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WINDOW STRUCTURES

2,967,335

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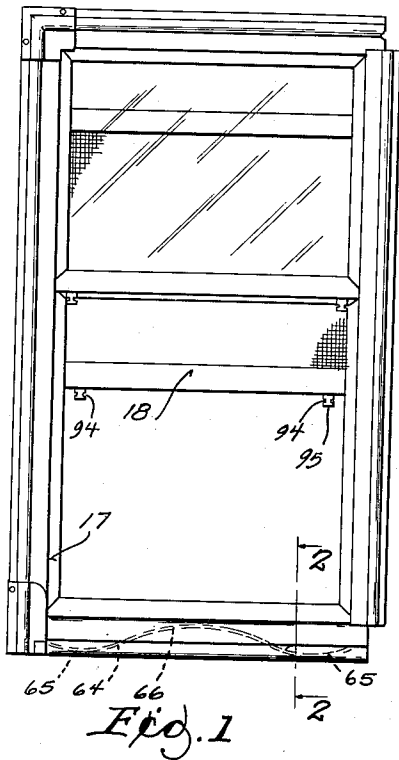


Fig. 1

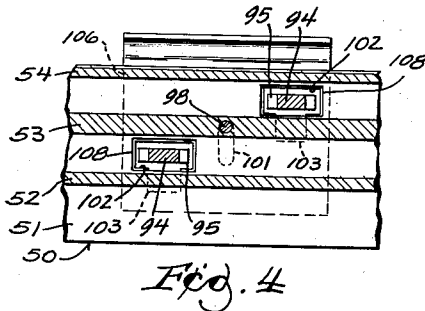


Fig. 4

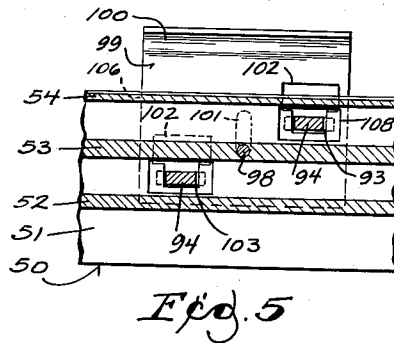


Fig. 5

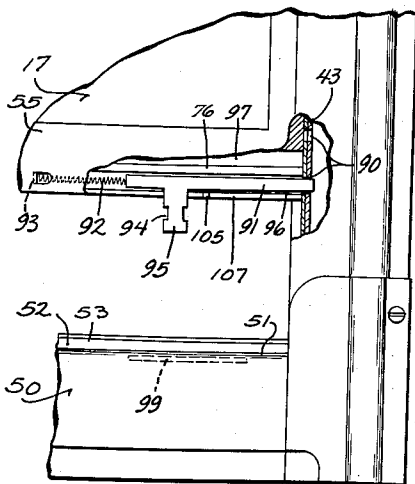


Fig. 3

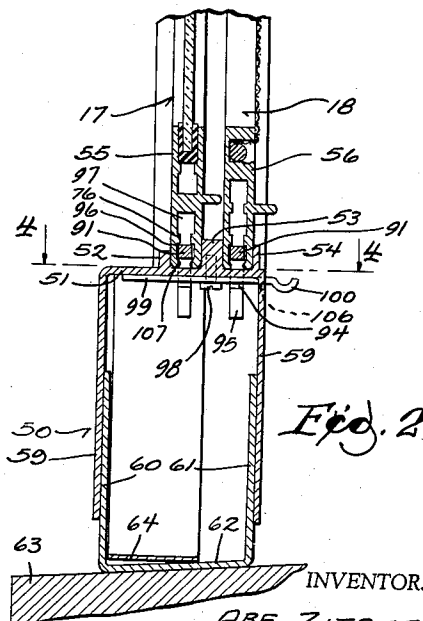


Fig. 2

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2,967,335

## WINDOW STRUCTURES

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Original application Feb. 26, 1954, Ser. No. 412,897, now Patent No. 2,812,386, dated Nov. 12, 1957. Divided and this application Aug. 22, 1957, Ser. No. 684,386

5 Claims. (Cl. 20—52)

This invention relates to improvements in window structures.

This application is a division of my copending application Serial No. 412,897, filed February 26, 1954, now Patent 2,812,386, granted November 12, 1957.

The invention consists in a novel sash lock. My lock comprises selectively locking and releasing downwardly projecting handles on laterally movable sash-posting plungers with a slide member movable in the sash frame. The sash are also provided with novel ways for the reciprocating plunger, and with a housing for a plunger spring.

Other objects and advantages of the invention will be apparent to one skilled in the art on examination of the following disclosure.

In the drawings:

Fig. 1 is an elevation of a combined storm and screen sash embodying my invention, certain corner plates being removed.

Fig. 2 is an enlarged fragmentary vertical cross sectional view taken along the line 2—2 of Fig. 1.

Fig. 3 is an enlarged fragmentary elevation of a lower corner of the device of the invention, a portion thereof being shown in section.

Fig. 4 is an enlarged fragmentary cross sectional view taken along the line 4—4 of Fig. 2.

Fig. 5 is a cross sectional view similar to Fig. 4, but showing the locking slide moved to sash locking position.

