Dec. 25, 1956 C. J. TEGGELAAR 2,774,996

WINDOW CONSTRUCTION

Filed Jan. 16, 1956 2 Sheets-Sheet 1

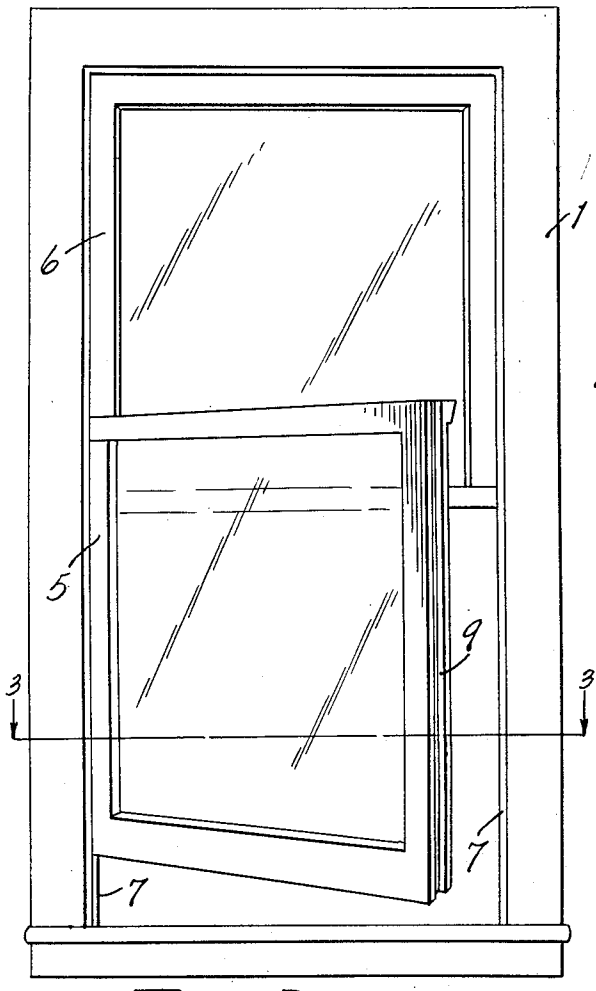


FIG. 1.

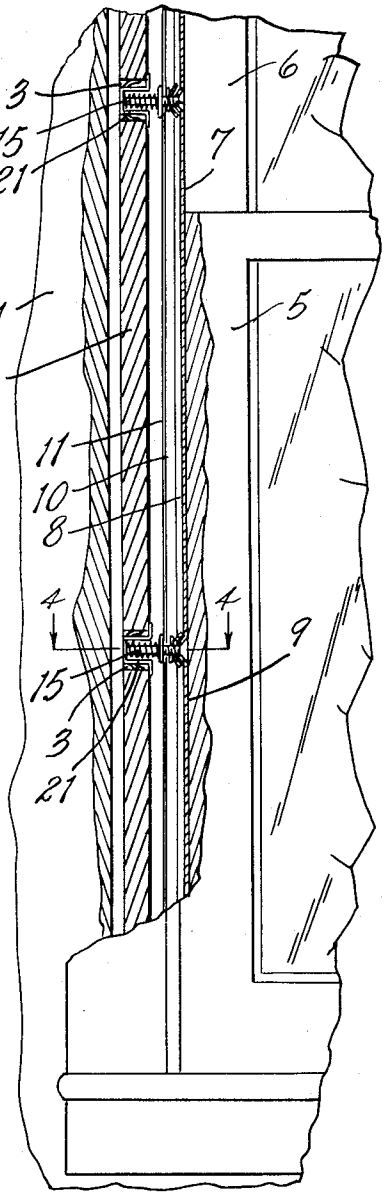


FIG. 2.

