

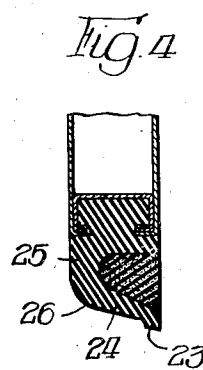
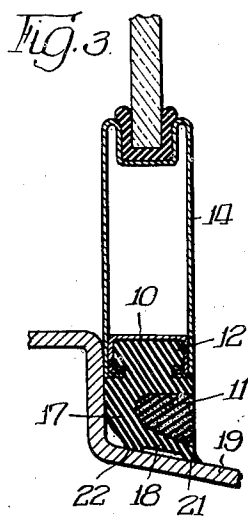
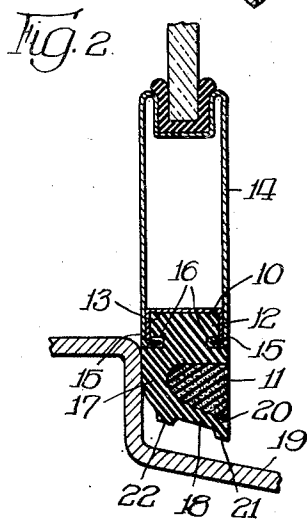
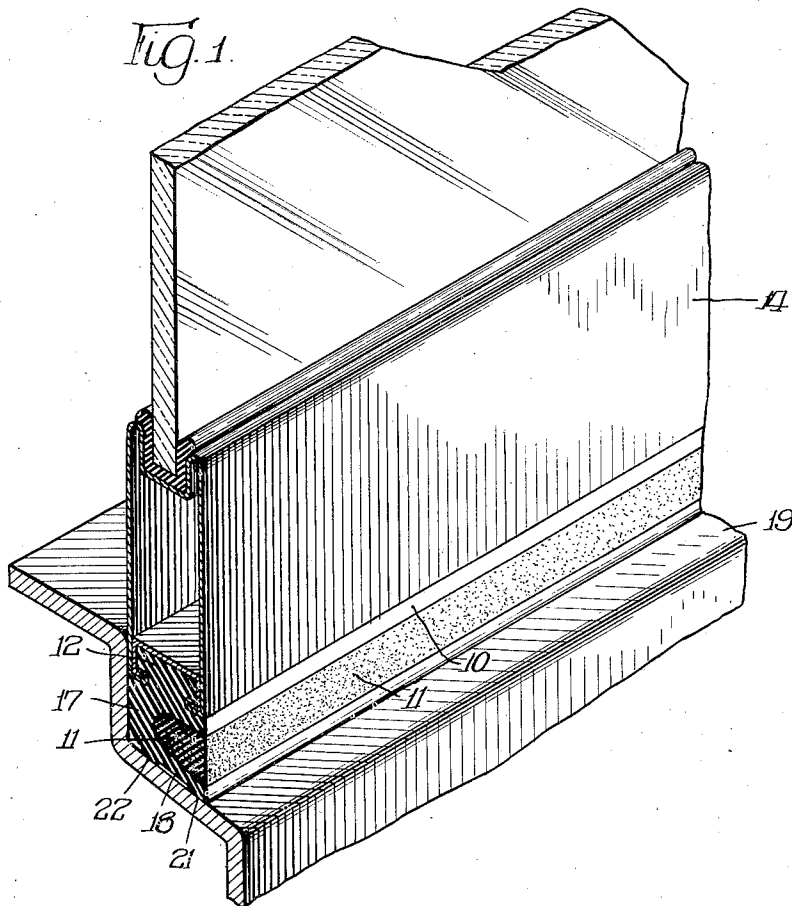
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H. D. SEVISON

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BOTTOM RAIL SEALING STRIP

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Inventor:
Harry D. Sevison,
By *Proctor, Smith & Wadsworth*
attys.

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BOTTOM RAIL SEALING STRIP

Harry D. Sevison, Elkhart, Ind., assignor to The
Adlake Company, Chicago, Ill., a corporation
of Illinois

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7 Claims. (Cl. 189—65)

The object of this invention is to provide an improved sealing strip for the bottom rail of a window sash, which strip is characterized by a thin flexible contact lip, preferably of ordinary rubber, which is resiliently backed up along its free edge by a readily yieldable cushion, preferably of soft sponge rubber.

With this construction a good weather-tight joint will always be obtained with the sill throughout the full length of the strip. When the sash is closed the lip which forms the contact portion of the strip lies flatly against the sill and is caused by the action of the cushion above the same to conform to any irregularities in the surface of the sill. The lip at the same time protects the cushion from injury and wear by preventing the latter from coming into direct contact with the sill. The cushion, in addition to pressing the flap-like lip against the sill, acts as a filler in blocking off the front face of the strip squarely at the ends where the bottom rail enters the guides.

While the foregoing statements are indicative in a general way of the nature of the invention, other more specific objects and advantages will be apparent to those skilled in the art upon a full understanding of the construction of the improved sealing strip and the way in which it is designed to compact under the weight of the sash in conforming itself to the sill.

A preferred embodiment of the invention is presented herein for the purpose of exemplification, but it will of course be appreciated that the invention is susceptible of incorporation in other structurally modified forms coming equally within the scope of the appended claims.

