Nov. 12, 1929. W. NEUBECKER 1,735,649

FOLDABLE WINDOW SASH

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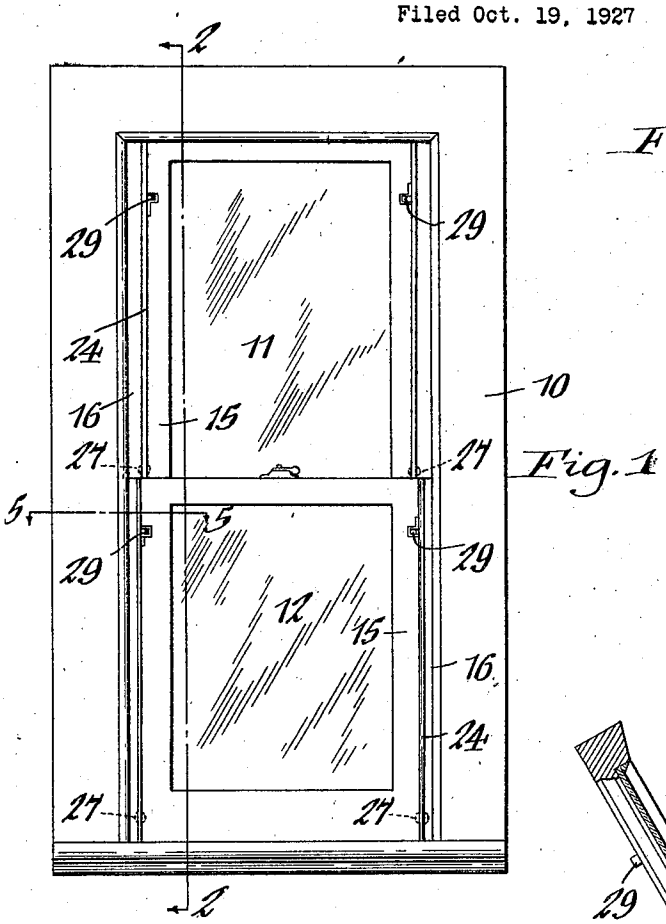


Fig. 1

Fig. 2.

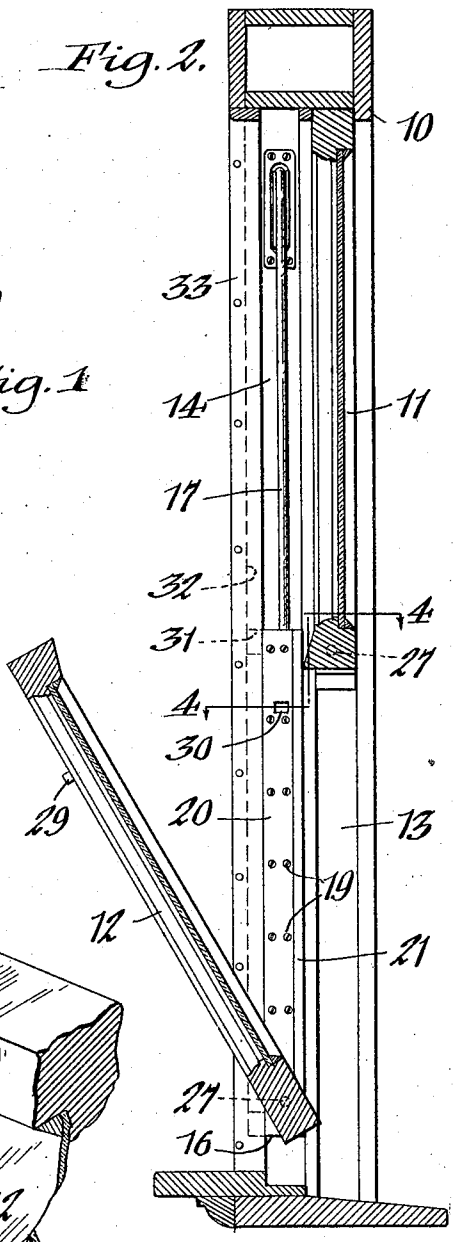
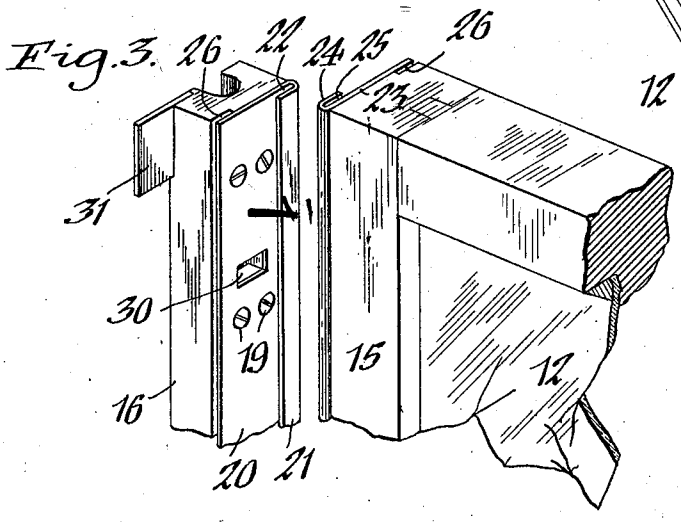