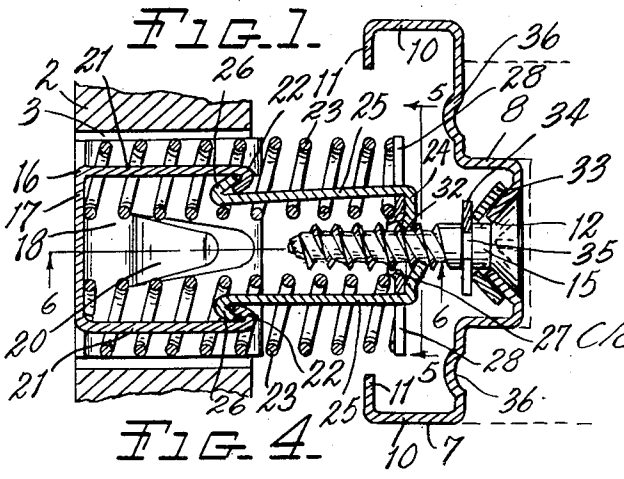


FIG. 4.

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Dec. 25, 1956 C. J. TEGGELAAR 2,774,996

WINDOW CONSTRUCTION

Filed Jan. 16, 1956 2 Sheets-Sheet 2

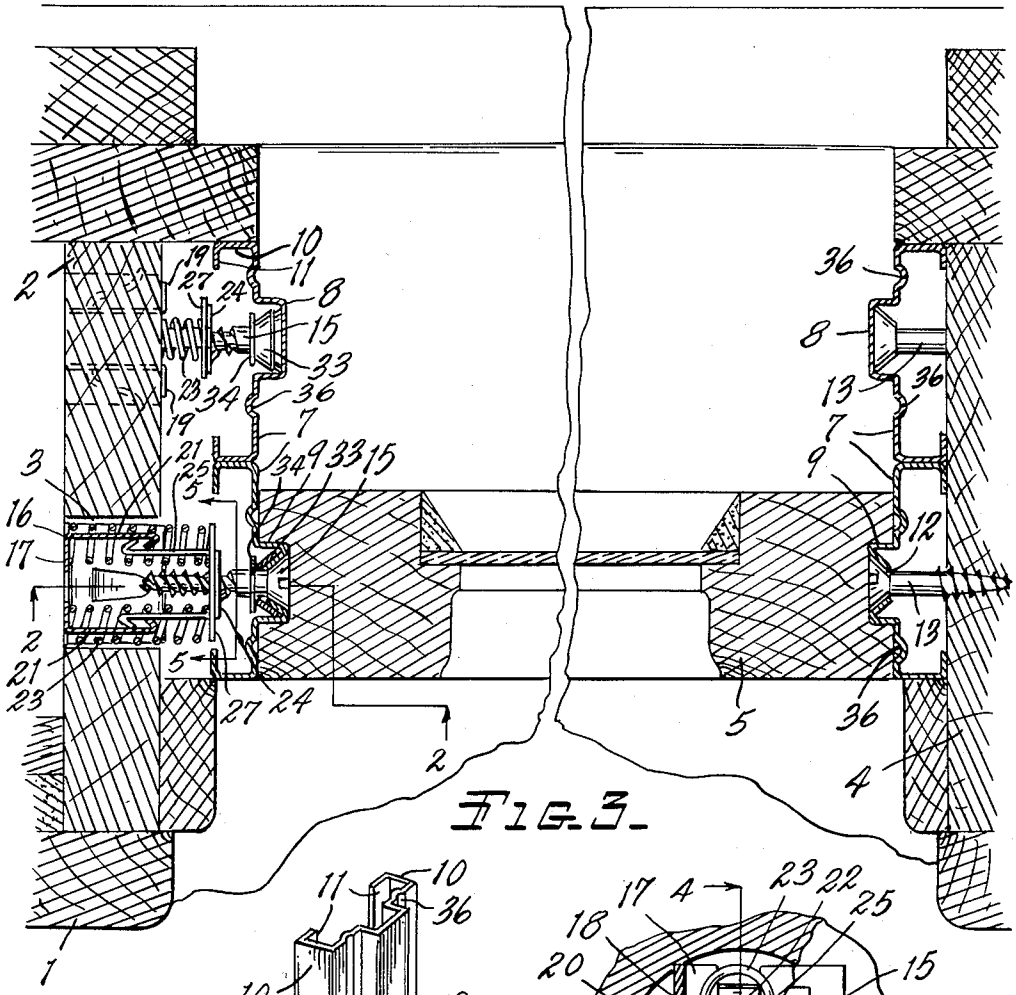


FIG. 3.

