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WINDOW SASH RACK CONSTRUCTION

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Fig. 1

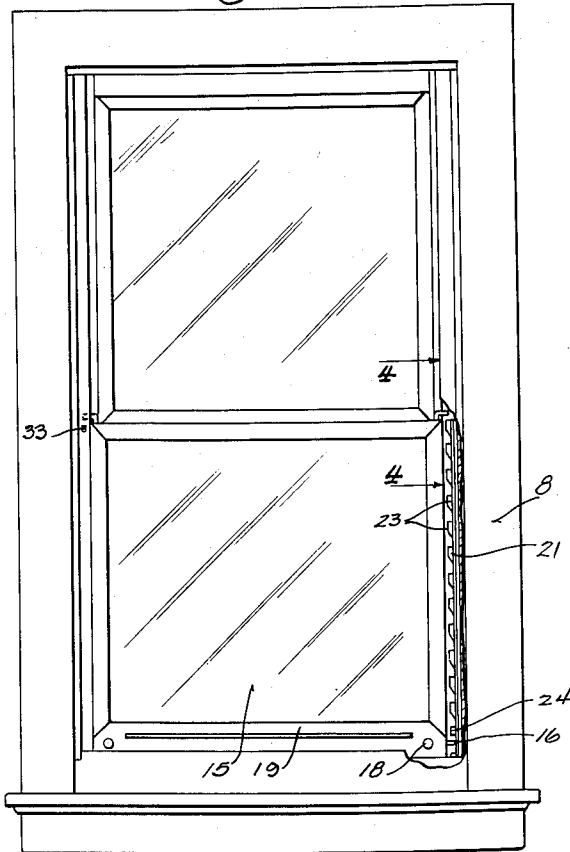


Fig. 3

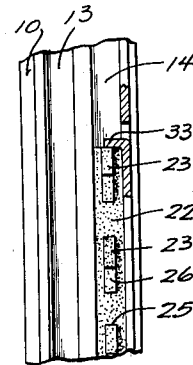
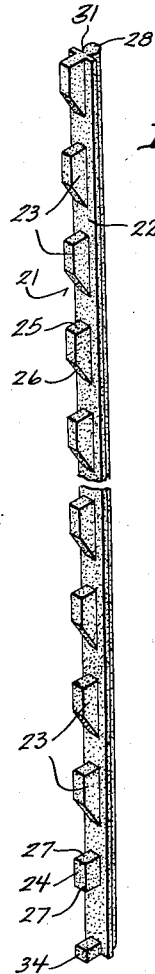


Fig. 4

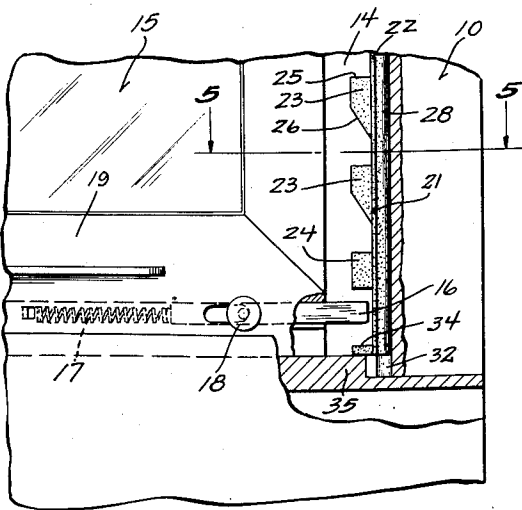
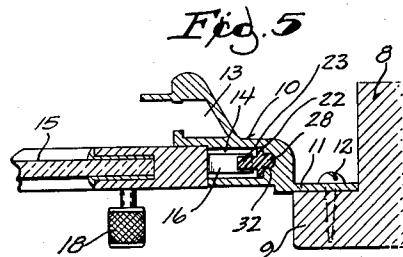


Fig. 2



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WINDOW SASH RACK CONSTRUCTION

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6 Claims. (Cl. 189—72)

This invention relates to window sash rack construction.

In the device of the present invention a window sash rack is formed of plastic and includes rack teeth or lugs on which a retractable sash stem adjustably supports the sash. The rack is further provided with a rib or bead which is fastened to the window jamb by sliding it endwise into an undercut groove or channel formed in the jamb. The jamb channel is preferably formed by extruding it in the same operation in which the jamb is otherwise formed.

By reason of the present invention, there is no requirement for attaching screws or the like, inasmuch as the connection between the rack and the jamb is effected by interlocking the rack rib with the jamb channel.

Each rack is desirably fabricated of a single strip of plastic such as one of the polyvinyls or acrylates. Accordingly, the strip is both tough and yieldable and is admirably suited for use as a rack subject to the abrasion and impact stress imposed thereon by the ratcheting of the sash support stem thereover.

Other objects, features and advantages of the invention will appear from the following disclosure in which:

Fig. 1 is an inside elevation of a window embodying the present invention, jamb portions thereof being broken away.

Fig. 2 is an enlarged fragmentary view of the lower corner of the window shown in Fig. 1.

Fig. 3 is a perspective view of the plastic rack per se.

Fig. 4 is a fragmentary cross sectional view taken along the line 4—4 of Fig. 1.

