Jan. 24, 1933. P. DIETZ 1,895,312

SCREEN AND STORM SASH MOUNTING FOR WINDOWS

Filed Sept. 8, 1931 2 Sheets-Sheet 1

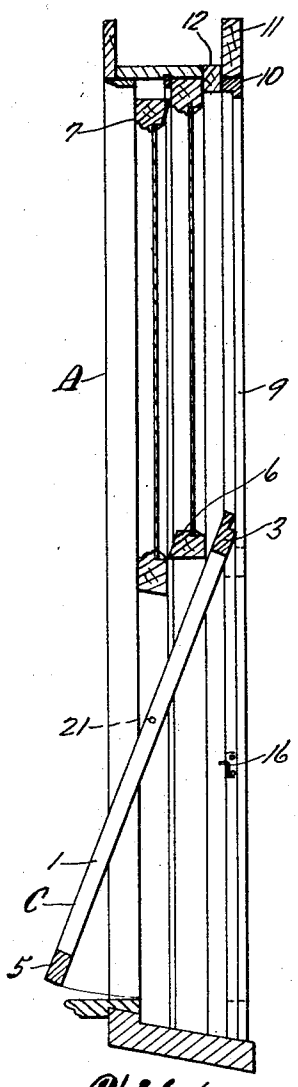


Fig. 1.

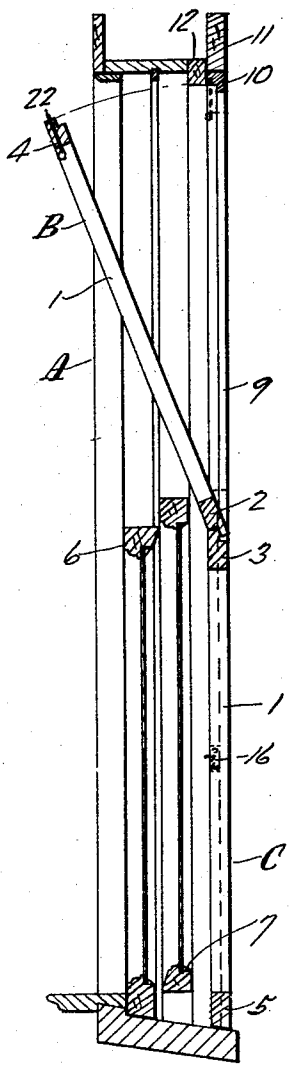


Fig. 2.

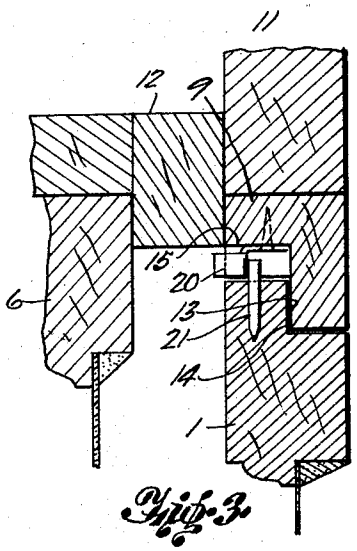


Fig. 3.

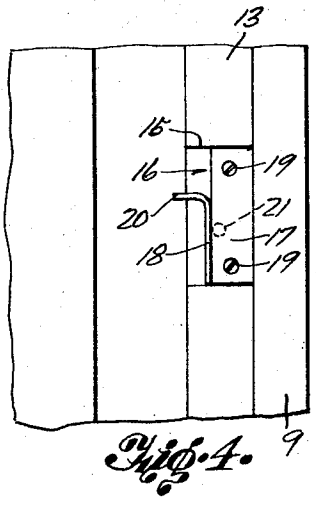


Fig. 4.

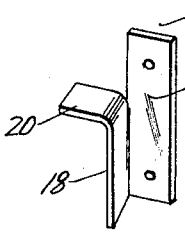


Fig. 5.

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SCREEN AND STORM SASH MOUNTING FOR WINDOWS

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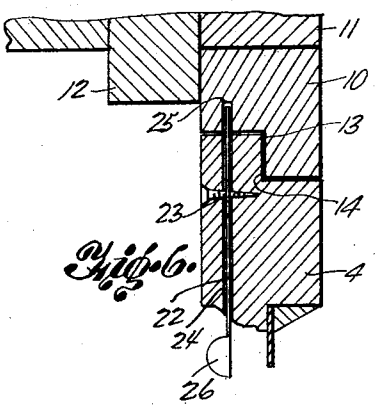


Fig. 6.

