June 28, 1938. J. J. LEARY 2,121,805

WINDOW INCLUDING INWARDLY SWINGING SASH

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Fig. 1.

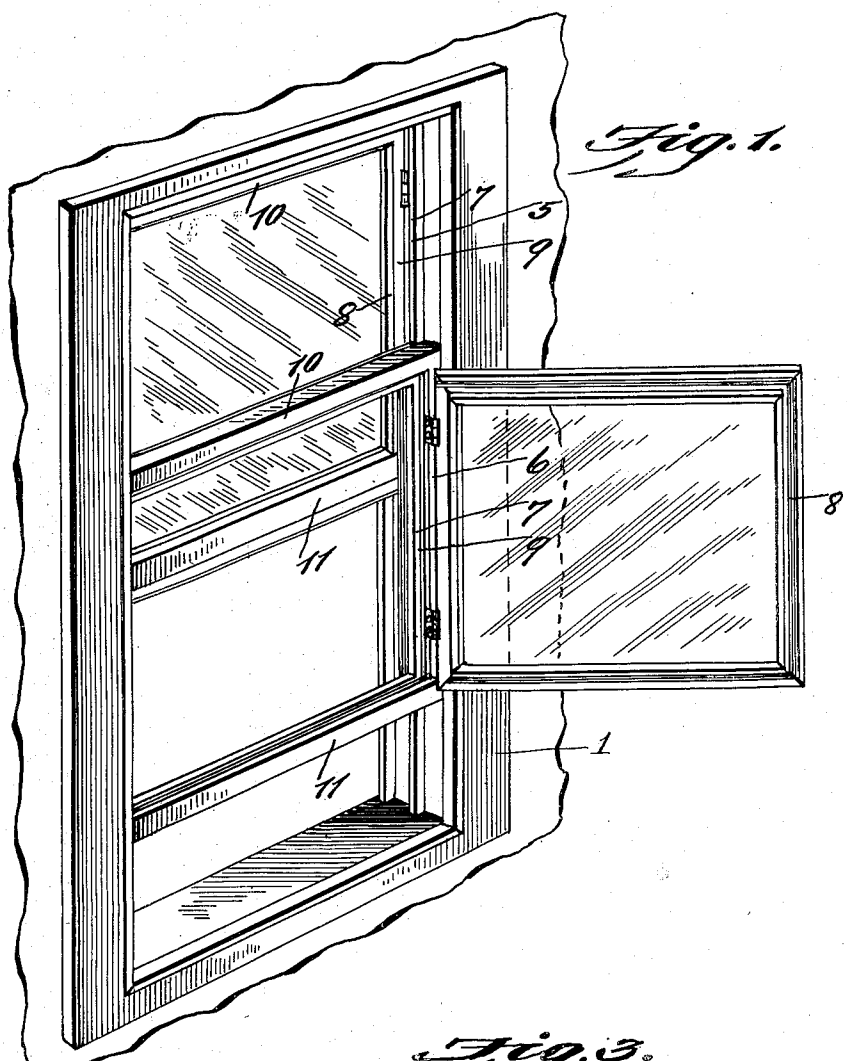
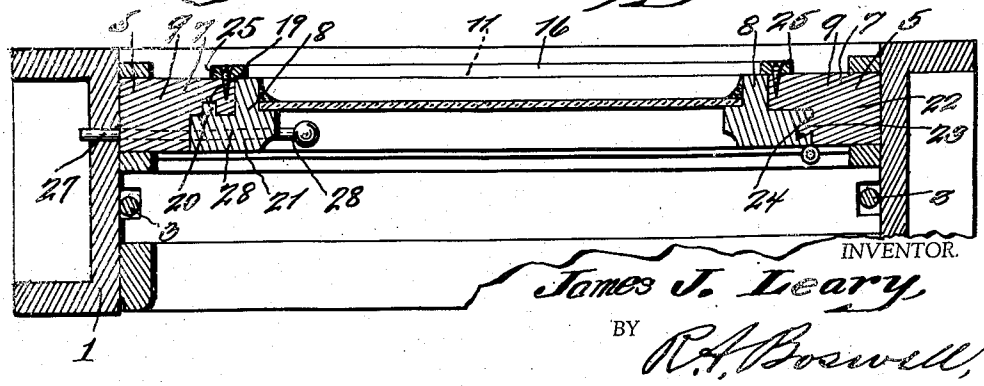


Fig. 3.



