June 26, 1945. E. SPICKELMIER ET AL 2,379,111

STORM SASH CONSTRUCTION

Filed Feb. 23, 1944

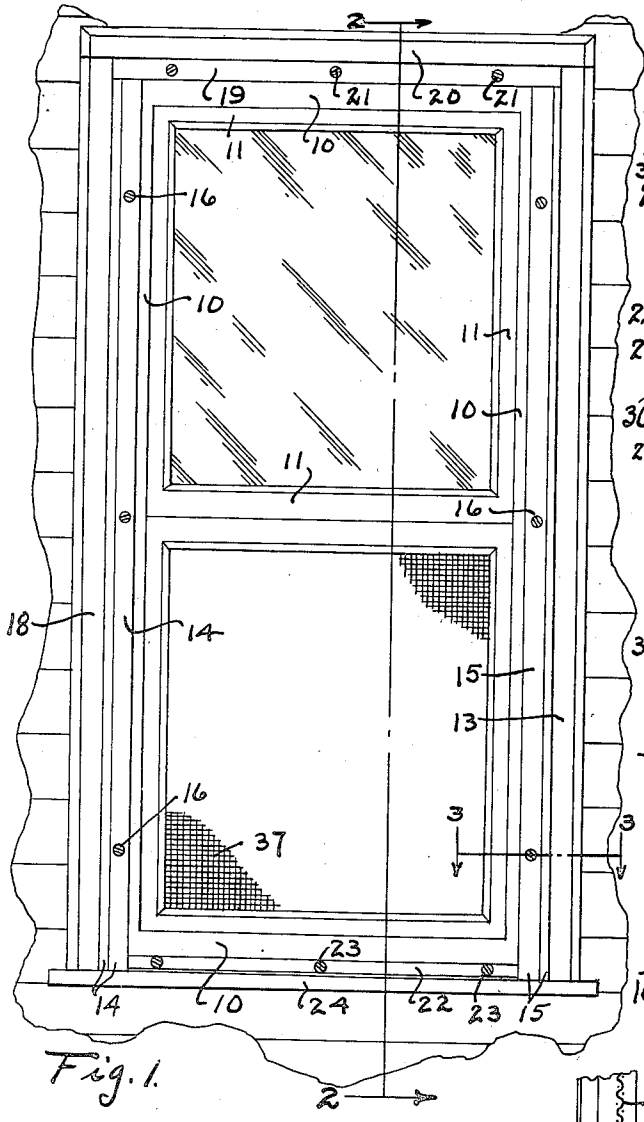


Fig. 1.

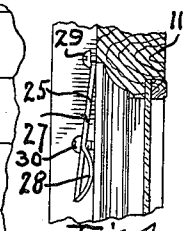


Fig. 4.

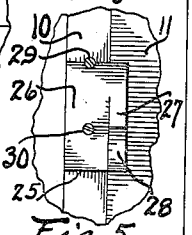


Fig. 5.

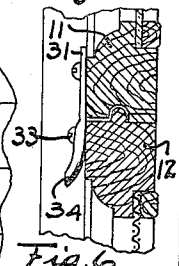


Fig. 6.

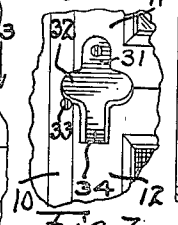


Fig. 7.

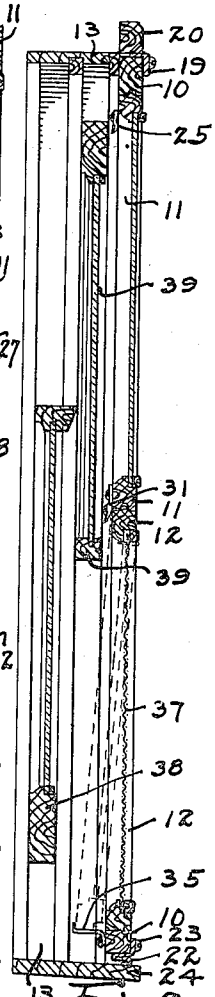


Fig. 2.

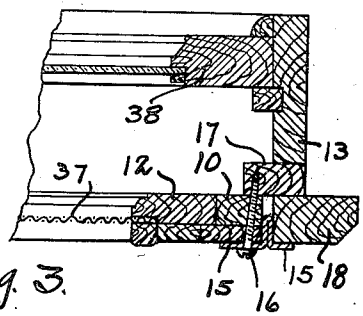


Fig. 3.

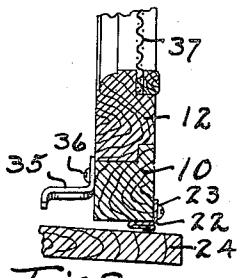


Fig. 9.

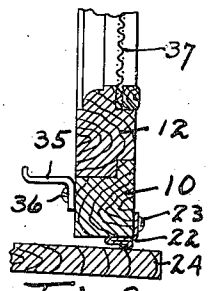


Fig. 8.

