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SEALING STRIP FOR SLIDING DOORS

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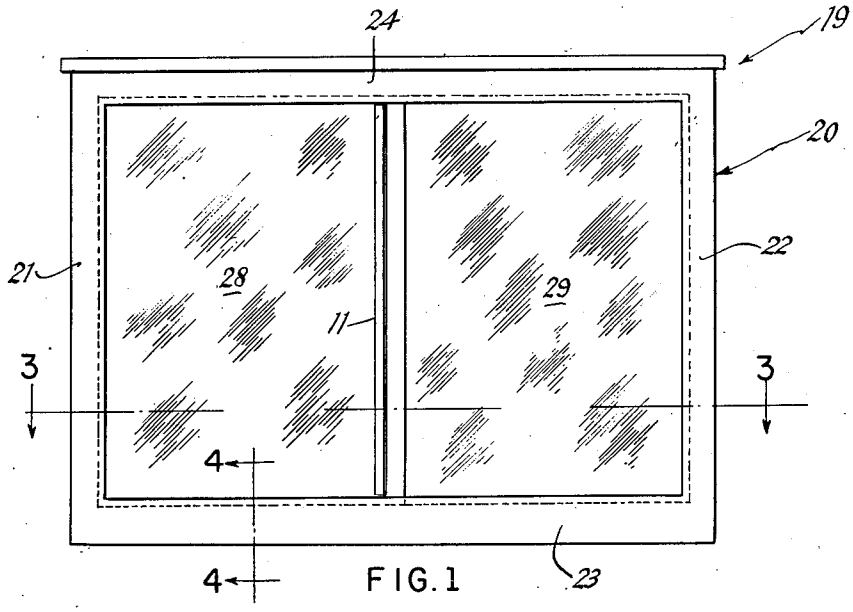


FIG. 1

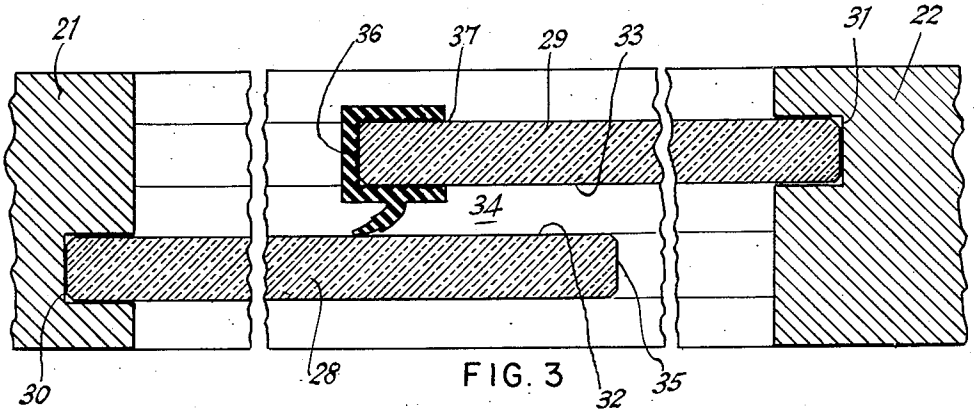


FIG. 3

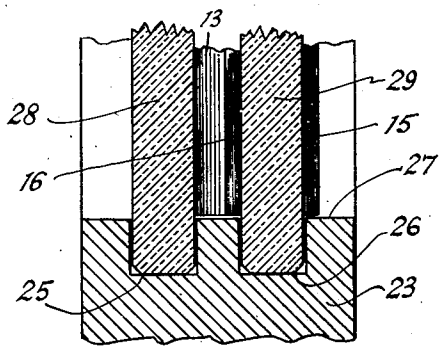


FIG. 4

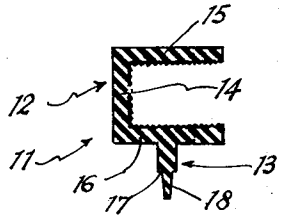


FIG. 2

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SEALING STRIP FOR SLIDING DOORS

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2 Claims. (Cl. 20—69)

This invention relates to a sealing strip for sliding doors.

It is an object of the present invention to provide a novel sealing strip adapted to be mounted on the vertical edge of a sliding door and having a blade in sliding sealing engagement with the planar surface of another sliding door so as to seal the space between the two doors and thereby prevent dust, insects, and outside air from entering through said space.

Another object is to provide a sealing strip of the character described and comprising an integral longitudinal sealing strip of resilient flexible material, said strip comprising in transverse section a U-shaped portion including a pair of spaced parallel flange sections joined to an intermediate web section extending transversely therebetween, and a blade portion integral with one of said flange sections and extending outwardly therefrom approximately perpendicular thereto.

Still another object is to provide a sealing strip of the character described in combination with a pair of glass doors, means mounting the doors for relative sliding movement to cause the vertical edge of one door to move over and adjacent the planar surface of the other door, and a sealing means for said doors and comprising a longitudinal vertical element of U-shape in cross-section and fitted over said door vertical edge, and a longitudinal vertical blade element secured to said U-shaped element along the length of the latter and projecting horizontally outwardly therefrom to engage said door planar surface, said U-shaped portion resiliently receiving and engaging said door vertical edge, said blade portion engaging said door planar surface and forming a weatherseal between the doors.

A further object is to provide a sealing strip of the character described which is durable, inexpensive, easily mounted on an existing sliding door, and highly effective in use.

Other objects and advantages of the present invention are inherent in the structure as claimed and disclosed or will become apparent to those skilled in the art as the detailed description proceeds.