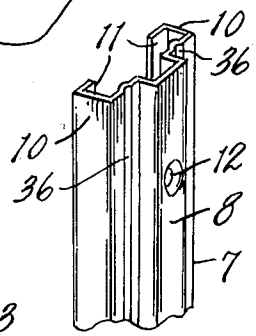


FIG. 7.

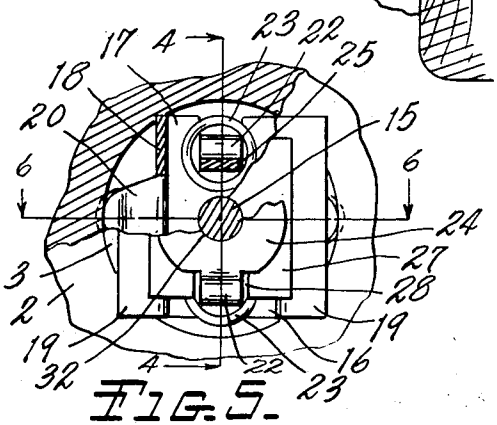


FIG. 5.

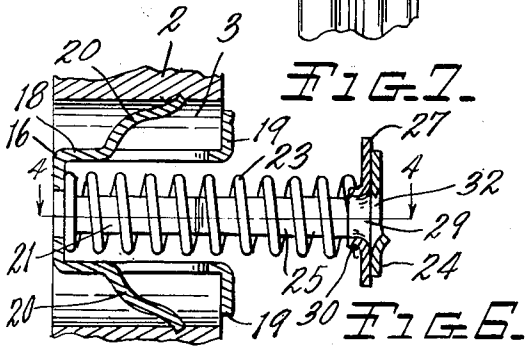


FIG. 6.

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WINDOW CONSTRUCTION

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Application January 16, 1956, Serial No. 559,226

10 Claims. (Cl. 20—12)

This invention relates to window constructions of the type in which the sash may be quickly inserted and removed from the casing and are frictionally supported in raised position.

The main objects of this invention are:

First, to provide a window construction of the type in which the sash may be inserted and removed without the aid of tools and include slide rails which are very easily installed.

Second, to provide in a window construction a resiliently supported slide rail assembly which may be quickly adjusted to provide the desired frictional support for the sash associated therewith.

Third, to provide a unitary rail supporting assembly which may be quickly installed on the jamb or side wall of a window frame and to which the sash slide rail may be quickly and adjustably connected.

Objects relating to details and economies of the invention will appear from the description to follow. The invention is defined and pointed out in the claims.

A preferred embodiment of the invention is illustrated in the accompanying drawing, in which:

Fig. 1 is a front elevational view of a window construction embodying my invention with the lower sash positioned as in inserting or removal thereof.

Fig. 2 is an enlarged fragmentary elevational view partially in vertical section on a line corresponding to line 2—2 of Fig. 3.

Fig. 3 is an enlarged fragmentary view in horizontal section on a line corresponding to line 3—3 of Fig. 1 with the lower sash in mounted position.

Fig. 4 is an enlarged fragmentary view on a line corresponding to line 4—4 of Figs. 2 and 5.

Fig. 5 is a fragmentary view partially in section on a line corresponding to line 5—5 of Fig. 4.

Fig. 6 is a fragmentary view partially in section on a line corresponding to line 6—6 of Fig. 5.

Fig. 7 is a front perspective view of one of the sash slide rails.

In the accompanying drawing 1 represents a window frame or casing which includes the jambs or side rails 2 having vertically spaced bore-like openings 3 therein. In the embodiment illustrated the opposed jamb is not provided with these openings.

