, said trim strip being sufficiently resilient to permit a flat-like member to flex same upon inserting the flexing member between said second shoulder and

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that part of said strip abutting same, and said bent part of said spring clip extending toward said second shoulder and being disposed substantially in the path of insertion of said flexing member so as to be engageable thereby while said strip is flexed for moving said spring clip to release its said catch portion from said hook edge of said trim strip for unlocking the strip from said cabinet.

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