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Fig. 2.

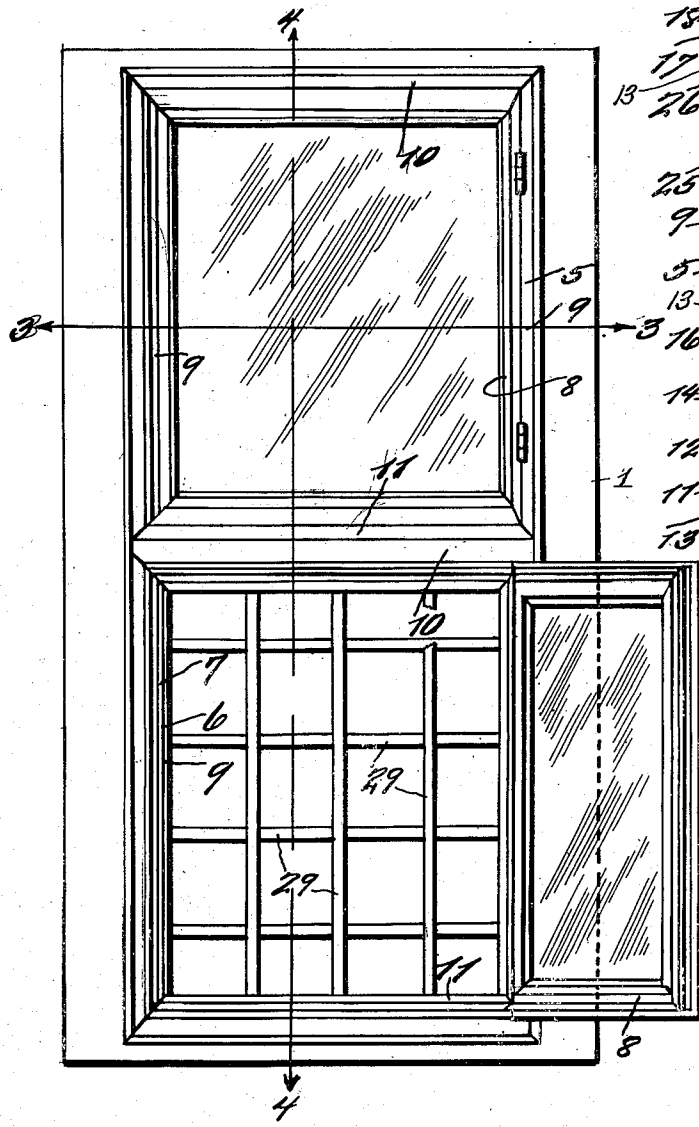
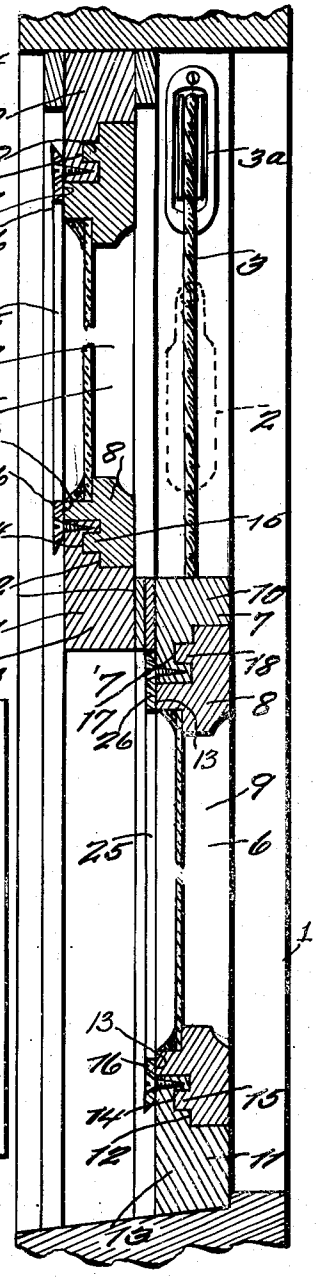