5 and 6 represent the lower and upper sash respectively. The sash slide rails 7 are duplicates, those mounted on the jamb 4 being fixedly mounted and those mounted on the jamb 2 being yieldably or springably supported. These slide rails are formed of sheet metal stock and are of inwardly facing channel section having longitudinal ribs 8 on their webs engageable with grooves 9 in the sash.

The side members 10 of the slide rails are provided with inturned flanges 11. The rib portions 8 of the slide rails have openings 12 therein adapted to receive the heads of the screws 13 which secure the slide rails to the jamb 4 or to receive the screws 15 which are associated with the spring units for yieldably supporting the slide

rails associated with the jamb 2. The spring unit, two or more of which are associated with each yieldably supported slide rail, comprises the U-shaped base member 16 desirably formed of sheet metal stamping and has a bottom portion 17 and side portions 18 provided with outturned flanges 19 at their outer ends. These flanges engage the inner sides of the jambs when the base member is seated in the hole or bore 3 thereof.

The side portions 18 of these base members have tongues 20 struck out therefrom to retainingly engage the walls of the bores as is clearly illustrated in Fig. 6. The base members are provided with outwardly projecting arms 21 terminating in inturned or inwardly facing stops 22. Coil springs 23 are sleeved over the arms 21 to project from the base member.

The thrust member 24 is provided with inwardly projecting arms 25 which terminate in outurned stops 26 coacting with the stops 22 of the arms 21 of the base member, as illustrated in Fig. 4. The arms 25 telescope within the arms 21, the stops 22 being in sliding engagement with the inner sides of the arms 21. The thrust member is provided with a spring abutement member 27 which is slotted at 28 to receive the arms 25 and projects at each side thereof to receive the thrust of the springs.

The abutment member 27 has a central hole 29 therein preferably provided with an inturned flange 30 constituting a seat for the upper ends of the springs so that inward lateral movement thereof is limited, the outward lateral movement of the springs being limited by the arms 25. The screws 15 disposed through the openings 12 of the slide rails supported by the spring units are of the sheet metal type and are threaded into the holes 32 in the thrust member 24. The screw 15 is rotatably mounted on the slide rail 7 and supported against axial movement relative thereto by means of the conical collar 33 which is supported by the split ring 34 engaging the groove 35 in the screw, see Fig. 4.

With this arrangement the screw may be rotated to adjust the rails so that they engage the sash with the desired friction and they may be collapsed to permit the insertion and removal of the sash without the aid of tools.

The webs of the rails are preferably provided with stiffening ribs 36 at each side of the groove engaging rib 8. As stated all four of the sash slide rails are duplicates, one pair being fixedly mounted by the screw 13 to one of the jambs at 4 and the other being yieldably mounted by means of the spring units as described.

The only change required in the jamb 2 as compared to the opposed jamb 4 is the boring or forming of the holes 3 therein. These are of such size as to receive the rail supporting units which are mounted therein merely by forcing the base portions thereof into the openings until the flanges 19 engage the inner sides of the jamb. The tongues 20 of the base members being outwardly springable imbed the tips thereof in the walls of the openings and secure the base member to the jamb. The screws 15 being of sheet metal type are readily threaded into the hole provided therefor in the thrust member and may be adjusted to frictionally support the sash in open position.

The abutment member 27 engages the flanges 19 of the base member thereby limiting the collapsing movement of the springs under the thrust to which they may be subjected in the insertion of the window. This prevents the springs being distorted in the assembling and disassembly of a sash. The slide rails may be mounted in the window frame or casing as may be convenient and the sash inserted without the aid of tools and the sash may be removed at any time and for any purpose and replaced without the aid of tools.

I have illustrated and described my invention in a highly practical embodiment thereof. I have not at-

tempted to illustrate or describe other adaptations or embodiments which I contemplate as it is believed that this disclosure will enable those skilled in the art to embody or adapt my invention as may be desired.

