Jan. 13. 1925. 1,522,843

W. STRANG

WINDOW SASH

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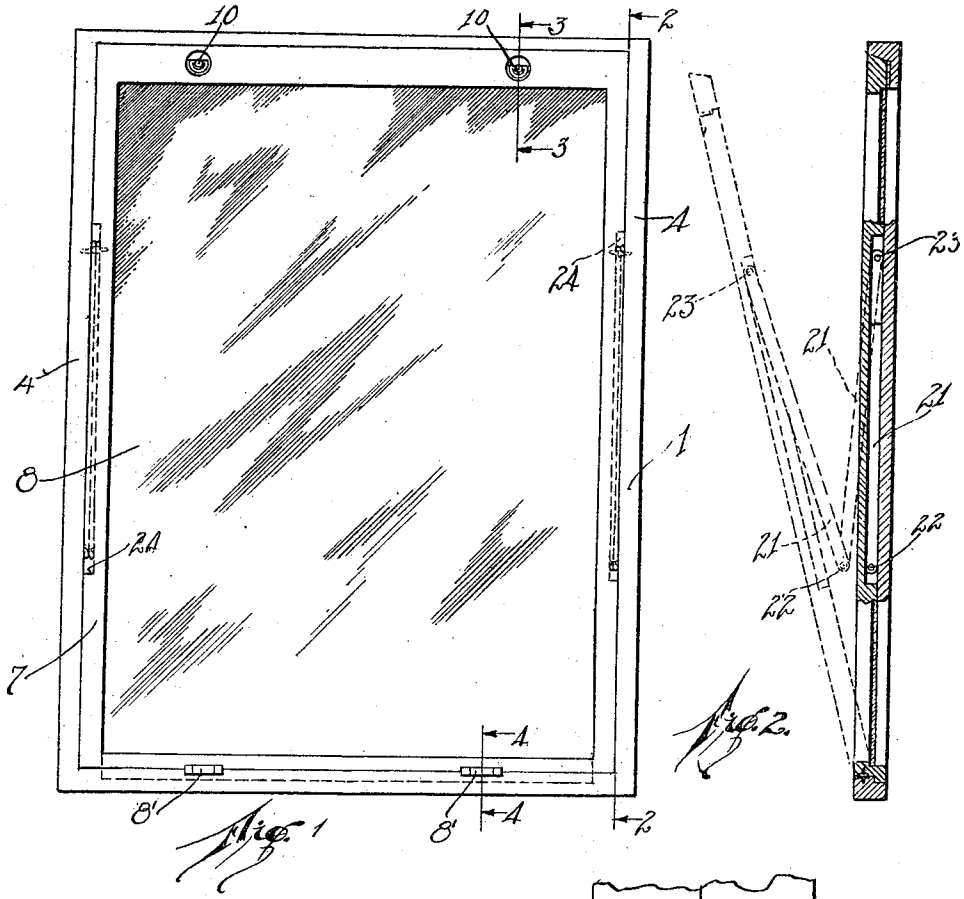


Fig. 1

Fig. 2.

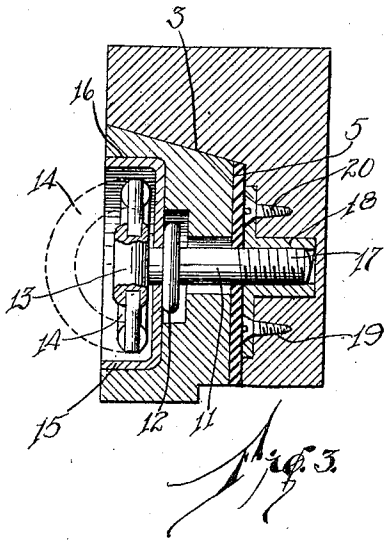


Fig. 3.