Fig. 4.



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WINDOW INCLUDING INWARDLY SWINGING SASH

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Application July 2, 1936, Serial No. 88,554

1 Claim. (Cl. 20—48)

This invention relates to windows in general and more especially to a construction of window, wherein the upper and lower sashes consist of main and auxiliary sections, the auxiliary sections (which carry the panes of glass) being hinged within the main sections in such a manner to permit the auxiliary sections to swing inwardly either at the same time or separately to allow the exterior surfaces of the panes of glass to be thoroughly cleaned or otherwise repaired.

Another purpose of the invention obtained by the above construction consists in the idea that the main sections together with their auxiliary sections can be installed in any ordinary window frame without any alterations whatever to the window frame, even though the entire structure, frame and the main and auxiliary sections happen to be constructed of metal.

Another purpose of the invention consists in the idea of providing upper and lower sashes, each consisting of two sash sections, main and auxiliary and including a tongue and groove connection, making the main and auxiliary section air and water tight when the auxiliary section is closed, the lower rail of the auxiliary section carrying on its exterior a bead or strip to overly a portion of the lower rail of the main section in order to shed the water toward the exterior, thereby insuring the shedding of the water.

Another purpose is to provide in a device of this kind at least two or more hinges on one side of the main and auxiliary sash sections, whereby the auxiliary sash section can swing inwardly, with a spring catch lock at the opposite side for retaining the auxiliary sash section securely closed, thereby preventing the auxiliary sash section from being opened from the exterior, the upper rail of the main sash section and the lower rail of the upper main sash section having the usual catching or locking means to prevent raising and lowering either of the main sash sections from the exterior, and yet when both of the auxiliary sash sections are locked against movement inwardly and both main sash sections are unlocked at their adjoining point the two main sash sections can be raised and lowered without interfering with each other.

A further purpose of the invention consists in the fact that this type of construction of the main and auxiliary sash sections allows for the screening on the outside as a prevention against insects, etc., and it is also possible for the upper and lower hinged auxiliary sash sections to open inwardly at the same time for ventilation.

A still further purpose is to provide in a device of this character the installation of bars across the main and auxiliary sash sections for the prevention of theft.

A still further purpose is to provide a tongue and groove connection between the adjacent faces of the vertical hinged rails of the main and auxiliary sash sections to insure the prevention of the entrance of weather conditions, as well as a weather stripping on the vertical rails and upper horizontal rails of the main sash section to keep out the weather.

It is to be understood that the particulars herein given are in no way limitative and while still keeping within the scope of the invention, any desired modification of details and proportions may be made in the construction of the appliance according to circumstances.

The invention comprises further features and combination of parts to be hereinafter set forth, shown in the drawings and claimed.

In the drawings:—

Figure 1 is a view in perspective of the ordinary or conventional type of a window frame showing the improved upper and lower sash construction as applied.

Figure 2 is a view in elevation showing the upper and lower auxiliary sash sections, the lower auxiliary sash section being open.

Figure 3 is a transverse sectional view on line 3—3 of Figure 2.

Figure 4 is a sectional view on line 4—4 of Figure 2.

Referring to the drawings 1 identifies a conventional type of window frame, which in its construction has no changes or alterations therein. This frame 1 has the usual housing for the weights 2 and the usual suspension cords and pulleys 3 and 3a for the sashes, said cords being connected in the conventional manner to the upper and lower sashes 5 and 6.