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

1. A window structure comprising a jamb having a bore therein, a sash slide rail of inwardly facing channel section having an outwardly projecting longitudinally extending groove engaging rib on the web thereof, the rib having a screw receiving hole therein, an outwardly facing U-shaped base member disposed in said bore in said jamb and having laterally and forwardly projecting springable fingers struck out from the side members thereof and engaging the wall of the bore for retaining the base member therein, the base member having outturned abutments on its side members in supporting engagement with the outer side of the jamb when the base member is seated in the bore, said base member also having arms disposed centrally between and projecting outwardly from the bottom thereof and terminating in inwardly facing stops, coil springs arranged on said arms and seated on the base member to normally project beyond the ends of said arms, a thrust member provided with inwardly projecting arms disposed in telescoping relation to said arms of said base member and having outturned stops coacting with said stops of said arms on said base member when the thrust member is in fully projected position, a spring abutment member disposed on the inner side of said thrust member and slotted to receive the arms thereof and projecting laterally beyond the arms for supported engagement with the ends of the springs, and a screw rotatably mounted on said rail and against axial movement relative thereto and having threaded engagement with said thrust member.

2. A window structure comprising a jamb having a bore therein, a sash slide rail of inwardly facing channel section having an outwardly projecting longitudinally extending groove engaging rib on the web thereof, the rib having a screw receiving hole therein, an outwardly facing U-shaped base member disposed in said bore in said jamb and having laterally and forwardly projecting springable fingers struck out from the side members thereof and engaging the wall of the bore for retaining the base member therein, the base member having outturned abutments on its side members in supporting engagement with the outer side of the jamb when the base member is seated in the bore, said base member also having arms disposed centrally between and projecting outwardly from the bottom thereof and terminating in stops, coil springs arranged on said arms and seated on the base member to normally project beyond the ends of said arms, a thrust member provided with inwardly projecting arms disposed in telescoping relation to said arms of said base member and having outturned stops coacting with said stops of said arms on said base member when the thrust member is in fully projected position, and a screw rotatably mounted on said rail and against axial movement relative thereto and having threaded engagement with said thrust member.

3. A window structure comprising a jamb having an opening therein, a sash slide rail, an outwardly facing U-shaped base member disposed in said opening in said jamb and having projections and engaging the wall of the opening for retaining the base member therein, the base member having abutments in supporting engagement with the jamb when the base member is seated in the opening, said base member having arms projecting outwardly from the bottom thereof and terminating in stops, coil springs arranged on said arms and seated on the base member to normally project beyond the ends of said arms, a thrust member provided with inwardly projecting arms disposed in telescoping relation to said arms of said base member and having stops coacting with said stops of said arms on said base member when the thrust member is in projected position, said thrust member having an abutment engaging the outer ends of said springs said abutment engaging the base member to limit collapsing of the springs, and a screw rotatably mounted on said rail and against axial movement relative thereto and having threaded engagement with said thrust member.

4. A window structure comprising a jamb, and a sash slide rail, a base member mounted on said jamb and having outwardly projecting arms terminating in stops, coil springs arranged on said arms and seated on the base member to normally project beyond the ends of said arms, a thrust member provided with inwardly projecting arms disposed in telescoping relation to said arms of said base member and having stops coacting with said stops of said arms on said base member to limit the outward movement of said thrust member, said thrust member being in supported engagement with the outer ends of said springs, and a sheet metal screw rotatably mounted on said rail and against axial movement relative thereto and having threaded engagement with said thrust member.

5. A window structure comprising a jamb, and a sash slide rail, a base member mounted on said jamb and having outwardly projecting arms terminating in stops, coil springs arranged on said arms and seated on the base member to normally project beyond the ends of said arms, a thrust member provided with inwardly projecting arms disposed in telescoping relation to said arms of said base member and having stops coacting with said stops of said arms on said base member to limit the outward movement of said thrust member, said thrust member being in supported engagement with the outer ends of said springs, and a screw rotatably mounted on said rail and against axial movement relative thereto and having threaded engagement with said thrust member.

