July 12, 1938. J. M. CONNELLY 2,123,403

CABINET CONSTRUCTION

Filed May 4, 1936

Fig. 1.

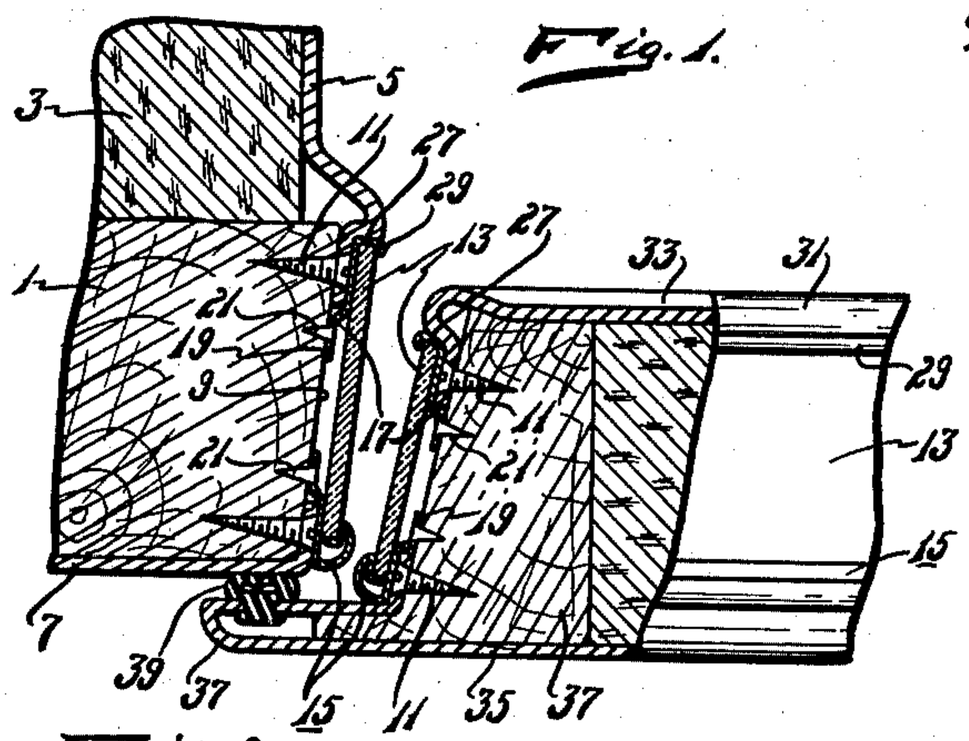


Fig. 4.

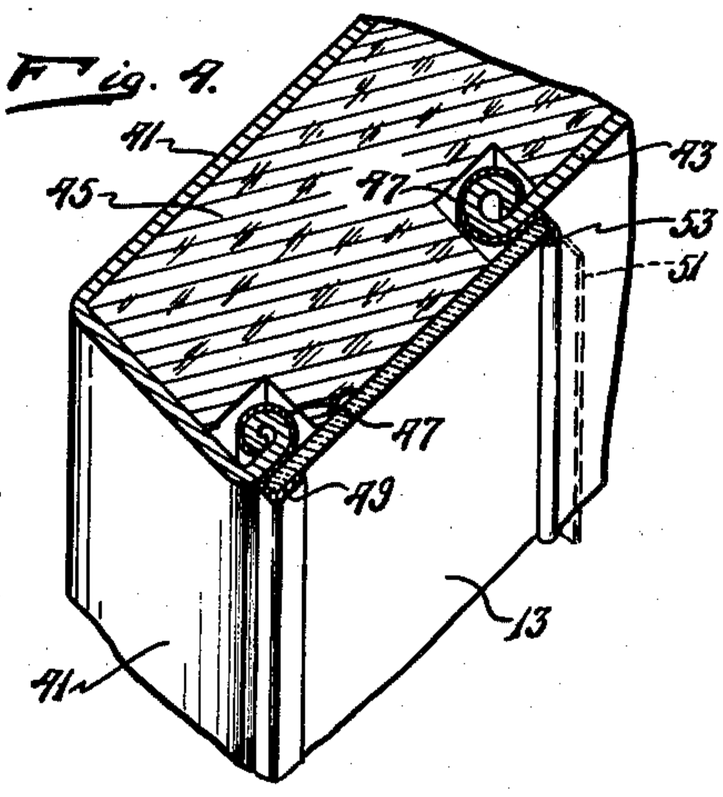


Fig. 2.