I have chosen to exemplify my invention in a triple hung "self-storing" combination screen and storm sash window structure. All the parts of the window, except the glass, the screen and the zinc slide strips to be hereinafter described, desirably comprise extruded aluminum shapes.

At the bottom of the window frame, I provide a sill 50 having telescopic channel members, the uppermost of which comprises a base web 51 having inner and outer stops 54, 52 and an intermediate parting stop 53. The channels formed between the stops receive the bottom rails 55 and 56 of the storm and screen sash 17, 18. Base web 51 is provided with downwardly extending marginal flanges 59 which telescopically embrace marginal flanges 60, 61 of the lowermost channel-shaped member which has a base flange 62. Base web 62 is desirably at a slight angle with the flanges 60, 61 in order to conform to the slope of the window frame sill 63. Within the telescopically engaged channel-shaped members of the sill 50, I may dispose a convoluted spring 64 (Figs. 1 and 2) to bias base web 62 against sill 63 and thus tightly seal the bottom of the window. As best shown in Fig. 1, the spring 64 comprises ends 65 bearing near the opposite ends of base web 62 and a single upwardly convex convolution 66 bearing centrally against the under surface of base web 51.

As best shown in Fig. 3, a sash slide 43 is provided at intervals along its height with apertures 90. These apertures

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90 may be engaged by a plunger 91 slidably mounted in a channel 96 formed in the bottom rails of the respective sash. For purposes of exemplification, the bottom rail 55 of storm sash 17 is illustrated in Fig. 3. As shown in this figure, and in Figure 2, the rail 55 is provided with two channels 96, 97 which communicate through the space between ribs 76 which partition the channels. Plunger 91 slides in channel 96. At the inner end of plunger 91, I provide a spring 92 which bears against a seat 93 formed out of the metal of the rail. Spring 92 biases the plunger toward engagement with aperture 90 in the sash slide 43. By manipulating the plunger 91 the sash may be supported at selected levels by engaging the plunger under the bias of its spring 92 with the vertically spaced apertures 90 in the sash slide 43. Each plunger is provided with a handle which extends downwardly between the ribs 107 and below the level of the rail 55 where the handle comprises a narrowed shank 94 and an enlarged head 95. Bottom rail 56 of screen sash 18 is provided with like channels and a plunger 91. The ribs 107 may be provided with a stop 105 extending into the path of the plunger handle to limit plunger movement under the bias of the spring 92.

As best shown in Figs. 2, 4 and 5, I provide a novel sash lock which engages with the downwardly projecting handles of the plungers 91 in sash 17 and 18. The base web 51 of sill 50 is provided with a headed bolt 98 threaded into its intermediate parting stop 53. The inner flange 59 of sill 50 is provided with a slot 106 through which the slide 99 may be reciprocated by manipulating its handle 100 to the extent permitted by the engagement of the headed bolt 98 with the slide margins forming the ends of slot 101.

As best shown in Figs. 4 and 5, sill 51 is provided with apertures 108 aligned vertically with the handles of plungers 91. Slide 99 is provided with two apertures 102, each aligned vertically with a handle of a plunger 91 when the slide is in its Fig. 4 position. The aperture 102 is larger than the head 95 of the handle to permit vertical passage of the head 95 therethrough. Accordingly in this position of the slide, the sash may be raised and lowered at will. Slide 99 is provided with a second aperture 103 communicating in the path of slide movement with aperture 102. Aperture 103 is of narrower lateral dimension than the head 95 but is wide enough to pass about the reduced shank 94 of the handle. Accordingly, in the Fig. 5 position of the slide, where it is shown pulled inwardly, the margins of aperture 103 engage over the head 95 of the handle and lock the sash in their closed position.

I claim:

1. In a window structure comprising a frame and a sash movable in said frame, said frame comprising a member having an aperture and said sash having a headed member projecting through said aperture and beyond said frame member, the combination with said projecting sash member of a slide on said frame and beyond said frame member for selectively engaging and releasing said projecting member to lock and unlock said sash in said frame, said sash being provided with a rail, a plunger and guide means on which said plunger is movable in a direction laterally of sash sliding movement, said plunger being provided with a handle projecting beyond said rail and constituting said projecting member, said frame member comprising the sill of said frame, said sill having means on which said slide is reciprocable between one position engaged with the head of said projecting member and another position in which the slide is released therefrom.

2. The device of claim 1 in which said guide means on said rail comprises channel-forming walls having a slot through which said handle is reciprocable with said

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plunger, a spring in said channel and against said plunger, and a spring seat spaced from said plunger.

3. The device of claim 2 in which said rail is provided with second channel-forming walls beyond said slot and between which walls the plunger handle is guided.

4. In a window structure comprising a movable sash having a lower rail and a frame having a hollow sill with an aperture formed therein, a slide having means for mounting it on the sill for movement across said aperture, said sash rail being provided with a plunger and guide means on which said plunger is movable in a direction laterally of sash movement, said plunger being provided with a handle projecting beyond said rail and in alignment with said aperture, said handle comprising a latch member disposed for projection through said sill aperture when the sash is closed, said latch member and slide having parts which interlock when the slide is in one position and which are released in another position of the slide.

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5. The device of claim 4 in further combination with a second sash having a rail with a second plunger having a second projecting latch member, said sill having a second opening aligned with said second latch member, said slide and second latch member having second parts which interlock and release concurrently with the parts first mentioned.

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