In the accompanying drawing:

Fig. 1 is a perspective view of a portion of the bottom rail of a sash, showing the rail equipped with the improved sealing strip and seated against the sill of the window opening;

Fig. 2 is a section through the bottom rail and sealing strip, with the sash slightly raised;

Fig. 3 is a similar view, with the sash down; and

Fig. 4 shows a slight modification in the shaping of the lower surface of the contact lip of the strip.

As will be observed in the drawing, the strip is composed of two sections 10 and 11 which are integrally united by vulcanization or other form of adhesion throughout their entire lengths. The section 10 is preferably made of ordinary rubber, of the kind from which sealing strips are usually made, and is strong, tough, and com-

paratively hard, although readily flexed when in a thin form. The other section 11 is preferably made of soft, highly resilient sponge rubber, or else of some other kind of soft rubber, or readily compressible felt or fibre composition.

In the particular embodiment shown, the section 10, which is the one made of ordinary rubber, includes a base portion 12 which fits into a channel 13 in the lower face of the rail 14. The base portion 12 is provided with undercut grooves 15 into which intumed flanges 16 on the rail extend. From the back of the base portion 12 the section 10 extends downwardly in the form of a web 17, and from the lower edge of the web 17 it extends forwardly in the form of a progressively thinning lip 18, to a point substantially even with the front face of the rail. The resulting forwardly opening channel in the section 10 is completely filled by the section 11 of sponge rubber, with the front face of the latter flush with the front face of the section 10 and rail 14.

The lip 18 of the section 10 is disposed at an angle which is preferably somewhat greater than the angle of the sill 19 beneath the same, with the result that when the sash bottoms on the sill the outer free edge 20 of the lip will be deflected upwardly to a certain extent into fully flexed conformity with the sill before the sash comes to rest with its weight supported for the most part by the column-like web 17. With the sash closed the sponge rubber cushion 11 resiliently maintains the lip 20 in snug engagement with the sill throughout the entire length of the strip, regardless of any irregularities in the sill due to warping or settling or the presence of cinders, ice or other foreign matter.

The lip 18 may be provided on its lower surface with a small longitudinally extending rib 21 at its front edge and a similar rib 22 in rearwardly spaced relation thereto, whereby to localize the contact with the sill along separate front and rear lines and produce a double sealing effect.

In the modification which is shown in Fig. 4, a contact rib 23 is provided beneath only the front edge of the lip 24, and when the sash is fully bottomed the weight of the same is intended to be taken up by the web 25 at approximately the point 26.

This bottom rail sealing strip of the invention is particularly well suited for use with the sash in railway cars and buses, where a good weather-tight joint is a prime requisite, but it will of course be appreciated that the strip can

be used advantageously with other types of sash and that the features of novelty incorporated in the same might be utilized in weatherproofing constructions of other kinds. As previously explained, the sections 10 and 11 are preferably made of relatively hard and soft rubber, but they may of course be made of other materials which correspond generally in their physical qualities.

10 I claim:

1. A bottom rail sealing strip for sash, composed of integrally united sections of ordinary rubber and sponge rubber, the section of ordinary rubber terminating in a lip which is adapted to contact with the sill and is resiliently backed up along its free edge solely by the section of sponge rubber.

2. A bottom rail sealing strip for sash, composed of integrally united sections of ordinary rubber and sponge rubber, the section of ordinary rubber terminating in a thin flexible outwardly turned lip which is adapted to contact with the sill and is resiliently backed up along its free edge solely by the section of sponge rubber.

3. A bottom rail sealing strip for sash, composed of integrally united sections of ordinary rubber and sponge rubber, the section of ordinary rubber terminating in a thin flexible outwardly turned lip which is adapted to contact with the sill in substantially parallel relation thereto and is resiliently backed up along its free edge solely by the section of sponge rubber.

4. A bottom rail sealing strip for sash, composed of integrally united sections of ordinary rubber and sponge rubber, the section of ordinary rubber being provided with a base portion for insertion in a groove in the bottom rail, a downwardly extending web at the back of the base portion, and a relatively thin flexible forwardly extending terminal lip at the bottom of the web,

which lip is adapted to contact with the sill and is resiliently backed up along its free edge solely by the section of sponge rubber.

5. A bottom rail sealing strip for sash, composed of integrally united sections of ordinary rubber and sponge rubber, the section of ordinary rubber being provided with a base portion for insertion in a groove in the bottom rail, a downwardly extending web at the back of the base portion, and a relatively thin flexible forwardly extending lip at the bottom of the web, which lip is adapted to contact with the sill and is resiliently backed up along its free edge by the section of sponge rubber, with said section of sponge rubber filling out the front face of the strip flush with the front edges of the base portion and lip.

6. A bottom rail sealing strip for sash, composed of integrally united sections of ordinary rubber and sponge rubber, the section of ordinary rubber being provided with a lip which is adapted to contact with the sill and is resiliently backed up along its free edge by the section of sponge rubber, said lip being disposed with its sill-contacting face at an angle to the sill, whereby to contact with the sill along one edge of the lip first.

7. A bottom rail sealing strip for sash, composed of integrally united sections of ordinary rubber and sponge rubber, the section of ordinary rubber being provided with a lip which is adapted to contact with the sill and is resiliently backed up along its free edge by the section of sponge rubber, said lip being provided on its under surface with two sill-contacting ribs which are disposed in a plane at an angle to the plane of the sill, whereby to cause one of the lips to engage with the sill before the other comes into engagement with the same.

HARRY D. SEVISON.