Fig. 3.



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Fig. 4.

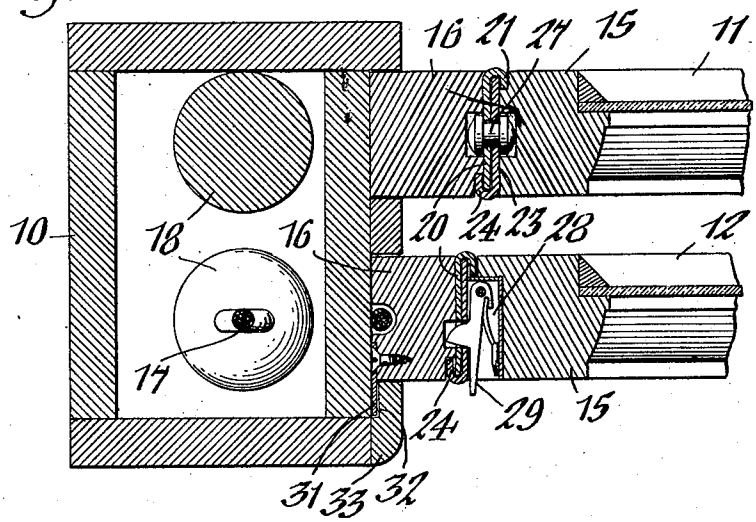
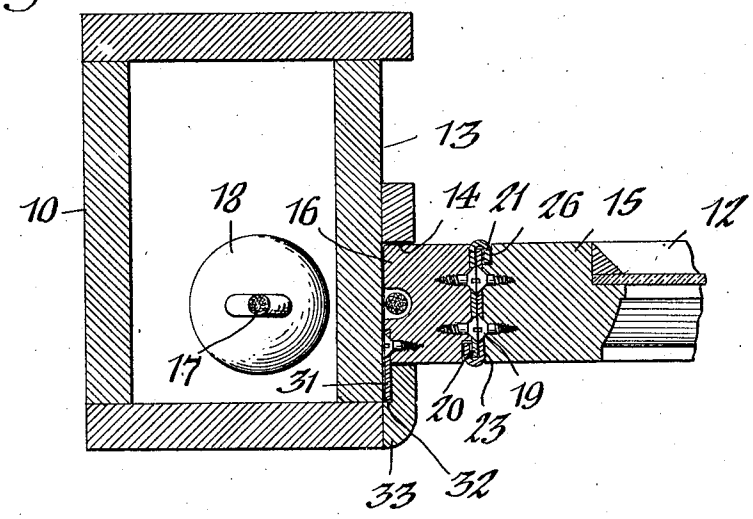


Fig. 5.



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UNITED STATES PATENT OFFICE

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FOLDABLE WINDOW SASH

Application filed October 19, 1927. Serial No. 227,223.

This invention relates generally to window sash construction but more particularly to a foldable sash.

Its chief object is the provision of a simple and inexpensive sash of this character which can be readily swung to a position convenient for cleaning the window panes and which will not interfere with the screens or storm sash usually applied to the windows.

Another object of the invention is to provide a foldable sash which can be conveniently raised and lowered and which is so constructed as to provide a reliable weather-proof joint between its relatively movable parts.

In the accompanying drawings:—

Figure 1 is a front view of a window frame embodying my invention. Figure 2 is an enlarged transverse vertical section on line 2—2, Figure 1. Figure 3 is a fragmentary perspective view of the cooperating parts of the window sash. Figure 4 is an enlarged horizontal section on line 4—4, Figure 2. Figure 5 is a similar section on line 5—5, Figure 1.

