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DUAL WEATHER STRIP

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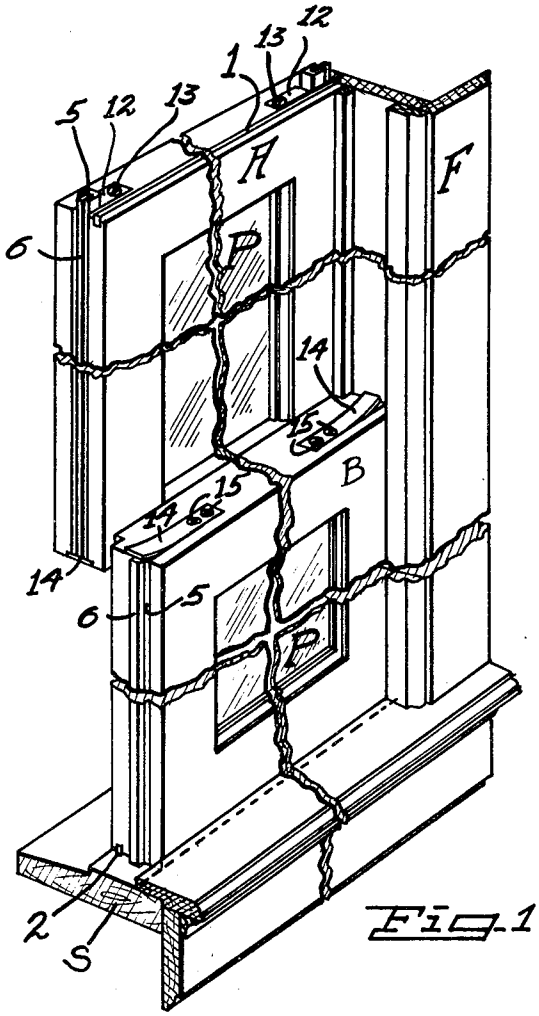


Fig. 1

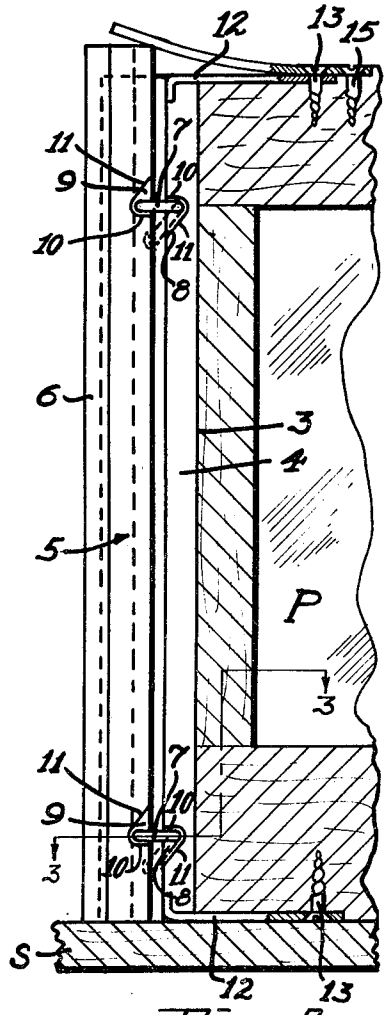


Fig. 2

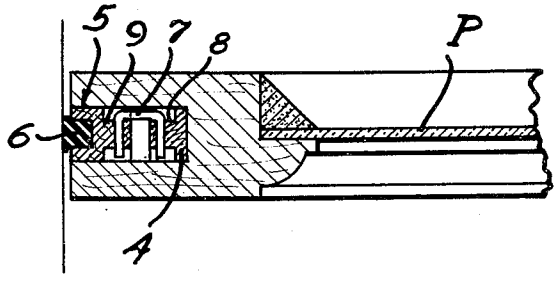


Fig. 3

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DUAL WEATHER STRIP

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1 Claim. (Cl. 20—52.5)

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My present invention relates to the general class of weather strips for sliding sashes of windows, and more specifically to an improved dual weather strip especially designed for use in pairs at the opposite lateral edges of the sliding sash in coaction with the window frame or casing. The novel weather strips, as articles of manufacture, may be made of wood or metal for use in complementary window sashes, and these sealing strips may be manufactured as permanent and component parts of the window sash; or the weather strips may be manufactured separately, existing wood sashes may be modified with a minimum expenditure of time and labor to receive and retain the weather strips, and these manufactured articles may with facility be installed for use in the modified sash.

As an article of manufacture the dual weather strip includes a minimum number of parts that may be made with facility and low cost of production, and the parts may be assembled with convenience, to assure a reliable, durable, and efficient sealing means for the window sash.

The invention consists in certain novel features of construction and combinations and arrangements of parts as will hereinafter be described and more particularly set forth in the appended claim.

In the accompanying drawings I have illustrated a complete example of a physical embodiment of my invention wherein the standardized parts are combined and arranged for use in wooden window sashes in accord with one mode I have devised for the practical application of the principles of the invention. It will however be understood that changes and alterations are contemplated and may be made in these exemplifying drawings and mechanical structures within the scope of my claim, without departing from the principles of the invention.