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STORM SASH CONSTRUCTION

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Application February 23, 1944, Serial No. 523,500

3 Claims. (Cl. 20—55)

This invention relates to an auxiliary window sash and screen holder and a primary purpose thereof is to provide a structure wherein an upper and lower sash may be mounted in substantially the same plane in a manner permitting the lower sash to be shifted in a swinging manner for ventilation purposes and for removal to permit substitution thereof with a window screen.

A further primary object of the invention is to provide a wind-tight and waterproof mounting of the frame supporting the sashes in such manner that the frame will fit the standard window frame from the outside thereof without any alteration in any respect and without interference with the movement of the standard window sashes.

These and other objects and advantages of the invention, including the novel combinations as specifically set forth by the appended claims, will become apparent to those versed in the art by the following description of one particular form of the invention as illustrated in the accompanying drawing, in which

Fig. 1 is a view in outside elevation of a structure embodying the invention;

Fig. 2, a vertical section on the line 2—2 in Fig. 1;

Fig. 3, a detail in horizontal section on the line 3—3 in Fig. 1;

Fig. 4, a detail in vertical section on an enlarged scale illustrating the spring tension member for retaining the upper storm sash in position;

Fig. 5, a detail in inside elevation of the spring tension member;

Fig. 6, a detail in vertical section through the juncture of the upper and lower sashes showing the upper sash retaining fixture;

Fig. 7, a detail in inside elevation of the retaining fixture;

Fig. 8, a detail on an enlarged scale in vertical section through the lower rail of the sash holding frame with the lower sash retaining bracket in unlatched position; and

Fig. 9, a similar view in section showing the retaining bracket in partially latched poistion.

Like characters of reference indicate like parts throughout the several views in the drawing.

A rectangular frame 10 is formed to receive therein from the inner side an upper storm sash 11 and, interchangeably, a lower sash or screen frame 12 (herein shown as a screen frame). The frame 10 is secured in position within the standard window frame 13 by two side spring filler strips 14 and 15 respectively. As illustrated in Fig. 3, in respect to the strip 15, these strips have a section overlapping the front edge portions of the frame 10 and a series of screws 16 are passed through this overlapping section, through the vertical rails of the frame 10 and on into a part of the window frame 13, herein shown, Fig. 3, as into the blind stop 17. From this overlapping section of the strip 15, this strip extends inwardly and then outwardly by a looping portion between the side edge of the frame 10 and the inner edge of the frame casing 18 and thence turns over the outer face of this casing 18 for a short distance. The frame 10 is originally made to fit with clearance sufficient at least to permit the entrance of the loop portion of each of the strips 14 and 15 as indicated, preferably with a yielding fit so as to effectively close the gap between the frame and the casing 18.

Across the upper rail of the frame 10 is fitted an angle strip 19 having a tongue extending inwardly under the top cross casing 20 and downturned leg over the front side of the top rail of the frame 10. This strip 19 is secured in place in the form herein shown by a plurality of screws 21 passing through the downturned leg and screw-threadedly engaging the top rail of the frame 10. This strip 19 serves not only to fill in the gap, but also serves as a water table. The frame 10 is initially urged upwardly to hold the strip 19 in compressive contact between the under edge of the casing piece 20 and the top cross rail of the frame 10 by means of a lower spring strip 22, this strip having an upturned portion lying against the outer face of the lower rail of the frame 10 and held thereagainst by means of a plurality of screws 23. From this upturned portion of this strip 22, the strip is carried inwardly under the lower edge of the lower rail of the frame 10 and thence around and outwardly again approximately to the plane of the outer face of the frame 10 to again be turned backwardly under that looped portion, as indicated in Figs. 2, 8 and 9. These looped portions of the strip 22 are initially spaced apart so that when the strip is installed, the parts are yieldingly compressed one toward another to form a closure snugly fitting against the sill 24 and the under side of the frame 10.

The upper sash 11 is held in position by a pressure member 25 which may have its pressure against the sash adjusted as may be desired. This member 25 consists essentially of a plate 26 mounted on the frame 10 to have an arm 27 lap over onto the side rail of the sash 11, Figs. 4 and 5. The arm 27 is formed by slitting the plate 26 for a distance and then bending the portion to one side of the slit into an arcuate shape to form the pressure foot 28 which bears by its rounded surface against the rail of the sash 11. The plate 26 is rockably secured to the frame 10 by any suitable means, such as by an upper screw 29 and then a lower screw 30 is passed through the plate 26 to engage in the frame 10 as a means for rocking the plate 26 toward the frame 10 to increase the pressure of the foot 28 against the

rail of the sash 11 whereby the desired spring pressure against the rail may be secured as a means for frictionally retaining the sash 11 in its uppermost position.

A positive means is provided to retain this upper sash 11 in its upper position, as indicated in Figs. 2 and 7, wherein there is a latch 31 pivoted to the lower corner of the sash 11 to have an ear 32 extending laterally therefrom to engage over a screw 33 carried by the frame 10. The latch 31 has a downwardly and inwardly turned lower end 34 which serves also as a limiting stop for the lower sash frame 12.