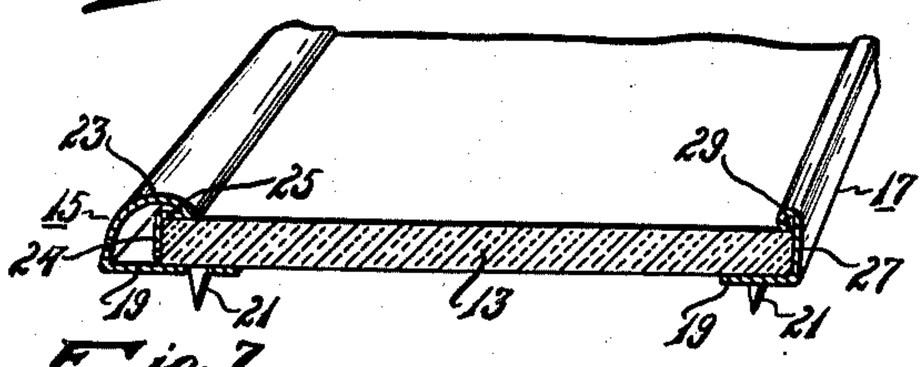


Fig. 3.

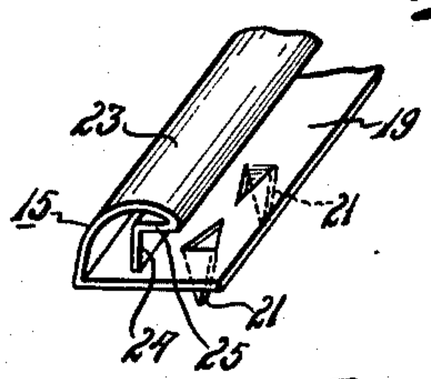


Fig. 8.

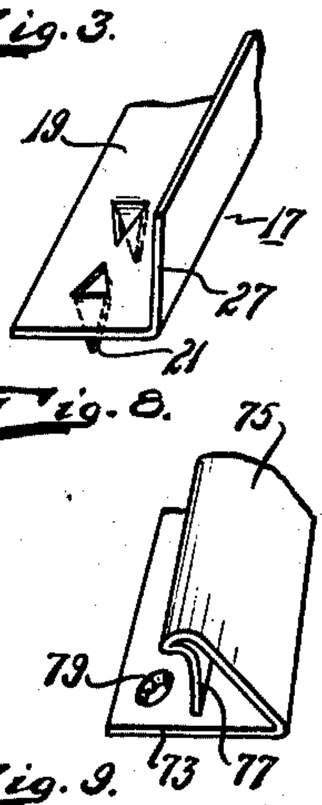


Fig. 7.

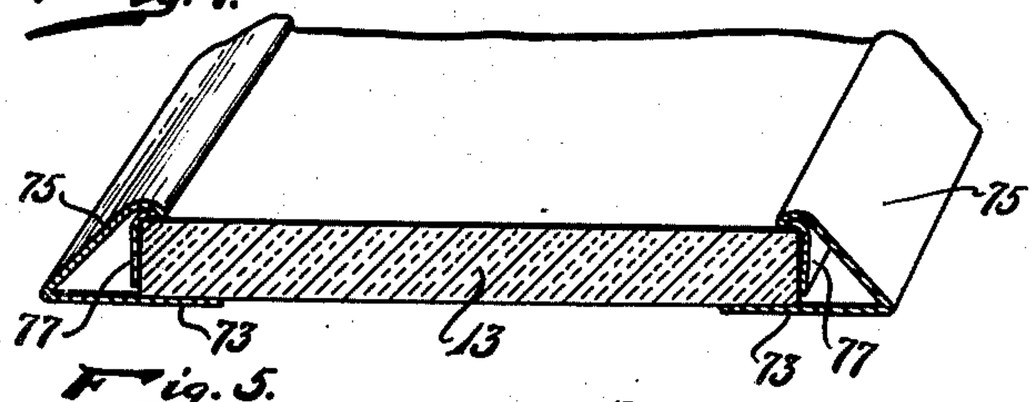


Fig. 9.

