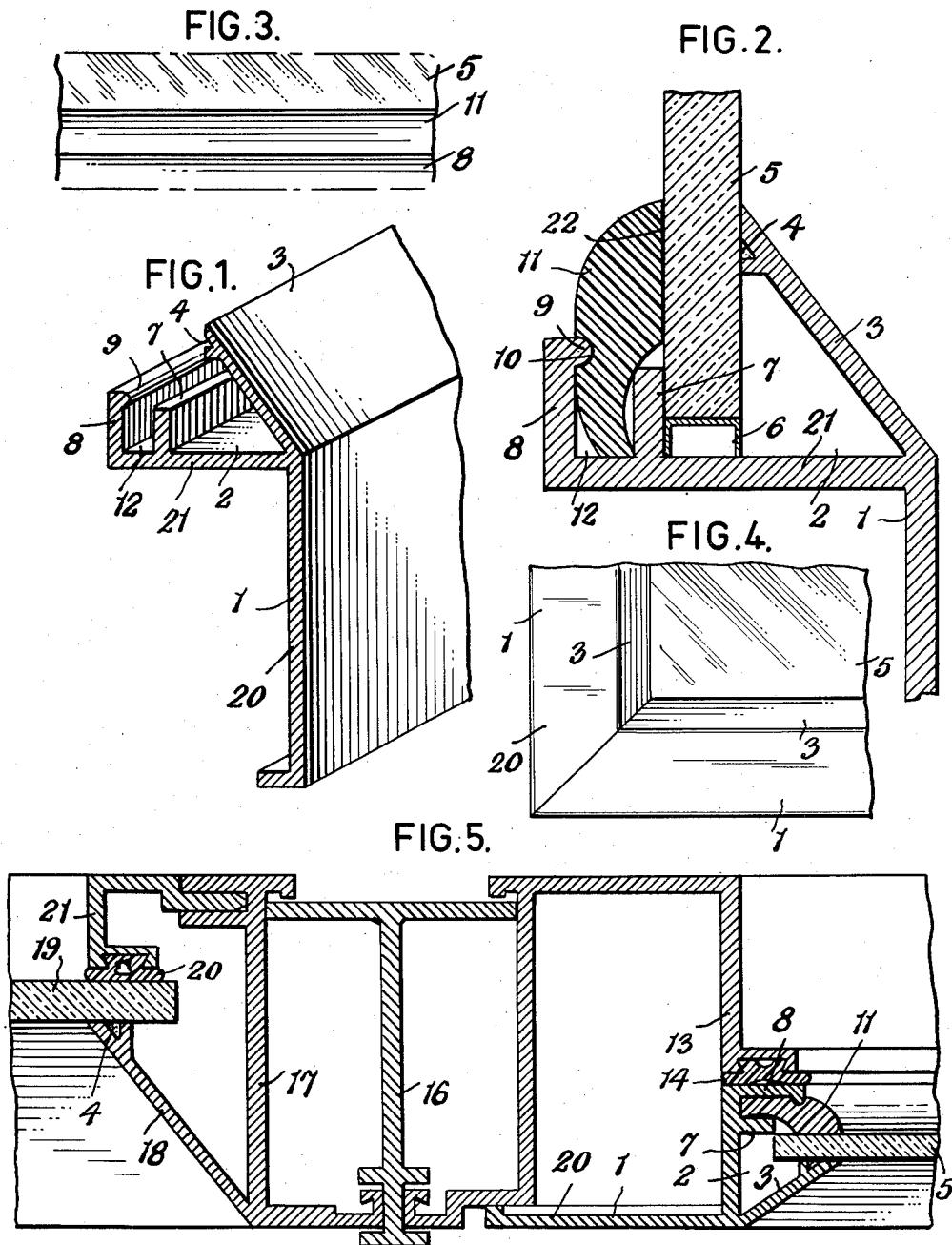


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WINDOW CONSTRUCTION
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WINDOW CONSTRUCTION

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This invention relates to window construction, and more particularly to windows of the awning type, but applicable also to other types of windows.

The invention has special reference to means by which the panes are mounted in the frames, and it is one of the objects of the present invention to provide a pane installation which will permit the panes to be installed from the interior of a building or from the inner side of the frame. Through the arrangement to be hereinafter described, the use of putty or similar glazing materials will be obviated; the panes can be installed in the sashes from inside of the building and the pane-retaining means fitted from the same side, thus avoiding the dangers incidental to using ladders or scaffolding when inserting the panes.

It is still another object of the invention to provide a novel arrangement for the installation of weather-stripping, particularly adaptable for sashes of the type disclosed herein, and which will be effective to provide serviceable weathertight construction installable at the rear of the pane. It is still another object of the invention to provide a sash frame provided at the outer side with an inclined pane-encompassing flange which not only effectively increases the appearance of the frame, but provides a secure mounting for the pane.

With these, and other objects to be hereinafter set forth in view, I have devised the arrangement of parts to be described and more particularly pointed out in the claims appended hereto.

In the accompanying drawing, wherein an illustrative embodiment of the invention is disclosed,

Fig. 1 is a sectional view in perspective, of part of a sash frame constructed in accordance with the invention;

Fig. 2 is an enlarged cross-sectional view through a portion of the frame, showing the installation of the pane and the weatherstripping therefor;

Fig. 3 is a view on a reduced scale, of the structure shown in Fig. 2, looking at the same from the left of Fig. 2;

Fig. 4 is a front elevational view of a corner portion of a sash constructed according to the invention, and

Fig. 5 is a horizontal sectional view through a part of a window frame showing the installation of an immovable or picture window and one of the sashes of an awning window.

