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REMOVABLE SASH STRUCTURE

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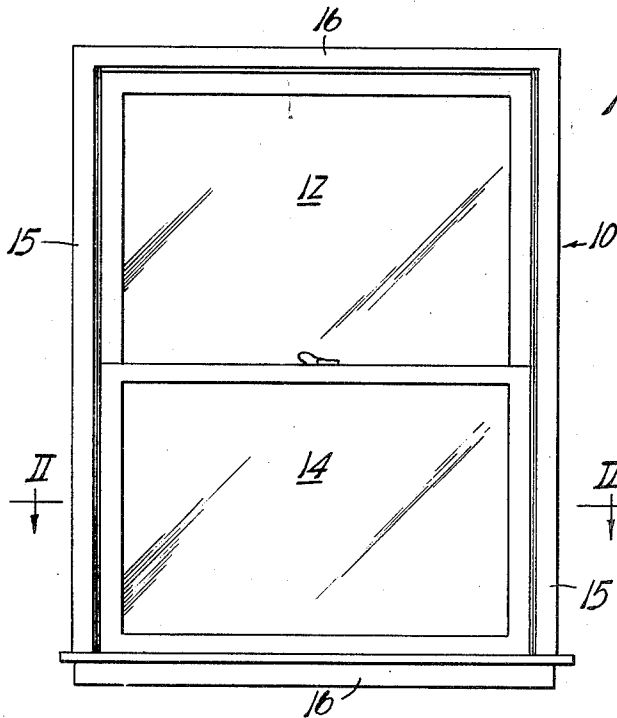


Fig. 1.

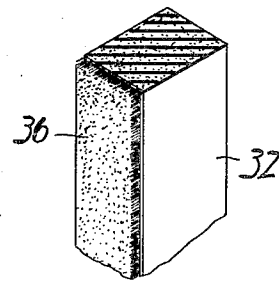


Fig. 3.

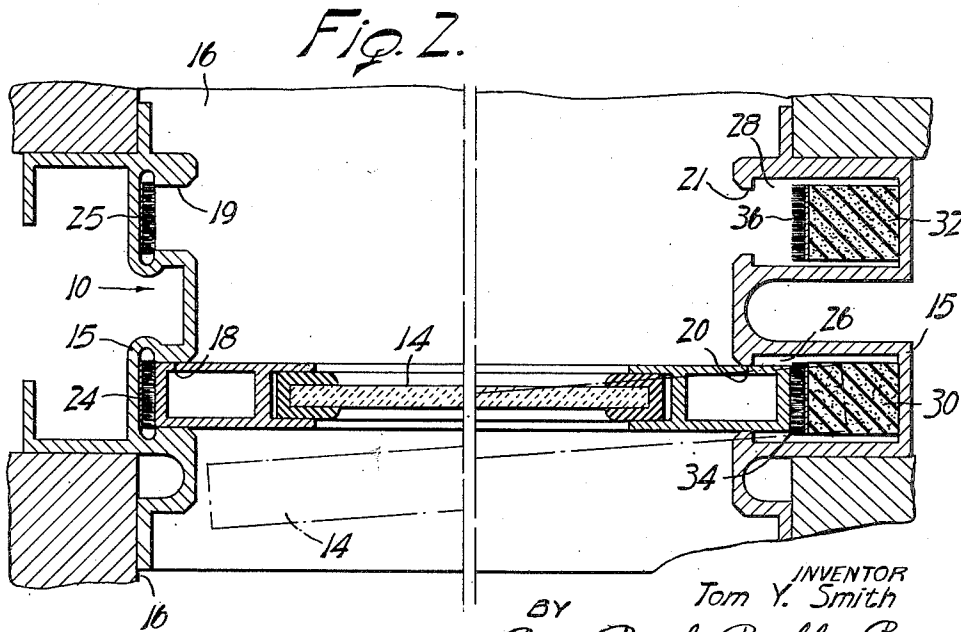


Fig. 2.

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REMOVABLE SASH STRUCTURE

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1 Claim. (Cl. 20—52.2)

This invention relates to improvements in windows for residence and industrial buildings; and more particularly to improvements in windows of the type permitting the sash to be readily removed from the frame without disassembly of either part and without the use of tools.

One of the objects of the invention is to provide an improved sash retaining arrangement in windows of the type referred to.

Another object of the invention is to provide an improved weather-stripping arrangement in such windows.

Other objects and advantages of the invention will appear from the specification hereinafter.

In the drawing:

Fig. 1 is a front elevational view of a typical window embodying the invention;

Fig. 2 is a fragmentary sectional view, on an enlarged scale, taken along line II—II of Fig. 1; and

Fig. 3 is a fragmentary perspective view of a portion of the combination sash control and weatherstrip element of the invention.