Similar characters of reference indicate corresponding parts throughout the several views.

Referring now to the drawings, 10 indicates a window frame of ordinary construction, 11 and 12 the upper and lower sash, respectively, and 13, 14 the upright side grooves in which the sash are guided.

The side rails or uprights of each sash are made sectional and consist of an inner section 15 forming a jointed or integral part of the sash-frame and an outer section 16 which is joined to but separate from the companion inner section in a manner to compel a simultaneous or unitary movement of such sections during the raising and lowering of the sash and to permit a laterally-swinging movement of the inner section relative to the outer section when it is desired to shift the sash to a position convenient for cleaning. The outer section 16 constitutes the guide rail of the sash, engaging the corresponding groove 13 or 14 in the window frame and being connected by a cord 17 with the usual weight 18. Secured to the inner upright face of each guide section 16 by screws 19 or other fastenings is a metallic plate 20, of brass or other appropriate material, extending from top to bottom of the section and whose rear or outside marginal edge terminates in forwardly-bent upright flange 21 forming a resulting groove 22. Applied to the opposing upright face of the companion inner section 15 is a similar plate 23 terminating at its front or inner edge in a rearwardly-bent upright flange 24 producing a groove 25. Those upright edges of the plates 20, 23 which are unflanged are adapted to interlock with the companion grooves 22, 25 in the manner shown in Figures 4 and 5. As shown clearly in Figure 3, those portions of the sections 15, 16 adjacent the unflanged edges of the plates are recessed, as indicated at 26, to readily receive the flanges 21, 24 thereof.

Each sash is fulcrumed at its lower end for vertically-swinging movement relative to its guide rails 16 and for this purpose the adjoining plates 20, 23 are pivotally joined at their lower ends by pivot pins 27, as seen in Figure 4. Fitted in a recess 28 near the upper end of each of the sash-sections 15 is a laterally-swinging spring catch 29 which is adapted to interlock with a corresponding opening 30 in the companion guide section 16 and thus reliably couple the parts so that they move in unison when raising and lowering the sash. The spring catches project a suitable distance from the face of the sash to permit them to be manually released from locking engagement when it is desired to swing the sash into the room for cleaning purposes, as seen in the lower end of Figure 2.

For the purpose of insuring a firm joint between the abutting faces of the metal plates 20, 23, they are preferably sprung into a slightly convex form in cross section, as shown in Figures 4 and 5. This construction enables the sash to be frictionally held at any desired position convenient for cleaning or for ventilating purposes and also serves to prevent rattling of the sash.

Aside from producing a weather-proof joint between the sash and the guide rail sections 16, the hook-like flanges 21, 24 on the

metal plates 20, 23 constitute stops for limiting the outward-swinging movement of the sash beyond their proper vertical position.

In order to retain the guide rails 16 in the frame-grooves 13, 14 and prevent them from accidently becoming displaced therefrom, as when the sash is swung inwardly, the upper ends of these rails are preferably provided on their inner faces with a laterally projecting plate or tongue 31 engaging a vertical groove or guideway 32 which may be formed, for example in the strips 33 defining the frame-grooves and opening into the latter. As shown in Figures 1 and 4, the guide rails 16 of the upper sash 11 are somewhat wider than the rails of the lower sash 12 so that there is no danger of interference between these sash when they are swung inwardly.

In the use of my invention, when it is desired to swing, say, the lower sash to the position shown in the lower end of Figure 2, the same is first raised slightly and the catches 29 are released, after which the sash is grasped and swung inwardly about its pivots 27 to a position convenient for cleaning. The operation of the upper sash is effected in the same manner. In returning the sash to its original position, it is only necessary to swing the same outwardly, the spring-catches automatically functioning to lock the sash in place relative to its guide rails.

The construction of this improved sash is such that it can be applied to ordinary window frames and it lends itself very nicely for adaptation to existing sash without materially altering their construction.

I claim as my invention:—

The combination of a window frame having side grooves, guide rails slidable vertically in said grooves, a sash supported between the guide rails and capable of vertical movement therewith or of a swinging movement relative thereto, face plates secured to the adjoining edges of the sash and its guide rails, said plates being of convex form in cross section to provide a yieldable frictional grip between the sash and the guide rails, pivot pins applied to said plates for hingedly connecting said sash to said guide rails and complementary means on the face plates for limiting the swinging movement of the sash in one direction.

WILLIAM NEUBECKER.