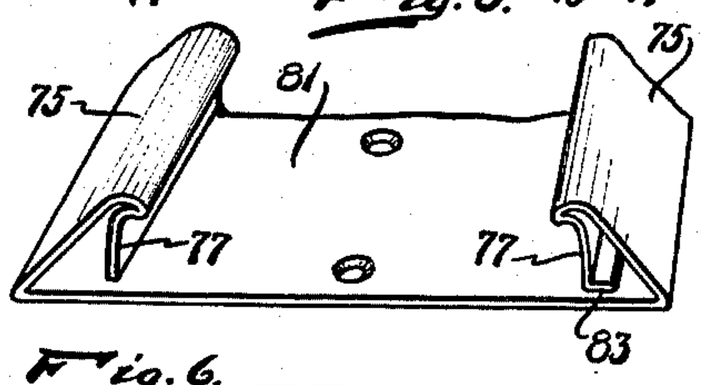


Fig. 5.

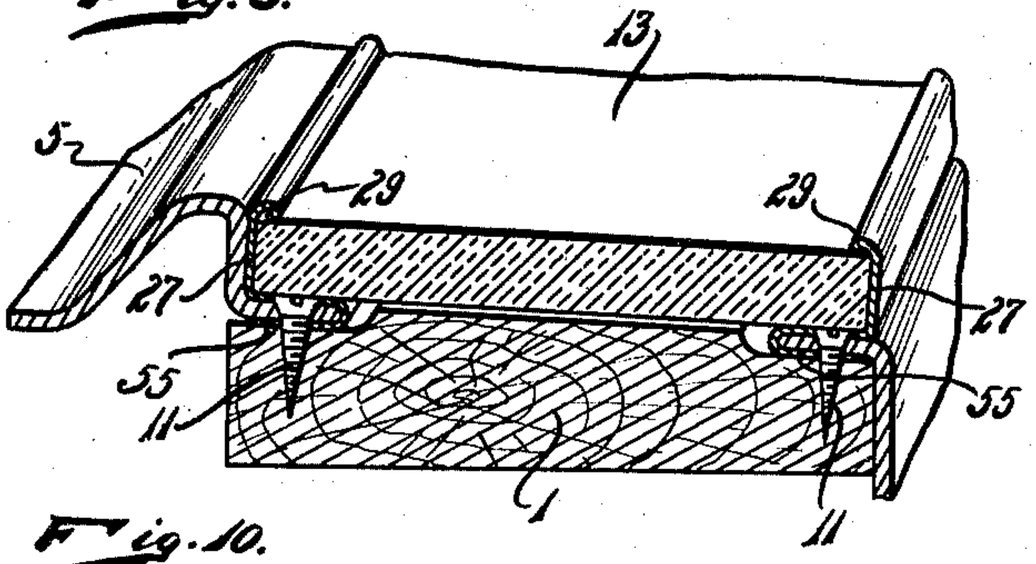


Fig. 6.