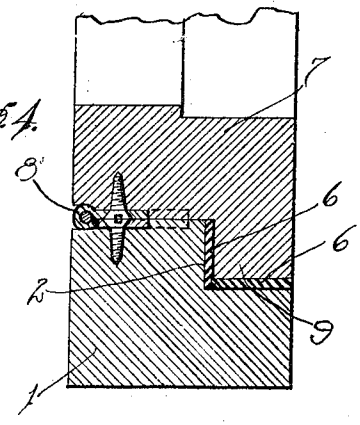


Fig. 4.

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UNITED STATES PATENT OFFICE.

WILLIAM STRANG, OF CHICAGO, ILLINOIS.

WINDOW SASH.

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To all whom it may concern:

Be it known that I, WILLIAM STRANG, a citizen of the United States, and a resident of Chicago, in the county of Cook and State of Illinois, have invented a new and useful Improvement in Window Sashes, of which the following is a full, clear, and exact description.

My invention relates to improvements in window sashes, and it consists in the combinations, constructions, and arrangements herein described and claimed.

An object of my invention is to provide a window sash of the character described in which the glass is held on an inner frame hingedly mounted to an outer frame and arranged to slide in the ordinary type of window frame, so that the inner frame may be hinged inwardly and both surfaces of the glass rendered accessible without the necessity of raising the entire sash as in the case of the ordinary window.

The advantage gained in providing such structure is that the possibility of one falling from the window while washing the glass on the outside is entirely precluded, since this process may be carried on entirely within the room where ordinarily only the inner side of the window pane is accessible.

A further object of my invention is to provide a device of the character described in which means is provided for limiting the movement of the inner frame of the sash so that the inner frame may not move on its hinged support into engagement with objects in the room, whereupon the glass might become broken.

A further object of my invention is to provide a device of the character described in which the abutting surfaces of the inner frame and the sash are thoroughly waterproof so that water may not enter through the sash when the window is properly closed.

A further object of my invention is to provide a novel locking means for locking the inner frame into close engagement with the sash.

A further object of my invention is to provide a device of the character described which may be used to replace the ordinary type of window sash and in which no special tools or instruments are required to open or close the inner or glass carrying frame thereof.

Other objects and advantages will appear in the following specification, and the novel features of the invention will be particularly pointed out in the appended claim.

My invention is illustrated in the accompanying drawings, forming part of this application, in which—

Figure 1 is a front elevation of an embodiment of my invention,

Figure 2 is a sectional view along the line 2—2 of Figure 1,

Figure 3 is an enlarged sectional view along the line 3—3 of Figure 1, and

Figure 4 is an enlarged sectional view along the line 4—4 of Figure 1.

In carrying out my invention, I make use of the ordinary type of window frame (not shown) in which a sash bearing a window pane is normally employed. This ordinary type of sash I remove and substitute a sash frame. This sash frame 1 is provided with a rabbeted portion 2 on the outer edge of the lower wall thereof, and a rabbeted portion 3 on the inner side of its upper wall. The two side walls 4 of the frame 1 are also provided with rabbeted portions on their inner edges merging with the rabbeted portion 3 on the upper wall of the frame.

An insulating lining or strip 5 is provided on the vertical face of the rabbeted portion 3 and is arranged to extend down upon the contiguous walls of the rabbeted portion on the side walls 4 of the frame 1. The material of which the insulating strip 5 is constructed is similar to the ordinary weather stripping. Both walls of the rabbeted portion 2 are provided with weather stripping 6 (see Figure 4).

An inner or glass bearing frame 7 is hingedly mounted at 8′ to the frame 1. Three walls of this frame 7 are arranged to be received in the rabbeted portions 3 of the top wall of the sash frame 1 and the rabbeted portions on the side walls 4 and to bear against the weather stripping provided on these walls, whereby a watertight seal is effected and the frame 7 is pressed into close engagement with the weather stripping to preclude the passage of water between the abutting parts of the frames 1 and 7.