Figure 1 is a fragmentary perspective view showing the slide sashes equipped with the weather strips of my invention.

Figure 2 is an enlarged vertical sectional view at one edge of the lower sash; and

Figure 3 is a detail horizontal sectional view at line 3—3 of Fig. 2.

In order that the general arrangement and relation of parts may readily be understood I have disclosed a portion of a wood window casing or frame F, with its upright parting strips forming channels or runways for the upper sash A and the lower sash B provided with usual glass panes P, and the sill for the frame is indicated at S.

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The inner horizontal edge of the top bar of the upper sash A is grooved to receive and retain a sealing strip 1 for frictional engagement with the under face of the top cross bar of the window frame; and the outer bottom edge of the lower sash B is also grooved to receive and retain a sealing strip 2 of suitable material, to coact with the still S.

For equipping the two side bars of each of the two wood sashes with the novel weather strips these side bars are channeled to form upright grooves as 3, extending the full length of the sash and open at the top and bottom of the sash. The four weather strips for the two sashes each includes an upright base bar 4 fitted snugly into the back of the groove and extending the full height of the sash with its ends flush with the top and bottom edges of the sash, and a laterally spaced extension strip 5, slightly longer than the base bar and projecting above the top of the lower sash as well as above the top of the upper sash.

The extension strip is provided with an exterior sealing strip 6, of rubber or other suitable sealing material, for frictional engagement with the window casing or frame, and the extension strip is laterally and vertically movable with relation to the base bar to facilitate raising and lowering of the sashes. The base bar and the extension strip are flexibly coupled or linked together to permit this relative movement by means of two vertically spaced U-shaped hinge bolts or links 7, 7 mounted in the complementary members with its legs pivoted or journaled in bores of the bar and strip. To accommodate the coupling links the opposite faces of the bar and the strip and cut away or mortised to form tenons 8 and 9 and the tenons are drilled to provide bores for the legs of the U-shaped coupling links. Each mortise is shaped with a horizontal wall or shoulder 10 and a diagonally extending shoulder or wall 11, and as indicated in Fig. 2 the mortises on the bar and on the strip are reversed as to position to permit the link to swing between a horizontal position and a diagonally disposed position as the extension strip is moved relatively to the base bar.

Each dual weather strip is retained in its seat or groove 3 by means of a pair of opposed hooked holders as 12, 12, fastened by screws 13 on the top and bottom edges of the sashes, to rigidly hold the bars in position.

For tensioning and spreading, as well as retracting the extension strips, the upper edge of each sash is provided with oppositely arranged

flat spring blades or straps as 14 that are fastened to the sash by screws 15, with the free ends of these springs overlapping the extended ends of the longer extension strips, to form stops.

By this arrangement of parts as shown in Fig. 2, the horizontal coupling links perform the functions of spreaders to hold the sealing strips 6 in close contact with the window casing, and the legs of the links are seated against the reversely arranged horizontal shoulders 10, 10 of the bar and strip.

When the sash is raised from its lowered position the initial upward movement of the sash swings the four links to diagonal positions freeing the extension strip from close contact with the casing, and the spring 14 depresses and retracts the extension strip as the links assume the dotted line positions in Fig. 2. When this sash is again lowered, the contact of strips 5 with sills S swings the links to horizontal position thus spreading and lifting the depressed extension strip, and forcing the sealing strip 6 into engagement with the window casing or frame.

The operation of the dual strips in the upper sash is the same as that of the strips in the lower sash.

Having thus fully described my invention, what I claim as new and desire to secure by Letters Patent is:

A window sash formed with a vertical groove extending along its side edge face and open at upper and lower ends, a weather strip extending longitudinally in said groove and consisting of inner and outer strips, the inner strip having its ends flush with upper and lower edge faces of the sash and the outer strip being of greater length than the inner strip and being slidable in the groove and projecting from one end of the groove when the sash is closed and the other end of the groove when the sash is in its opened position, securing strips mounted upon upper and lower edge faces of said sash and having outer end portions extending across ends of the inner strip and formed with bills embedded in ends of the inner strip, confronting side faces of the inner and outer strips being formed with recesses each having a horizontal wall and a diagonally extending wall, there being a block in each recess between its walls formed with an opening, U-shaped links extending between the inner and outer strips and into said recesses and having their arms passing through the openings in the blocks, said links mounting the outer strip for longitudinal movement in the groove and for transverse movement from a retracted position close to the inner strip to an extended position, a sealing strip along the outer side of the outer strip projecting from the said side edge face of the sash when the outer strip is in its extended position, and a leaf spring mounted upon an edge face of the sash from which the outer strip protrudes when the sash is in its closed position, said leaf spring extending longitudinally of the said end edge face and having its free outer end portion overlapping the last mentioned end of the outer strip and urging the said outer strip longitudinally, said links shifting the outer strip transversely to its retracted position during movement of the outer strip by said leaf spring, and engagement of the bridge portions of the U-shaped links with the walls of the recesses serving to limit transverse movement of the outer strip.

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