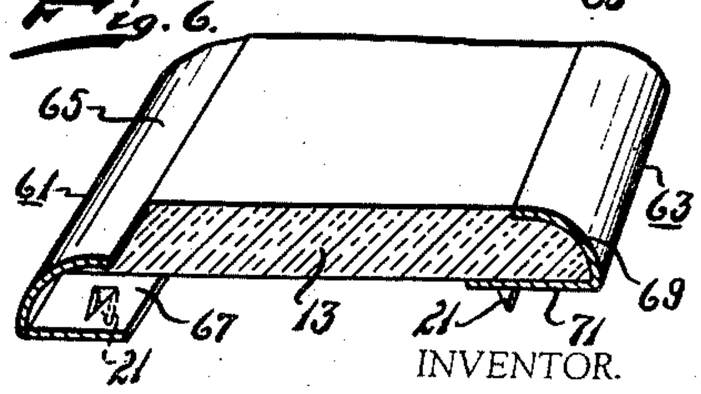
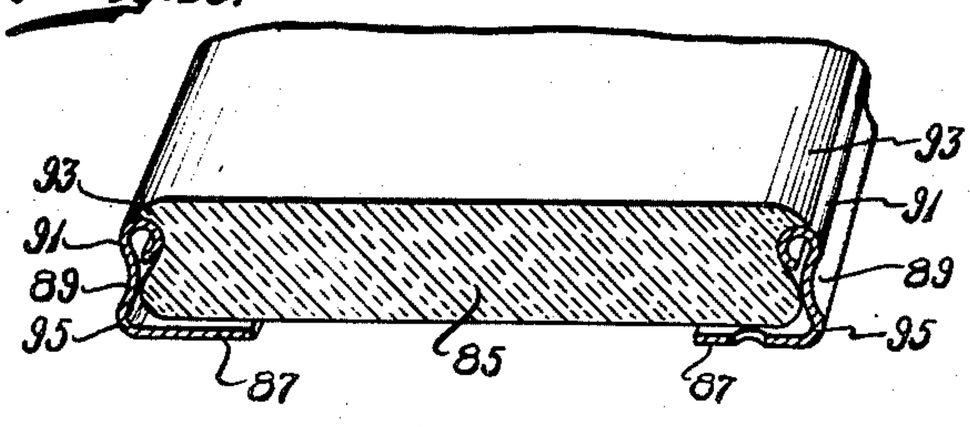


Fig. 10.



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2,123,403

CABINET CONSTRUCTION

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5 Claims. (Cl. 220—9)

My invention pertains to cabinet constructions and more particularly to a method of and means for attaching breaker strips to cabinets, doors, walls and the like.

Breaker strips are generally secured on cabinets and walls to provide a smooth panel surface overlapping the edges of the panels and presenting a pleasing finished appearance. Previously known methods of and means for attaching breaker strips have been inconvenient to apply and unsatisfactory thereafter. Considerable extra labor was involved in drilling the breaker strips, and the walls and frames of the cabinets, doors and the like. The apertures thus provided admitted moisture and foreign matter and the smooth panel surfaces of the breaker strips were marred. Also the heads of screws and fastening members on the surfaces of the breaker strips presented an unpleasing appearance and interfered with polishing and cleaning.

It is accordingly an object of my invention to provide a simple and convenient method of and means for assembling breaker strips on cabinets whereby the breaker strips may be quickly secured in place to present smooth unblemished panel surfaces free of fastening members.

It is also an object of my invention to provide an improved breaker strip fastening arrangement on cabinets having panels thereon with their adjacent edges disposed in spaced relation, which comprises elongated retaining members secured along the spaced edges of the panels which are to be covered whereby the breaker strip to be attached is conveniently secured by inserting one edge under a portion of a retaining member and snapping the other edge of the strip under a portion of the other retaining member.

It is a further object of my invention to provide for such arrangements a breaker strip retaining member comprising an elongated cabinet abutting base having a projecting portion extending angularly from one edge thereof to simulate a bevel surface joining the edge of the breaker strip which is inserted in abutting engagement against a flexible flange projecting from the outer edge of the bevel wall toward the base and serving to clamp the edge of the strip.

Another object of my invention is to provide in such a breaker strip attaching arrangement, a pair of the elongated retaining members between which the edges of the breaker strip may be frictionally snapped whereby the panel surfaces of the breaker strip are unblemished and free from fastenings.