Fig. 5 is a fragmentary cross sectional view taken along the line 5—5 of Fig. 2.

While the present invention relates broadly to any window construction, I choose to exemplify it in the present disclosure as incorporated in a combination self-storing screen and sash window structure of the type adapted to be substituted in a window frame for conventional interchangeable storm and screen sash. The window frame upright 8 is desirably provided with a seat flange 9 against which the flange 11 of the extruded metal jamb portion 10 of the insertable window frame may be releasably fastened by screws 12 or the like.

The jamb 10 is conventionally provided with multiple sash ways 13—14. For purpose of exemplification, a storm sash 15 is shown in way 14. The lower rail 19 of sash 15 is provided with a laterally projecting support stem 16 retractable against the bias of its spring 17 and controlled by the handle 18, all of this being quite conventional.

To provide for support of the sash 15 at various levels, a sash rack 21 shown separately in Figure 3 is disposed in the way 14. Sash racks 21 are disposed in both side jambs of the window. For the purpose of the present disclosure, however, only the sash rack at one side of the window is illustrated, it being understood that this structure is duplicated at both sides.

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The sash rack 21 is desirably formed of plastic such as one of the polyvinyls or acrylates. Accordingly, it is tough and resilient and has a low coefficient of friction and is non-galling in contact with the metal of the stem 16. These characteristics admirably suit the plastic rack to withstand the abrasion and impact stresses to which it is subject in the operation of the sash. The rack integrally consists of a relatively broad strip portion 22 which is desirably equal in width to the width of way 14 in which it is received as shown in Fig. 5. Projecting into the way from the strip 22 are rack teeth or lugs 23, 24. Teeth 23 have abrupt upper shoulders 25 on which the stem 16 supports the sash at various levels. The teeth 23 are further provided with beveled lower cam surfaces 26 on which the stem 16 will ratchet as the sash 15 is moved upwardly.

The lowermost lug or tooth 24 on the rack, however, has both its upper and lower surface 27 formed abruptly. Accordingly, if the stem 16 is beneath lug 24, it will not be able to ratchet if an attempt is made to lift the sash without first retracting it manually by handle 18. Accordingly, the lowermost lug 24 functions to lock the sash in its lowermost position and requires manual withdrawal of the stem 16 laterally against a bias of its spring 17 to condition the sash for upward movement.

On the side of strip 22 opposite lugs 23—24, the rack 21 is provided with a rib or bead 28 which is substantially circular in cross section except where it is connected to the strip 22 on a relatively narrow neck portion 31.

The jamb 10 is desirably extruded with a channel or groove 32 complementary in cross section to the bead 28. Accordingly, the channel 32 is circular in cross section and opens into the way 14 through a relatively reduced neck or throat.

To interfit the rack 21 and jamb 10, bead 28 must be slipped endwise into the channel 32. As best shown in Figure 4, jamb 10 is provided with an inwardly projecting tongue 33 which functions as a stop against which the uppermost rack lug 23 abuts when the rack 21 is completely inserted into the channel 32.

At its end opposite stop 33 the rack 21 is provided with an abutment lug 34 beneath which the sill 35 of the window frame is disposed. Accordingly, the rack 21 is securely locked in position between sill 35 and stop 33.

I claim:

1. The combination of a window frame having a side jamb providing a sash way and a channel along said way, a separately fabricated sash rack having a mounting rib receivable in said channel and by which the rack is mounted in the way, said channel and rib having complementary enlarged and neck portions of relatively fixed dimensions by which the rib is interlocked laterally in the channel.

2. The device of claim 1 in which said rack integrally comprises a strip, rack lugs projecting into said way from one side of the strip, said mounting rib projecting into the channel from another side of the strip.

3. The device of claim 2 in which the jamb comprises metal extruded to provide integrally the way and channel, said rack comprising plastic.

4. In a device of the character described, a window sash rack comprising a plastic strip from which rack lugs project integrally at one side thereof and a mounting rib projecting integrally at another side thereof, said rib comprising an enlarged bead connected to the strip on a relatively narrow neck portion.

5. The combination with a window frame having a side jamb providing a sash way and a channel along said way, a sash in said way, a sash rack having teeth mounted in said way, said sash having a stem movable toward and away from said teeth, one of said rack teeth having an abrupt shoulder at its bottom side to lock the sash when

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the stem is positioned therebehind and the other rack teeth having beveled shoulders on their bottom sides to permit the stem to ratchet past said teeth when the sash is being opened, said way having a channel formed therealong, said rack being provided with a mounting rib engaged in said channel, and a stop on said frame extending into said channel to define the position of the rib therein.

6. The device of claim 5 in which said channel and rib have complementary enlarged and neck portions of relatively fixed dimensions to laterally interlock the rib in the channel.

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References Cited in the file of this patent

UNITED STATES PATENTS

1,203,971	Bunnel	Nov. 7, 1916
1,558,748	Muck	Oct. 27, 1925
1,630,153	Williams	May 24, 1927
2,169,504	Schlegel	Aug. 15, 1939
2,481,329	Monat	Sept. 6, 1949

FOREIGN PATENTS

483,386	Great Britain	Apr. 20, 1938
1,058,271	France	Nov. 4, 1953