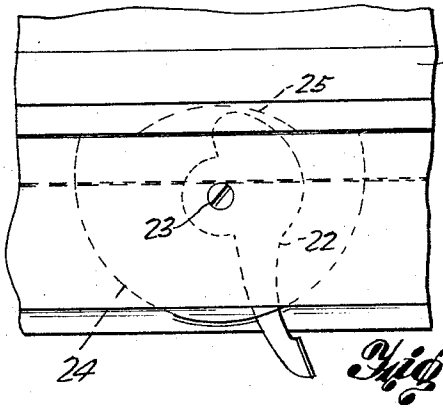


Fig. 7.

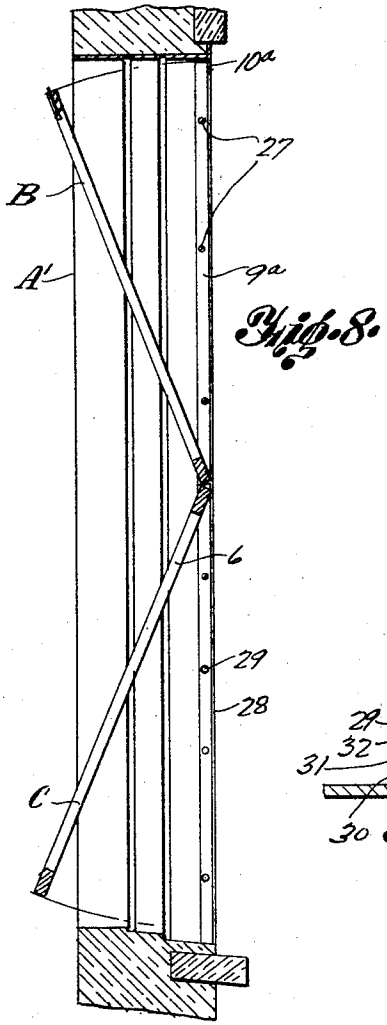


Fig. 8.

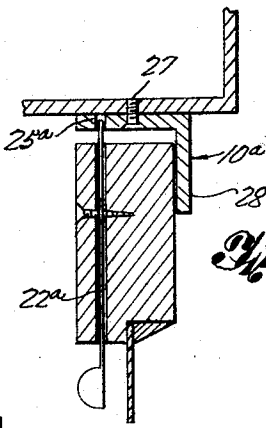


Fig. 9.

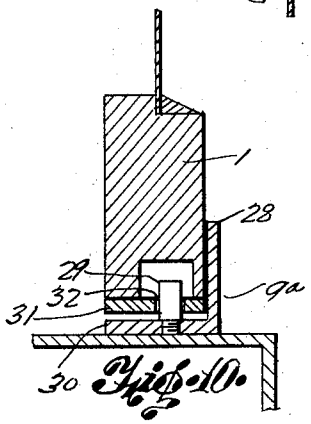


Fig. 10.

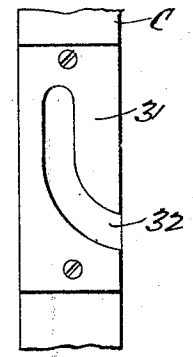


Fig. 11.

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UNITED STATES PATENT OFFICE

PETER DIETZ, OF LORAIN, OHIO

SCREEN AND STORM SASH MOUNTING FOR WINDOWS

Application filed September 8, 1931. Serial No. 561,595.

This invention relates to improvements in screen and storm sash mountings for windows.

The main object of the invention is to provide a mounting or arrangement whereby screen and storm sash may be initially installed and subsequently removed or replaced in a window entirely from the inside thereof, thus eliminating the use of ladders, scaffolds or the like at the outside of the window.

Another object is to provide a mounting of this kind equally applicable to either wood or metal window frames.

Another object is to provide a mounting having simple and positive locking means and which will require a minimum of alteration in the window frame in the process of installing the sash.

With these and other objects in view, the invention resides in the novel construction and arrangement of parts as hereinafter fully set forth and claimed, reference being had to the accompanying drawings wherein

Figure 1 is a vertical section through a window frame of wood, showing the lower screen or storm sash in the process of being mounted in place;

Figure 2 is a view similar to Figure 1, but showing the lower sash in place and the upper sash in the process of mounting in place;

Figure 3 is an enlarged horizontal cross section through one side of the window frame, showing the lock for the lower sash;

Figure 4 is an enlarged inside elevation of the vertical side of the window frame, showing the lower sash lock;

Figure 5 is a detached perspective view of the lower sash lock;

Figure 6 is an enlarged vertical cross section through the head or upper portion of the window frame, showing the lock for the upper sash;

Figure 7 is an inside elevation of the structure shown in Figure 6;

Figure 8 is a vertical cross section through a window frame of metal construction, showing both the upper and lower screen or storm sash in the process of mounting;

Figure 9 is an enlarged vertical cross section through the head or upper portion of the window frame of Figure 8, showing the upper sash lock;

Figure 10 is a horizontal cross section through one side of the metal window frame, showing the lower sash lock;

Figure 11 is a fragmental side view of the lower sash showing a part of the lower sash lock mounted thereon.