A further object of my invention is to provide a breaker strip retaining member comprising an elongated cabinet abutting base having attaching points blanked therefrom, a bevel wall projecting angularly from one edge of the elongated base, a resilient flange on the outer edge of said bevel wall and projecting toward the base for resiliently gripping an edge of a breaker strip and a stop ledge projecting from the edge of said resilient flange for limiting its movement relative to the bevel wall.

Another object of my invention is to provide in such an arrangement, the breaker strip retaining means comprising an elongated base having a deformable strip projecting therefrom for receiving and securing the edge of a breaker strip after its other edge has been inserted into a retaining member which may be of similar construction to any of those previously referred to.

The invention itself, however, both as to its construction and its use 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 drawing, in which:

Fig. 1 is a sectional view, partly broken away, showing a cabinet construction completed by securing the breaker strips on the edges of the door and the cabinet doorway in accordance with my invention;

Figs. 2 and 3 are enlarged perspective views showing more clearly the details of my breaker strip retaining members and how a breaker strip is secured therebetween;

Fig. 4 is a partly sectioned perspective view showing another embodiment of my invention upon a different type of cabinet construction;

Figs. 5 and 6 are sectioned perspective views showing different embodiments of my invention wherein the breaker strip is secured between deformable retaining members;

Figs. 7 and 8 are perspective views showing another embodiment of my invention whereby the breaker strip is secured by snapping it into place between resilient members;

Fig. 9 is a perspective view showing a modification of the embodiment shown in Figs. 7 and 8; and

Fig. 10 is a sectioned perspective view showing another embodiment of my invention for securing a modified breaker strip which is snapped into place between the retaining members.

Referring more particularly to Figs. 1, 2 and 3 of the drawing, a cabinet construction is shown comprising a wooden frame member 1 and insu-

lating material 3 covered by sheet metal panels 5 and 7 which may be provided with a coating of hard vitreous enamel, such as porcelain, for presenting a pleasing appearance in the usual manner. As shown, the side of the frame member 1 is provided with an inclined surface 9 to define a doorway. The adjacent edges of the panels 5 and 7 are turned to fit snugly along the facing of the inclined doorway surface 9 to which they are secured by suitable fastening members such as the wood screws 11.

A breaker strip 13 is secured in overlapping relation over the spaced edges of the panels 5 and 7 to present a pleasing finished appearance. In accordance with my invention, this is readily accomplished by means of elongated retaining members 15 and 17 which are secured along the spaced edges of the panels for receiving and securing the edges of the breaker strip 13.

As shown in Fig. 3, the elongated retaining members comprise an elongated cabinet abutting base 19 which is pierced to provide attaching points or ears 21 whereby the retaining strips may be quickly and conveniently secured in place by hammering the points into the wood frame member 1 along the edges of the panels. The retaining member 15 includes an angular wall 23 which projects upwardly or outwardly from one edge of the elongated base 19 and is curved so that its outer edge overhangs the base. From the upper edge of the curved wall 23, a flat resilient flange or retaining strip, 24 is provided which projects downwardly toward the base 19. In order to support the strip 24 and provide a suitable seat for receiving the edge of the breaker strip, a back set portion 25 is provided between curved wall 23 and the resilient flange 24.

The elongated retaining member 17, is mounted in spaced relation from the retaining member 15 and comprises a deformable strip 27 which projects from one edge of the base 19. The retaining member 17 is made of suitable metal of a proper gage to be readily deformable and the retaining member 15 is made of suitable metal, such as stainless steel, bronze or other suitable metal having suitable resiliency to withstand appreciable temporary deformation without being permanently deformed. Both of the retaining members may be suitably plated to provide a pleasing appearance in harmony with the associated fixtures, accessories and the like, as will be readily understood.

For installing the breaker strip 13 between the retaining members 15 and 17, one edge of the strip is first inserted into the retaining member 15. The edge of the strip enters the seat provided between the back set 25 and the base 19 and abuts against the resilient flange 24 in the retaining member which because of its resilience is inclined backwardly toward the rear edge of the base 19. The angular position of the flange 24 then serves to clamp the edge of the breaker strip 13 resiliently against the base 19 and toward the other spaced retaining member.

