March 23, 1954 P. GIORDANO 2,673,113

FRICTIONAL HOLDING MEANS FOR WINDOWS

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Fig. 1.

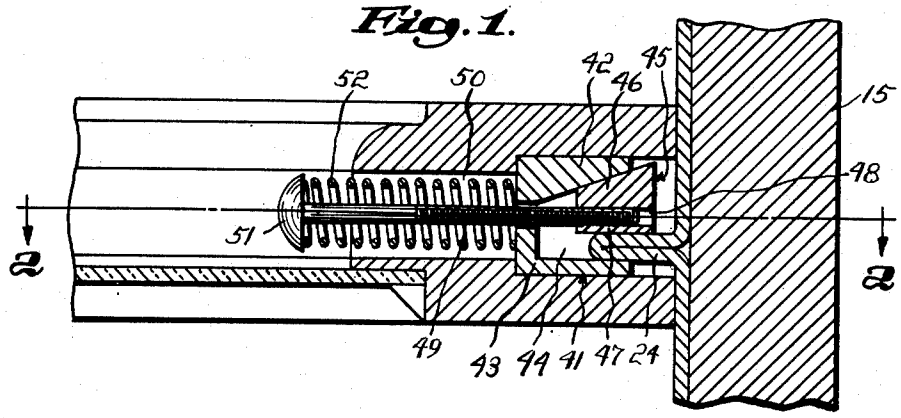


Fig. 2.

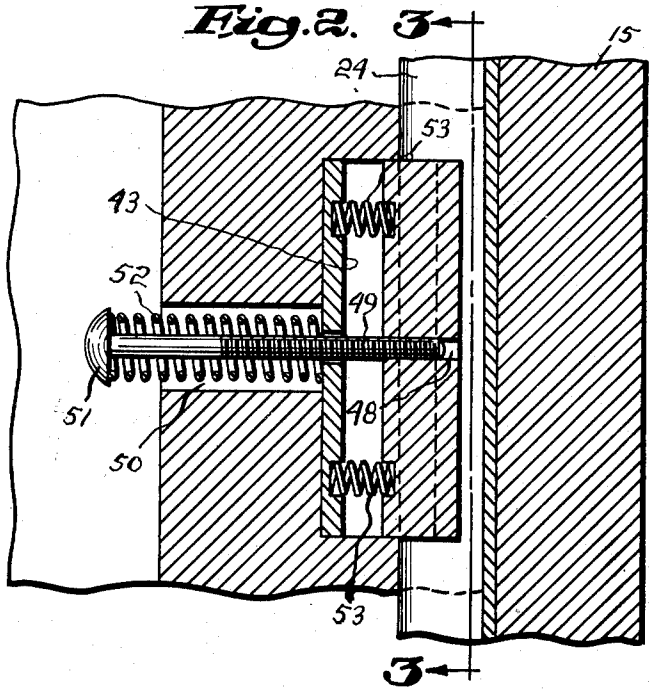
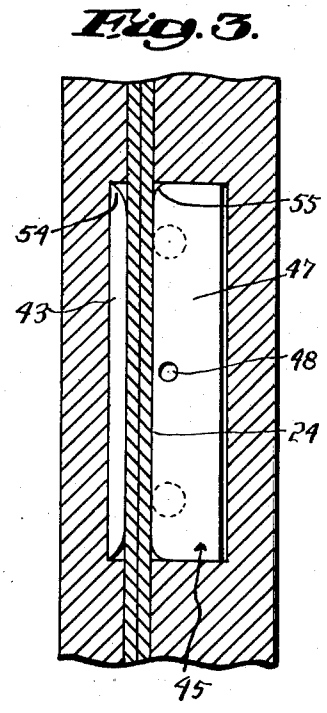


Fig. 3.



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FRICTIONAL HOLDING MEANS FOR WINDOWS

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4 Claims. (Cl. 292—342)

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My present invention relates to window structures and to frictional holding means for the sections thereof.

In recent years, many different window structures have been proposed involving sliding sections, but no improvements have been made in the slidable connection between the window or screen sections and their supporting means and in the locking means therefor.

My present invention has for its primary objectives the provision of a supporting means slidably supporting such sections and locking means to frictionally hold each of them in any raised or lowered position to provide such advantages as simplification of window casing construction, ease of window installation including the installation of multiple units combining, for example, permanent and storm windows and window screens, to make possible the commercial acceptance of various earlier proposals.

In accordance with my invention, I provide window structure which consists of a pair of supports that are attached to each side of a window casing. Each support has a plurality of spaced parallel ribs which are transversely alined with the corresponding ribs of the other support. Each window or screen section has its side rails provided with a rib receiving channel thereby to enable that section to be supported by a transversely alined pair of ribs and slid upwardly or downwardly therealong and I provide one or both side rails of each section with locking means frictionally gripping the sides of the received rib to hold that section in any desired position.

Each such locking means consists of a first element having a wedge and a backing jaw in engagement with one side of a rib and spaced from the wedge to provide a channel and a second element. The second element is located in that channel and has a wedge portion in engagement with the wedge and a clamping jaw portion movable towards or away from the jaw of the first element as the second element is moved towards or away from the bottom of its channel. The elements are interconnected by a yieldable and adjustable connection urging the clamping jaw portion against the other side of that rib.