A glass pane 8 is supported within the frame 7 by any suitable means such as employed in the ordinary type of window sash. The window frame 7 has an angular downwardly projecting portion 9 on its lower and outer edge which is arranged to be received in the rabbeted portion 2 and

to bear against the insulating strips 6. This structure effectively prevents the passage of water from the outside of the frame to the inside between the frames 1 and 7.

Means for locking the frame 7 into close engagement with the frame 1 is provided in a pair of locking members 10, one of which is clearly illustrated in Figure 3. These locking members consist each in a threaded spindle 11 having a collar 12 disposed intermediate the length of the spindle and a key portion 13 at the outer end. The key portion 13 is provided with a hingedly mounted finger grip member 14 which is normally folded in a plane transverse to the axis of the spindle 11 (see Figure 1), but is capable of being hinged outwardly to the position shown in dotted lines in Figure 3 when in use.

A metal case 15, open at its outer end, is disposed concentric with the spindle 11 intermediate the collar 12 and the key 13. This case 15 is disposed in a depression 16 provided in the outer face of the upper wall of the frame 7.

The threaded portion 17 of the spindle 11 is arranged to project beyond the outer face of the upper wall of the frame 7 and an interiorly threaded sleeve 18 is carried by the frame 1 at the inner face of its upper wall, that is, the rabbeted portion 3, in registration with the spindle 11. The tubular sleeve 18 is provided with a radially disposed flange 19 at its outer end by means of which the tubular portion 18 may be securely fixed to the frame 1 by means of screws 20 and the like.

Means for limiting the movement of the frame 7 on its supporting hinges 8′ relative to the frame 1 is provided in a pair of rigid metal straps 21 pivotally fixed to one another at 22 and having their outer ends pivotally mounted with the frame 7 and the frame 1, respectively, as shown at 23.

A recess 24 is provided in the outer side walls of the frame 7 to accommodate the straps 21 when the frame 7 is in the position shown in Figures 1 and 2.

From the foregoing description of the various parts of the device, the operation thereof may be readily understood. Let us assume that a window sash of the character shown in Figure 1 has been used for some time and that it is desired to clean the window pane 8 therein. In order to accomplish this it is merely necessary to move the hand grip portions 14 of the keys 13 into the position shown in dotted lines in Figure 3 and to rotate the keys 13 in a counter clockwise direction so that the spindle 11 also turns in a counter clockwise direction. As this is done, the tubular sleeves 18 will be forced outwardly relative to the threaded portions 17 which will result in the movement of the frame 7 out of engagement with the frame 1, i. e., movement of the frame 7 on its supporting hinges 8′.

When the threaded portions of the spindles 17 are entirely free of the interiorly threaded sleeves 18, then the frames 7 may be moved downwardly as shown in dotted lines in Figure 2 until the straps 21 are in alinement with one another. This will permit the movement of the frames 7 ninety degrees from the frame 1 on its supporting hinges 8′. This movement of the frames 7 will permit ready access to the outer side of the window pane 8 so that it may be washed or otherwise cleaned by a person within the room, making it unnecessary to raise the sash and to sit on the window or to stand on the outside of the window as in the case of the ordinary sash.

It will be noted that when the frame 7 is moved into the position shown in Figure 1, and the spindle 11 turned in a clockwise direction, the frame 7 is drawn into watertight engagement with the frame 1, whereupon moisture from the outside of the window is kept out.

My improved window sash may be moved longitudinally in the window frame just as any other window sash, and where two sashes are employed in a window, each sash is constructed in accordance with the foregoing specification and the sashes are lowered alternately for cleaning.

I claim:

A lock for securing the hingedly mounted inner frame of a window sash against movement relative to said sash, comprising sockets carried by said sash frame, threaded bolts having thumb grips, rotatably mounted in said inner frame and arranged to lie entirely within the lateral bounds of said inner and said sash frame when said inner frame is closed, the threads thereof being arranged to engage with the threads of said sockets whereby said inner frame will be drawn into close engagement with said sash frame when said bolts are rotated.

WILLIAM STRANG.