The other edge of the breaker strip 13 is now pressed into the other retaining member 17 and the deformable strip 27 thereon is crimped or rolled to provide a rolled bead 29 on its outer edge which secures the adjacent edge of the breaker strip firmly in seated engagement on the base 19. The elongated retaining members 15 and 17 are mounted so that the distance between resilient flange 24 on the one side and the deformable strip 27 on the other is slightly less than the width of the breaker strip 13 to provide a snug fitting engagement therebetween.

The operation of installing the breaker strip is thus readily accomplished by merely tacking the elongated retaining members 15 and 17 along the spaced edges of the panels with a hammer and thereafter inserting the breaker strip 13 successively into the retaining members 15 and 17 and rolling the deformable edge of the strip 27.

The breaker strip 13 is thus secured to cover the edges of the panels 5 and 7 by gripping the edges thereof and the breaker surface is unblemished and presents a perfect panel surface which is free from fastenings and is convenient to clean and polish.

As shown in Fig. 1, a door 31 which swings into the doorway of the cabinet may be of any conventional construction comprising an inner panel 33 and an outer panel 35 having their adjacent edges turned toward each other and secured in spaced relation upon the bevelled surface of a door frame member 37 by fastening screws 11, in a well-known manner. The outer panel 35 is turned back in such a manner as to provide a cabinet abutting flange 37 which may be provided with a rubber gasket 39 for abutting the edge of the cabinet doorway in the usual manner. As shown, the breaker strip 13, which is provided for overlapping the edges of the doorway panels 33 and 35 on the frame member 37, is secured by gripping the edges in elongated retaining members 15 and 17 identical with that described.

It will also be readily understood that my improved breaker strip attaching arrangement may be advantageously utilized upon walls or any construction where it is desirable to overlap the spaced edges of covering panels to provide a smooth panel surface presenting a pleasing finished appearance and that the use of my breaker strip retaining members is not limited to cabinet construction for refrigerators which is shown merely as one example of useful application.

The embodiment of my invention, as shown in Fig. 4 is especially adapted for securing a breaker strip 13 upon a cabinet which is not provided with wooden frame members. Such a construction, as shown in Fig. 4, comprises an outer panel 41 and an inner panel 43 having insulation material 45 disposed in the space enclosed therebetween. The insulating material 45 may be any well-known insulation, fibrous or otherwise, which is of such a contexture that it lacks the ability to receive and secure fastening members. The embodiment of my breaker strip retaining members provided for this purpose comprises a base flap 47 which is elongated and adapted to be turned in with the inturned edges of the cabinet panels 41 and 43 for securing the retaining members thereon. As shown, the base flaps 47 are turned to seat snugly around the inwardly rolled edges of the panels which clamp them securely therein.

The outer edge of one of the base flaps 47 is provided with an angularly turned clamp 49 which is turned back in parallel spaced relation from the adjacent portion of the base flap 47 abutting the outer surface of the panel 41 to define a seat of suitable dimensions for snugly receiving one edge of the breaker strip 13. From the outer edge of the base flap 47 of the other retaining member, a deformable flap 51 is extended. After one edge of the breaker strip 13 is inserted in snug seated relation within the angular clamp 49, the other edge of the breaker strip is seated adjacent the deformable strip 51

of the other retaining member which is then rolled over to provide a roll 53 for securing the breaker strip snugly in place. By this arrangement, the breaker strip 13 is conveniently and quickly mounted and secured by its edges in overlapping relation upon the spaced edges of the cabinet panels 41 and 43, and the elongated retaining members do not require any other fastening than that provided by the inturned edges of the cabinet panels.