In the accompanying drawings:

Fig. 1 is a side elevational view of a sliding door arrangement with which the sealing strip of the present invention may be employed;

Fig. 2 is a transverse sectional view of the sealing strip;

Fig. 3 is a horizontal sectional view on the line 3—3 of Fig. 1 and shows the sealing strip mounted on the vertical edge of one of the sliding doors; and

Fig. 4 is a vertical sectional view on the line 4—4 of Fig. 1 and shows the arrangement for slidably mounting the doors.

Referring now to the drawings in more detail, and in particular to Fig. 2 thereof, the sealing strip in accordance with the present invention is indicated generally by the reference numeral **11** and is in the form of a single longitudinal integral strip composed of resilient flexible material such as grey rubber. The sealing strip **11** comprises

a U-shaped portion **12** integral with a blade portion **13**. The U-shaped portion **12** comprises in transverse cross-section an intermediate web section **14** and a pair of spaced parallel flange sections **15, 16** extending integrally from the opposite vertical edges of web section **14**.

The blade portion **13** extends integrally from the flange section **16**, in an outward direction approximately perpendicular to said flange section **16** when the blade portion **13** is in an unstressed condition. The blade portion **13** is provided with a shoulder **17** and a reduced outer end portion **18** having lateral sides which are slightly tapered so as to converge in the outward direction. By thus reducing the thickness of blade portion **13**, the latter is rendered more flexible, for the purpose to be described below.

Referring now to Figs. 1, 3 and 4, the reference numeral **19** indicates generally a sliding door arrangement comprising a frame **20** having a pair of vertical frame members **21, 22** connected at their lower ends to a horizontal frame member **23** extending therebetween. The upper ends of vertical frame members **21, 22** are joined to an upper horizontal frame member **24** in any conventional manner. The lower frame member **23** is provided with a pair of longitudinally extending spaced parallel grooves **25, 26** extending downwardly from the upper surface **27** thereof.

A pair of sliding doors **28, 29** of any conventional construction but preferably of glass, are provided with their lower edges slidably mounted within the grooves **25, 26**. The upper horizontal frame member **24** may also be provided with a pair of grooves (not shown) similar to grooves **25, 26**, for slidably mounting the upper edges of doors **28, 29** in a similar manner as illustrated with respect to the lower edges thereof.

The vertical frame members **21, 22** are provided with a vertical groove indicated at **31** and **31**, respectively, for receiving the outer lateral vertical edges of the doors **28, 29** when the latter are in the closed position as shown in Fig. 3. It will be understood that grooves **25** and **30** are in a common vertical plane with one of the grooves (not shown) in the upper frame member **24**, the other groove in said upper frame member **24** being in a common vertical plane with the grooves **26, 31**.

It will be seen in Fig. 3 that the adjacent oppositely facing planar surfaces **32, 33** of the doors **28, 29** respectively, are spaced from each other to provide an opening or space **34** therebetween. Either one of the inner edges **35, 36** of the doors **28, 29** may have the sealing strip **11** mounted thereon, or if desired, a pair of sealing strips **11** may be mounted on both edges **35, 36**. For purposes of illustration, the sealing strip **11** is shown mounted on the inner edge **36** of the door **29**, with the edge **36** received within the U-shaped portion **12**. Since the material of sealing strip **11** is resilient and flexible, the flange sections **15, 16** will resiliently engage the opposite planar surfaces **33, 37** of door **29** adjacent the inner edge **36** of the latter, and the inner edge **36** may abut against the intermediate web section **14** of sealing strip **11**.

When the sealing strip **11** is thus mounted on the inner edge **36** of door **29**, the blade portion **13** will engage the planar surface **32** of the other door **28** and will be flexed backwardly and toward flange section **16** in the manner shown in Fig. 3. The reduced end portion **18** of blade portion **13** is thus in slidable contacting engagement with the door surface **32** and moves therealong in the manner of a windshield wiper so as to close off the space **34** between doors **28, 29** from the interior of the building, thereby preventing dust, insects, and hot or cold air from entering the building.

The glass doors **28, 29** are generally approximately ¼ inch thick. The flange sections **15, 16** and web section **14** of the U-shaped portion **12** are preferably about 1/16

inch thick. The blade portion **13** is preferably approximately ¼ inch in length.

The interior surfaces **14***a*, **15***a*, **16***a* of web section **14** and flange sections **15**, **16** are preferably serrated or otherwise roughened to provide a plurality of small projections thereon. This enhances the gripping effect of the strip on the edge of the glass door on which it is mounted and generally obviates the necessity for securing the strip to the door by cement or other securing means. However, for some conditions of use it may be desirable to employ cement in conjunction with the rough surfaces **14***a*, **15***a*, **16***a* or to make the latter smooth and rely solely on the cement to maintain the strip in fixed assembled relation on the edge of the glass door.

It is to be understood that the specific embodiment of the invention shown in the drawing and described above is merely illustrative of one of the many forms which the invention may take in practice without departing from the scope thereof as delineated in the appended claims and hence the claims are to be interpreted as broadly as possible in view of the prior art and are not to be unduly limited by said disclosure.

Having thus described the invention in some detail, what I claim as new and desire to secure by Letters Patent of the United States is:

1. A sealing strip for sliding glass doors comprising a unitary, integral U-shaped channel member of flexible resilient material adapted to grippingly embrace the margin of a glass door, and an integral resilient flexible blade member projecting transversely from one of the flanges of said channel member intermediate of the width thereof and extending longitudinally thereof, said blade member having a relatively thick portion adjacent to the base thereof joining said flange member, and a thin tapering portion for a substantial width thereof adjacent to the outer marginal edge thereof adapted to flex and yieldingly engage the surface of an adjacent glass door.

2. A sealing strip for sliding glass doors as defined in claim 1, wherein the interior surfaces of the channel member are serrated throughout their extent to facilitate their gripping action.

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