The invention is illustrated in the drawing in conjunction with a window illustrated generally to comprise a frame 10 and upper and lower sash members 12—14 respectively. The frame 10 may be formed of any suitable material so as to comprise for example a sill and stile fabrication of wood pieces or metal pieces; the stile pieces being formed for example as shown in Fig. 2 of extruded metal stock having the sectional shapes shown therein. In any case the frame structure 10 will include suitable stile portions 15 at opposite sides and upper and lower sill portions 16, so as to comprise generally a squared frame to be set into a building wall opening as indicated at 17 in Fig. 2. The left hand side stile is shown as being vertically grooved as indicated at 18—19, and the right hand stile member is similarly grooved as indicated at 20—21; the groove portions 18—19—20—21 being adapted to receive in slide fitting relation therein the corresponding side edges of the upper and lower window sashes 12—14 respectively. Weather stripping devices 24—25 comprising strips of mohair or felt or the like are preferably mounted against the inner ends of the recesses 18—19 so that when the window sashes are installed they will slide against the weather stripping pieces 24—25 in airtight sealed relation thereon.

The recess portions 20—21 of the right hand stile member are supplemented by chambers 26—28 in which are mounted relatively deep cushions or strips of sponge rubber 30—32 extending vertically within the stile member throughout the height thereof. The rubber cushions are faced preferably with weatherstrip pieces 34—36 which are similar to the weatherstrip pieces 24—25 hereinabove referred to. The sponge rubber cushions 30—32 are cemented or tacked or otherwise suitably attached to the back wall portions of the stile, and the weatherstrip pieces 34—36 are cemented or otherwise suitably attached to the front faces of the cushions 30—32.

The window frame and sash and weatherstrip and sponge rubber cushion members are so dimensioned and relatively arranged that when the window sash element 14 for example is assembled within the frame it assumes a lateral disposition therein such as is shown by solid lines in Fig. 2. In this condition the resiliency char-

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acteristics of the sponge rubber cushion 30 operates to bias the sash toward the left and into slide fitting contact with the weatherstrip member 24 of the left hand stile while the weatherstrip member 34 of the right hand stile is also thereby pressed against the right hand edge of the sash; the sash being thereby disposed within the channel portions 18—20 of the left and right hand stiles respectively so as to be firmly held thereby within the frame while being at the same time weather-sealed by the members 24—34.

To remove the sash 14 from the frame such as for cleaning the window or reglazing the sash, it is only necessary to grasp the sash at the upper and lower ends thereof and to force it to move laterally against the sponge rubber cushion 30 so as to elastically deform the latter until such time as the left hand edge of the sash moves out of the groove portion 18 of the left hand stile. Then, the sash may be swung forwardly at the left edge thereof as illustrated by broken lines in Fig. 2 until it comes clear of the frame, whereupon the sash may then be moved sidewise to the left as viewed in Fig. 2 until it comes free of the frame. Thus, the sash may be removed to be washed or reglazed with utmost convenience, and to replace the sash it is merely necessary to reverse the above described process.

Thus, it will be appreciated that the sponge rubber cushion within the stile member functions normally as a spring pressure device for holding the weather strip elements at opposite sides of the sash in leak-proof bearing relation against the sash while at the same time maintaining the sash in engagement at its opposite edges with the frame stiles in vertically slidable relation therein. It will of course be appreciated that the sponge rubber cushions bias the weatherstrip devices against the sash members in uniform manner throughout the vertical extent of each sash for optimum weather sealing results, while being at the same time readily adapted to be compressed and elastically deformed in response to manual displacement of the sash laterally thereagainst so as to permit the window to be swung free from the frame.

As stated hereinabove, the weatherstrip and cushion members may be made of any suitable materials, and although it is stated herein that mohair or felt is a preferred material for the weatherstrip elements and that sponge rubber is the preferred material for the cushion members, it is to be understood that other suitable materials may be employed in lieu thereof. Also, although only one specific form of the invention has been illustrated and described hereinabove it will be apparent to those skilled in the art that the invention is not so limited but that various changes may be made therein without departing from the spirit of the invention or the scope of the appended claim.

I claim:

Sealing means for a window sash comprising a relatively thin felt or mohair strip fitted into a relatively shallow sash-receiving channel recess along one side of a window frame, said strip having a sash engaging face of relatively low coefficient of friction, and a relatively thick cushioning member of soft rubber fitted into and extending along a relatively deep sash receiving channel recess and extending along the other side of the window frame and of appreciably greater depth than the shallow sash-receiving channel recess, and a thin strip of material covering the exposed outer surface of the thick strip and having a sash engaging surface of relatively low coefficient of friction.

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