In accordance with another embodiment of my invention, the fastening members or screws 11 which are used for fastening the edges of cabinet panels such as 5 and 7 upon the wooden frame member 1 may also be utilized for securing the breaker strip retaining members. As shown in Fig. 5, this is readily accomplished by providing breaker strip retaining members with base portions 55 which rest upon the outer surface of the edges of the panels and which have their terminal edges turned over and under the edges of the panels whereby they are securely clamped by the action of the fastening screws 11 drawing the edges of the panels 5 and 7 toward the wooden frame member 1. In this embodiment, securing the edges of the breaker strip 13 is readily accomplished by providing both of the base members 55 with deformable strips 27. After the breaker strip 13 is seated snugly upon both of the retaining members, the deformable strips 27 are turned inwardly to provide the rolls 29 for firmly securing the edges of the breaker strip.

As shown in Fig. 6, I may provide breaker strip retaining members wherein the edges of the breaker strip 13 are gripped securely by retaining members 61 and 63. One of the retaining members, such as 61, is made of a proper gage of suitable sheet metal to provide a rounded overlapping wall 65 projecting firmly from the outer edge of a base plate 67 thus defining a rigid seat for receiving one edge of the breaker strip. One edge of the breaker strip is seated therein and the other edge of the breaker strip is then seated upon the retaining member 63. For receiving and securing the second edge of the breaker strip, the receiving member 63 comprises a deformable flap 69 projecting from the outer edge of a base member 71. The second edge of the breaker strip is firmly secured in position by bending the deformable strip 69 thereover as shown. The edges of the breaker strip 13 may be grooved to receive the edges 65 and 69 of the retainers in flush relation thereon. The base portions 67 and 71 are provided with fastening points 21 which may be pierced from the sheet metal, as in the embodiments previously described.

In accordance with other embodiments of my invention both of the elongated breaker strip retaining members may be made of a properly selected gage of a suitable metal to provide considerable strength and resiliency whereby the breaker strips are readily snapped into position and the supporting members then return toward their original conformations for securely clamping the edges of the breaker strips in place. Such embodiments of my breaker strip retaining members are shown in Figs 7, 8, 9 and 10 and particular reference will now be made to the embodiment shown in Figs. 7 and 8. In this embodiment of my retaining members, an elongated cabinet abutting base 73 is provided with a projecting portion 75 which extends angularly from the outer edge of the base to simulate a bevelled surface joining the edge of the breaker strip 13. At its outer edge, the angular portion 75 is turned in upon itself in arcuate conformation and it then extends backwardly toward the base member 73 thereby providing a flat resilient flap, or retaining strip, 77 and defining a seat for receiving and depressing the edge of the breaker strip.

The breaker strip is installed between a pair of retaining members thus constructed by inserting one edge of the breaker strip in the seat defined between the base 73, the outer edge of the angular bevel wall 75 and the flange 77. The breaker strip is then pushed against the resilient flange 77 until the other edge of the breaker strip may be snapped downwardly into the other retaining member which is of similar construction. The breaker strip is then held firmly in position between the resilient flanges 77 which being deflected angularly back toward the bevel walls 75 tend to securely grip the edges of the breaker strip and urge or depress the same against the base. Screw receiving sockets 79 may be provided in the base members 73 or any other suitable fastening means may be utilized.

For mounting a breaker strip of a pre-determined uniform size, the spaced retaining members may be mounted upon opposite edges of a unitary base plate 81, as shown in Fig. 9. Any suitable fastening means may be utilized for securing the base plate, as previously described. As shown, one of the resilient flanges 77 may be provided with a stop ledge 83 which extends from its lower edge and projects backwardly toward the bevel wall 75. The stop ledge 83 thus serves to limit the movement of the resilient flange 77 relative to the bevel wall 75 when the edge of the breaker strip is first inserted and thus also prevent the possibility of the flange 77 riding over the top of the breaker strip. The retaining members are spaced apart so that the distance between the resilient flanges 77 is slightly less than the width of the breaker strip 13 which is thus continuously secured by a firm gripping force which prevents displacement and rattling. The breaker strip securing unit may be plated or finished in any suitable manner to harmonize with other accessories as will be readily understood.