In the accompanying drawings, I have shown an embodiment of my invention which illustrates these and other of its novel features and advantages.

In the drawings,

Fig. 1 is a horizontal fragmentary section through one of the window sections showing the means frictionally locking it to a frame wall.

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Fig. 2 is a section along the lines 2—2 of Fig. 1, and

Fig. 3 is a section along the indicated lines 3—3 of Fig. 2.

In the illustrative embodiment of my invention shown in the drawings, I have shown a window casing consisting of frame sides such as the side 15 to which are secured supports for such window and screen sections as are desired for any particular window. As illustrative of such supports, there is shown a vertically disposed rib 24. These ribs serve to slidably support a window or screen section.

I provide each of the window and screen sections with means engageable with a rib 24 to hold that section in any desired position and in accordance with my invention, these grip the sides of ribs 24 to avoid pressure on the supports.

I have shown such means as consisting of a first element 41 including a wedge 42 and a backing jaw 43 spaced therefrom to provide a channel 44. The element 41 is set into a side rail so that a rib 24 will be received by the channel 44 and with the backing jaw 43 in engagement with that rib. A second element, generally indicated at 45, includes a wedge portion 46 and a jaw portion 47 and is located in the channel 44 with its wedge portion 46 in engagement with the wedge 42 of the first element 41 so that as the second element is moved towards or away from the bottom of the channel 44, its jaw portion 47 is moved towards or away from the other side of that rib 24.

I have shown the second element 45 as having a bore 48, mid way of its ends, threaded to receive the stem 49 which passes freely through the first element 41 at the bottom of its channel 44 and through the bore 50 in the side rail of the section frame. At its exposed extremity, the stem 49 has a knob 51 between which and the first element 41 is a spring 52 yieldably urging the second element 45 into a position in which its jaw portion 47 is pressed against the adjacent side of the rib 24 thereby to lock the section thereto. It will be appreciated that the tension of the spring 52 may be adjusted simply by rotating the stem 49 to advance or back the knob 51 relative to the first element 41.

In practice, the elements 41 and 45 are of substantial length and for that reason, I interpose steadying springs 53 between them adjacent their ends. I also form the jaw 43 and the jaw portion 47 with outwardly tapering extremities 54 and 55, respectively, to facilitate the entrance of a rib 24 therebetween even after adjustment of the holding means.

From the foregoing, it will be apparent that holding means for vertically slidable window structures in accordance with my invention are well adapted to meet the requirements of economy of production, ease of installation, and convenience in use.

What I therefore claim and desire to secure by Letters Patent is:

1. Locking means for the side rail of a window frame or the like channelled to receive a rib by which the frame is to be slidably supported, said means comprising a first element including a wedge and a backing jaw spaced therefrom to provide a channel and said first element being adapted to be mounted in said rail with said jaw in engagement with one side of said rib, a second element in said channel and including a wedge portion in engagement with said wedge and a clamping jaw portion movable towards or away from the jaw of said first element as said second element is moved towards or away from the bottom of said channel, a stem threaded into said second element extending freely through the bottom of said channel and including a knob, and a spring compressed between said knob and said first element yieldably urging said clamping jaw portion into a rib clamping position.

2. Locking means for the side rail of a window frame or the like channelled to receive a rib by which the frame is to be slidably supported, said means comprising a first element including a wedge and a backing jaw spaced therefrom to provide a channel and said first element being adapted to be mounted in said rail with said jaw in engagement with one side of said rib, a second element in said channel and including a wedge portion in engagement with said wedge and a clamping jaw portion movable towards or away from the jaw of said first element as said second element is moved towards or away from the bottom of said channel, and means connected to said second member and movable between a first position in which said clamping jaw clamps said rib and a second position in which said rib is released, said means including a spring yieldably maintaining said first position and constituting the only opposition to movement of said means into said second position.

3. Locking means for the side rail of a window frame or the like channelled to receive a rib by which the frame is to be slidably supported, said means comprising a first element including a wedge and a backing jaw spaced therefrom to provide a channel and said first element being adapted to be mounted in said rail with said jaw in engagement with one side of said rib, a second element in said channel and including a wedge portion in engagement with said wedge and a clamping jaw portion movable towards or away from the jaw of said first element as said second element is moved towards or away from the bottom of said channel, a stem carried by said second element extending freely through the bottom of said channel and including a knob, and a spring compressed between said knob and said first element yieldably urging said clamping jaw portion into a rib clamping position, the ends of said backing jaw and of said clamping jaw portion being oppositely outwardly tapering to facilitate the entrance of said rib therebetween.

4. Locking means for the side rail of a window frame or the like channelled to receive a rib by which the frame is to be slidably supported, said means comprising a first element of substantial length including a wedge and a backing jaw spaced therefrom to provide a channel and said first element being adapted to be mounted in said rail with said jaw in engagement with one side of said rib, a second element of substantial length in said channel and including a wedge portion in engagement with said wedge and a clamping jaw portion movable towards or away from the jaw of said first element as said second element is moved towards or away from the bottom of said channel, a stem carried by said second element intermediate its ends extending freely through the bottom of said channel and including a knob, and a spring compressed between said knob and said first element yieldably urging said clamping jaw portion into a rib clamping position, and resilient means interposed between said elements to steady the ends of said second element.

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