Referring to the drawing, 1 indicates generally the frame of a sash, which can be of the type employed in awning windows or of other character. The frame is preferably, but not necessarily, composed of extruded aluminum and is shaped to provide an outer flange or facing strip 20 formed with a rearwardly-extending web 21 at right angles to it. Said web 21 is provided at one end with the flange 8 formed at its end on its inner side with a rounded bead shown at 9. At the end of the front facing strip 20 is provided an angular or inclined strip or flange 3, thickened at its upper end and formed with a pocket 4 in the form of a continuous groove which may be filled with a suitable sealing compound or with a compressible

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plastic sealing strip. Located between the inclined strip or front flange 3 and the rear flange 8, is a wall 7 and this arrangement results in the formation of a front pane-receiving groove 2 located between the inclined front strip 3 and the wall 7 as well as a rear sealing-strip groove 12, located between the wall 7 and the rear flange 8.

The manner in which the pane is mounted in the frame above described will be apparent from Fig. 2, wherein it will be noted that the marginal edge of the pane 5 fits into the groove 2 and is thus positioned between the inclined strip or front flange 3 and the wall 7. Suitable spacing elements 6 may be interposed between the edge of the pane and the inner surface of the piece 21. The groove shown at 12 receives a sealing or weatherstrip 11 which may consist of a strip of vinyl plastic material, and it has one edge inserted into the groove 12 and locked therein by engagement of a groove 10, formed in the plastic strip, with the bead 9 provided on the flange 8. This arrangement is such that the weatherstrip is snapped in place in the groove 12 and the engagement of its groove 10 with the bead 9 insures retention of the strip in a manner to secure the engagement of the face 22 of the strip 11 firmly but resiliently against the surface of the pane 5. The pane is thus held between the portion 22 of the strip that rises out of the groove 12, and the inclined strip 3.

The inclined front strip or flange 3 is located on the outer side of the frame so that the installed pane is set back from the front of the frame and a depressed effect of the pane is secured. Since the weatherstrip 11 is inserted at the rear of the pane, both it and the pane can be inserted in the sash frame by a workman operating from inside of the building, and the hazards of ladders and scaffolding are thereby obviated. The replacement of a broken pane is also greatly simplified since it involves merely a removal of the weatherstrip and the broken pieces of the pane and the insertion of a new pane and replacement of the weatherstrip, or the possible insertion of a new section of weatherstrip.

When a sash frame as herein described is employed in an awning window as shown at the right in Fig. 5, the sash, when in its closed position, can abut against a weatherstrip 14 inserted in the fixed frame 15 of the window. At the left in Fig. 5 is shown the manner in which the improved frame can be employed in conjunction with a fixed or immovable window such as a so-called "picture" window. In this arrangement the frame 17 is suitably connected to the vertical post 16, and frame 17 is formed at its outer side with the inclined strip 18 corresponding to that shown at 3 in the sash frame of Figs. 1 and 2. The fixed pane 19 is maintained between the end of the strip 18 and a plastic-material weatherstrip 20 held in a groove formed in the frame member 21.

From the foregoing, it will be apparent that the structure described provides a construction in which the installation of the panes is simple and readily performed from the interior of the building. It results in a sash provided with a permanent, inclined water deflector arranged around the exterior of the pane and which adds materially to the appearance of the sash, and possesses many other advantages readily apparent to those skilled in this art.

Having described an embodiment of the invention, it is obvious that the same is not to be restricted thereto, but is broad enough to cover all structures coming within the scope of the annexed claims.

What I claim is:

1. In a window frame construction, a sash having a frame provided with a groove for receiving the marginal edges of a pane, a pane fitted in said groove, said groove being defined along the outside of the frame by an inclined flange having its free edge in contact with the pane at a point inwardly of the edge of the pane, said groove being

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defined along the inside of the frame by a wall of less height than the inclined flange, said wall and flange being formed integrally with the frame, said frame having a second groove at the rear of the pane and beyond the wall, and a sealing strip of flexible material confined in said groove and having a part projecting out of the same and disposed in sealing contact with the rear face of the pane adjacent to the peripheral edge of the pane.

2. In a window frame construction, a sash having a frame provided with a groove for receiving the marginal edges of a pane, a pane fitted in said groove, said groove being defined along the outside of the frame by an inclined flange having a free edge in contact with the pane at a point inwardly of the edge of the pane, said edge having a groove for sealing material, said frame having an integral vertical wall at the rear of the pane and having a second groove behind the wall, a sealing strip of flexible plastic material engaged in said second groove and having a part projecting out beyond the same and extending above the wall and disposed in sealing contact with the rear face of the pane adjacent to the peripheral edge of the pane, and interengaging elements on the strip and a part of the frame for holding the strip in its groove.

3. In a window frame construction, a frame provided with a pane-receiving groove, a pane having its edge fitted in said groove, the front of the frame having an in-

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wardly-inclined flange having an edge disposed against the pane, a wall at the back of the pane, a groove at the rear of the wall, a sealing strip confined in the latter groove and having a part projecting out of the same and disposed in contact with the rear face of the pane, said strip being of flexible plastic material.

4. A window frame comprising of an extrusion formed with a front web and a second web at right angles thereto, said second web being provided at one end with a flange disposed at right angles to it, the opposite end of the second web having an inclined flange, a wall located between the first flange and the inclined flange, the arrangement of the flanges and the wall resulting in parallel grooves, one of said grooves receiving a pane, one side of said pane being disposed against the inclined flange and the opposite side of the pane being located adjacent to the wall, and the second groove receiving a sealing strip, said strip having a part extending out of the groove and located in contact with the rear face of pane.

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