This lower frame 12 preferably has a tongue, Fig. 6, entering loosely within a groove across the under side of the upper sash 11. On the lower rail of the frame 10 is fixed at least one bracket 35. This bracket 35 is provided with a horizontal length from which there is a downturned foot (position shown in Figs. 2 and 8) through which is passed a screw 36 as a means for retaining the foot against the frame 10 as a pivot around which the foot may be rocked. The outer end of the horizontal length of the bracket 35 is turned upwardly from that position as shown in Fig. 8 whereby that outturned end serves as a stop limiting the inward swing of the lower sash 12, as shown by the dash lines in Fig. 2. The tongue 34 of the latch 31 is curved outwardly to permit this swinging of the sash 12 and also to serve as a stop against inward travel of the sash by its top rail in addition to the interfitting of the tongue and groove members above indicated. To retain the lower sash 12 in its closed position, the bracket 35 may be rotated above the axis of the screw 36 into that position as indicated in Fig. 9 whereby the bracket foot end will be swung around to come up over the inner side of the lower rail of the sash 12. As indicated in Fig. 9, the bracket 35 is only partially turned to that position and may be continued in its rotation until the engaging foot is vertically directed.

The lower sash 12 may be removed from the frame 10 by rocking the latch 31 around to at least a horizontally disposed position or thereabove, and by turning the bracket 35 to have its outer and inner legs horizontally directed so as to bring them both out of the path of the lower rail of the sash 12. Obviously more than one of these brackets 35 may be employed if desired, and in practice two such are used as is also the case with the plates 26 and latches 31. The lower sash 12, herein shown and indicated as being filled with screen wire 37, may be removed as just indicated and a glass filled sash put in its place. By use of the bracket 35, the lower sash, when filled with glass, may be rocked inwardly a sufficient distance depending upon the length of bracket employed, to permit desired ventilation when the regular window sashes 38 and 39 are shifted from their closed positions, as indicated in Fig. 2. It is to be noted that when the top standard sash 39 would be in its upper position, no interference is had with the manipulation of the lower sash 12 from the inside of the window when the lower sash 38 is raised. The frame 10 becomes to all intents and purposes a fixed part of the window frame 13 and the upper storm sash 11 may be left in all summer as desired or may be removed from the inside of the room by simply unlatching the latches 31 and dropping the sash 11 sufficiently to become disengaged from under the arms 27. The lower sash 12 may be removed as above indicated, from the inside of the room, so that at no time after the original installation of the frame 10 need there be any excuse for having to manipulate these sash 11 and 12 from the outside of the building.

While we have herein shown and described our invention in the one particular form, it is obvious that structural variations may be employed without departing from the spirit of the invention and we therefore do not desire to be limited to that precise form beyond the limitations as may be imposed by the following claims.

We claim:

1. For a window frame, a construction comprising an outer frame; an upper sash vertically slidable in the frame; spring tensioned means for retaining the sash at selected positions of elevation; means for fixing said sash at its extreme upper limit of travel in said frame; a lower sash carried in said frame in vertical alignment with said upper sash; bracket means carried by said frame over which said lower sash may inwardly swing and be supported by its lower edge portion; and said bracket means being shiftable to retain selectively said lower sash in a closed position; said upper sash fixing means having a tongue in the path of the upper edge portion of said lower sash limiting inward swinging of the top of the lower sash.

2. For a window frame, a construction comprising an outer frame; an upper sash vertically slidable in the frame; spring tensioned means for retaining the sash at selected positions of elevation; means for fixing said sash at its extreme upper limit of travel in said frame; a lower sash carried in said frame in vertical alignment with said upper sash; bracket means carried by said frame over which said lower sash may inwardly swing and be supported by its lower edge portion; and said bracket means being shiftable to retain selectively said lower sash in a closed position; said upper sash fixing means having a tongue in the path of the upper edge portion of said lower sash limiting inward swinging of the top of the lower sash; said fixing means comprising a latch rockably attached to said upper sash to have said tongue project downwardly over the top of said lower sash; and latch engaging means carried by said outer frame, with which the latch may engage.

3. For a window frame, a construction comprising an outer frame; an upper sash vertically slidable in the frame; spring tensioned means for retaining the sash at selected positions of elevation; means for fixing said sash at its extreme upper limit of travel in said frame; a lower sash carried in said frame in vertical alignment with said upper sash; bracket means carried by said frame on which said lower sash may inwardly swing and be supported by its lower edge portion; and said bracket means being shiftable to retain selectively said lower sash in a closed position; said bracket means comprising a substantially horizontally disposed length, a downturned foot pivotally attached to said outer frame under said lower sash, and an upturned foot at the inner end of said length serving as a sash stop, said downturned foot having a length beyond its pivot sufficient to come into the path of the lower sash upon rotation of the foot about its pivot.

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