6. A device for springably supporting a slide rail or the like on a frame member comprising an outwardly facing U-shaped base member adapted to be inserted in an opening in the frame member disposed and having laterally and forwardly projecting springable fingers struck out from the side members thereof and engaging the wall of the opening for retaining the base member therein, the base member having outturned abutments on its side members in supporting engagement with the outer side of the frame member when the base member is seated in the opening therein, said base member also having arms disposed centrally between and projecting outwardly from the bottom thereof and terminating in inwardly facing stops, coil springs arranged on said arms and seated on the base member to normally project beyond the ends of said arms, a thrust member provided with inwardly projecting arms disposed within and in telescoping relation to said arms of said base member and having outturned stops coacting with said stops of said arms on said base member when the thrust member is in fully projected position, a spring abutment member disposed on the inner side of said thrust member and slotted to receive the arms thereof and projecting laterally beyond the arms for supported engagement with the ends of the springs, said abutment member constituting a stop limiting the collapsing of the springs, and screw means for adjustably connecting a slide rail or the like to said thrust member having threaded engagement with the thrust member and adapted to be rotatably connected to the supported member.

7. A device for springably supporting a slide rail or the like on a frame member comprising an outwardly facing U-shaped base member adapted to be inserted in an opening in the frame member disposed and having laterally and forwardly projecting springable fingers struck out from the side members thereof and engaging the wall of the opening for retaining the base member therein, the base member having outturned abutments on its side members in supporting engagement with the outer side of the frame member when the base member is seated in the opening therein, said base member also having arms disposed centrally between and projecting outwardly from the bottom thereof and terminating in inwardly facing stops, coil springs arranged on said arms and seated on

the base member to normally project beyond the ends of said arms, a thrust member provided with inwardly projecting arms disposed within and in telescoping relation to said arms of said base member and having outturned stops coacting with said stops of said arm on said base member when the thrust member is in fully projected position, said thrust member being supported by said springs, said abutment member constituting a stop limiting the collapsing of the springs, and screw means for adjustably connecting a slide rail or the like to said thrust member having threaded engagement with the thrust member and adapted to be rotatably connected to the supported member.

8. A device for springably supporting a slide rail or the like on a frame member comprising an outwardly facing U-shaped base member adapted to be disposed in an opening in a frame member and having projections engageable with the wall of the opening for retaining the base member therein, the base member having abutments in supporting engagement with the frame member when the base member is seated in the opening therein, said base member having arms projecting outwardly therefrom and terminating in stops, coil springs arranged on said arms and seated on the base member to normally project beyond the ends of said arms, a thrust member provided with inwardly projecting arms disposed in telescoping relation to said arms of said base member and having stops coacting with said stops of said arms on said base member to limit the projection of the thrust member, said thrust member being in supported engagement with the outer ends of said springs, and a screw adapted to be rotatably mounted on a supported member and against axial movement relative thereto and having threaded engagement with said thrust member.

9. A device for springably supporting a member on a frame member comprising a base member adapted to

be mounted on a frame member and having outwardly projecting arms terminating in stops, coil springs arranged on said arms and seated on the base member to normally project beyond the ends of said arms, a thrust member project beyond the ends of said arms, a thrust member provided with inwardly projecting arms disposed in telescoping relation to said arms of said base member and having stops coacting with said stops of said arms on said base member to limit the outward movement of said thrust member relative to the base member, said thrust member being in supported engagement with the outer ends of said springs, and a sheet metal screw adapted to be rotatably mounted on a supported member against axial movement relative thereto and having threaded engagement with said thrust member.

10. A device for springably supporting a member on a frame member comprising a base member adapted to be mounted on a frame member and having outwardly projecting arms terminated in stops, coil springs arranged on said arms and seated on the base member to normally project beyond the ends of said arms, a thrust member provided with inwardly projecting arms disposed in telescoping relation to said arms of said base member and having stops coacting with said stops of said arms on said base member to limit the outward movement of said thrust member relative to the base member, said thrust member being in supported engagement with the outer ends of said springs, and a screw adapted to be rotatably mounted on a supported member against axial movement relative thereto and having threaded engagement with said thrust member.

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