Each of the upper and lower sashes comprise main and auxiliary sash sections 7 and 8. The main sash section comprises the side styles 9 and the upper and lower rails 10 and 11. The lower rail of each main sash section consists of an angular piece of right angle in cross section, the inner face 12 of the upstanding face portion of the lower rail of each main sash section is provided with a longitudinal groove 14, which receives a rib 15 on the lower rail of each auxiliary sash, thereby providing a weather-proof connection. Mounted on the exterior of the lower rail of each main sash section is a strip 16 which overlies the upstanding face portion

13 of the lower rail of each auxiliary sash section. The watershed weather-strips 16 have their lower edges undercut causing sharpened edges to be formed, whereby water or moisture may shed therefrom. The upper rail 10 of the main sash section is of right angle construction, the same as the lower rail of the main sash section and constructed on the inner face of the downwardly directed face portion of the upper rail 10 of each main sash section is a longitudinal groove 17 to receive a rib 18 on the outer face of the upper rail of each auxiliary sash section to insure further prevention against weather conditions, that is to say preventing seeping through of air and moisture.

On the upstanding style of each main sash section (which is also of right angle construction in cross section) a vertical groove 19 is provided which joins the grooves of the upper and lower rails of the main sash section, and the groove 19 receives a rib 20 on the upright style 21 of the auxiliary sash section, which further insures against the weather.

The upstanding style 22 of each main sash section, and to which the auxiliary sash section is hinged as previously stated is provided with a rib 23, which enters a groove 24 on the upstanding style of each auxiliary sash section, which still further adds to the prevention of the seeping through of the weather conditions. The main sash sections on the upstanding styles 9 thereof and their upper rails have on their exteriors weather strips 25 and 26 against which the auxiliary sash sections engage in order to keep out the weather conditions.

As shown in Figure 3 more especially the style to the left of the window frame is provided with a plurality of openings 27, for instance about three in vertical alignment, and inserted through the main and auxiliary sash sections where the vertical rails thereof are to the left is a pin 28, which not only serves to lock the main and auxiliary sash sections in place, but also serves to pass through any one of the openings 27 to lock and prevent vertical movement of the main and auxiliary sash sections. When the pin 28 is in certain of the openings 27 the main and auxiliary sash sections will remain in closed position against vertical movement. In Figure 2 the main and auxiliary sash sections are provided with cross bars 29, which extend across the sash sections for the prevention of theft.

The invention having been set forth, what is claimed is:

The combination with a window frame comprising side vertical styles provided with vertical guides, of upper and lower sashes operable in the guides, each of said sashes comprising main and auxiliary sash sections, said auxiliary sash section being hinged to a vertical style or rail of the main sash section and adapted to swing inwardly within the main sash section, the upper and lower horizontal rails of the main and auxiliary sash sections having tongue and groove connections, the vertical styles or rails of the main and auxiliary sash sections having tongue and groove connections, all of said tongue and groove connections acting to prevent seeping of the weather moisture into the interior, certain of said tongue and groove connections between the auxiliary sash section and the vertical style of the main sash section being angularly inclined incident to the hinge connection, whereby the auxiliary sash section may swing inwardly, watershed weather-strips secured to the outer faces of the upper and lower rails and vertical styles of the main sash section and against which the outer faces of the upper and lower rails and the vertical styles of the auxiliary sash section engage, certain of the water-shed weather-strips of the lower rails of both main sash sections having their under edges undercut, whereby water or moisture may shed from the sharpened portions of said lower edges, certain of the styles of the window frame having openings in vertical alignment one above the other, and a pin passing horizontally through certain of the vertical rails or styles of the main and auxiliary sash sections to hold the main and auxiliary sash sections together, said pin adapted to enter certain of the openings in the style or rail of the window frame to prevent vertical adjustment of the sash.

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