In accordance with another embodiment of my invention, as shown in Fig. 10, the breaker strip 85 may be provided with grooved edges of concave conformation. For mounting such a strip, I provide elongated breaker strip retaining members each of which comprises a cabinet abutting base 87 having a resilient flange 89 projecting upwardly along one edge thereof. The upper edge of the resilient flange 89 is rolled inwardly to provide a bulbous roll 91 along the upper edge thereof. Such retaining members are made of a properly selected gage of a suitable sheet metal to provide considerable strength and resiliency and the breaker strip is installed by forcing it between the retaining members hence the bulbous portions 91 snap into the concaved or grooved outer edges of the breaker strip. The outer corners of the breaker strip may be rounded, as shown at 93, to provide a harmonious and pleasing appearance and the inner corners may be rolled as indicated at 95 to facilitate installation. The base portions of any of the retaining members may be secured directly on steel by spot or flash welding, as will be understood.

It will be seen that I have provided a simple and convenient method and means for assembling

breaker strips whereby a cabinet construction may be finished to present a pleasing appearance having smooth unblemished panel surfaces free of fastening members on the breaker strips.

Aside from the specific embodiments of the invention herein shown and described, it will be understood that numerous details may be altered or omitted without departing from the spirit and scope of the invention as disclosed and claimed, and that I do not desire to limit the invention to the exact constructions herein set forth.

I claim as my invention:

1. In combination, a cabinet, panels disposed on said cabinet with adjacent edges in spaced relation, a flat rigid breaker strip presenting a smooth panel surface overlapping the adjacent edges of said panels, a clamping member secured along the edge of each panel, each clamping member comprising an elongated base member overlapping the adjacent panel edge, a resilient wall extending out from one edge of each elongated base member, a convex portion turned down from and under the outwardly projecting edge of each wall to provide a retaining shoulder, and a substantially flat retaining strip extending from the down turned edge of each convex portion toward each base member to provide resilient seats movable relative to the base members for receiving the edges of said rigid breaker strip snapped therein to hold and depress the same against the base members.

2. In combination, a cabinet of heat insulating construction, panels disposed on said cabinet with adjacent edges in spaced relation, said panels comprising inner and outer liners on said cabinet, a flat breaker strip of rigid heat insulating material presenting a smooth panel surface overlapping the adjacent edges of said panels, a clamping member secured along the edge of each panel, each clamping member comprising a base overlapping the edge of the panel, and a retaining strip resiliently supported on each base member, said resilient strips being formed with overhanging shoulders for engaging opposite edges of the breaker strip, and suitably disposed for receiving one edge of the breaker strip under either while the other edge of the breaker strip is snapped into the other clamping member.

3. In combination, a cabinet, panels disposed on said cabinet with adjacent edges in spaced relation, a flat rigid breaker strip presenting a smooth panel surface overlapping the adjacent edges of said panels, a clamping member secured along the edge of each panel, each clamping member comprising a base member overlapping the adjacent panel edge, a retaining strip supported on each clamping member, and a wall projecting from the outer edge of each base to the outer edge of each retaining strip for supporting it to provide a resilient seat movable relative to each base member for receiving opposite edges of said breaker strip, and depressing the breaker strip against the base members.

4. In a breaker strip retaining member for securing and depressing a flat rigid breaker strip, an elongated panel engaging base, a yieldable wall extending out from one edge of said elongated base, said yieldable wall being positioned so the free edge thereof is arranged over said elongated base, a convex portion turned down from and under the outwardly projecting edge of said wall to provide a retaining shoulder, and a substantially flat retaining strip extending from the down turned edge of said convex portion toward said base to provide a resilient seat movable relative to said base and said wall for receiving the edge of a flat breaker strip to hold and depress the same against said panel engaging base.

5. In a breaker strip retaining member for securing and depressing a flat rigid breaker strip, an elongated panel engaging base, a yieldable wall projecting at an acute angle from one edge of said elongated base, the outer edge of said yieldable wall being turned back and under to provide a shoulder, and a substantially flat retaining flange extending from said shoulder toward said base to provide a resilient seat which is yieldable for receiving an edge of a breaker strip, and depressing the same against the other edge of said panel engaging base.

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