Referring now more particularly to the drawings, the reference character A designates a window frame of conventional wooden construction, and B and C designate respectively the upper and lower screen or storm sash. The sash B and C comprise the usual sides or stiles 1, meeting rails 2 and 3, and top and bottom rails 4 and 5, forming rectangular frames on or in which the screen or storm covering is placed. As thus formed, the sash B and C are intended for mounting in the window frame A outwardly of the upper and lower window sash 6 and 7 therein, the said sash B and C being of such size as to close the opening in the frame A when the upper sash is disposed above and in line with the lower sash. The meeting rails 2 and 3 are rabbeted at 8 to overlap and form a tight joint as shown in Figure 2.

In accordance with the present invention and in preparing the window frame A for the mounting of the sash B and C, side and head stops 9 and 10 are secured to the frame A outwardly of the window sash 6 and 7 and in the angle formed at the junction of the head and side casings 11 and the blind stops 12 of the frame A. These stops 9 and 10 are rabbeted along their inner corners as shown at 13 to receive the complementary rabbets 14 in the stiles 1 and top rail 4 of the sash B and C, whereby a tight joint is provided between the said sash and stops and whereby

said sash are held against outward movement in the frame A. It will be noted that the stops 9 and 10 extend inward beyond the plane of the inner faces of the blind stops 12, so that the allowable width of the sash B and C is less than the distance between the blind stops at the sides of the window frame, this for the purpose of allowing the said sash to clear the blind stops and other parts of the window without coming in contact with and marring the same. Approximately midway between the center and lower ends of the side stops 9, the rabbeted corners 13 thereof are mortised out a short distance to provide recesses 15 in which the lower sash locks 16 are mounted, these locks being formed of attaching plates 17 provided with inturned lugs or ears 18 along their margins as shown in Figure 5. The locks are secured in the recesses 15 by screws 19 passed through said plates 17, the lugs 18 being thus spaced outward with respect to the angle formed by the rabbets 13. At their upper ends the lugs 18 are bent outwardly at right angles as designated at 20. The lower sash C is provided with locking pins 21 driven in the outer lateral margins of its stiles 1 and projecting a short distance therefrom.

To mount the lower screen sash C in the window frame A, the lower window sash 7 is raised as far as possible and the sash C is then passed through the opening thus formed. As the upper end of the sash C strikes the side stops 9, the sash is pushed angularly upward until its lower end clears the window sill at which time the said lower end may then be swung outward in the frame A to a substantially vertical position. As the locking pins 21 come into line with the outwardly turned ends 20 of the lock lugs 18, the sash C is pushed outward in the window frame, causing said pins 21 to pass over the said lug. The screen sash may then be lowered until its bottom rail 5 meets the window sill, the pin 21 dropping down behind the lock lug 18 and locking the sash in place until it is again lifted.

To mount the upper screen sash B, the window sash 6 and 7 are lowered as shown in Figure 2, and said sash B is then passed through the opening thus formed and its rabbeted meeting rail 2 brought into engagement with the complementarily rabbeted meeting rail 3 of the lower sash C. The upper end of the screen sash B is then swung outward in the frame until it engages the side and head stops 9 and 10. The lower screen sash C is thus restrained against upward movement while the upper sash B is in place, and by locking said upper sash against an inward movement at its upper end, a rigid and safe screen is provided. This locking of the upper screen sash B is accomplished by a latch 22 pivoted at 23 in a slot 24 provided vertically through the top rail 4 of the sash and adapted to enter a slot 25 cut in the head stop 10 as clearly shown in Figures 6 and 7. The latch 22 is operable from the interior of the window frame by a handle 26 and of course serves to prevent the aforesaid inward swinging of the sash B when engaged with the slot 25.

In Figures 8 to 11 inclusive, the mounting of the sash B and C in a metal window frame A′ is shown. In this case the side and head stops 9 and 10 are formed of angle irons 9*a* and 10*a* secured to the frame A′ by screws 27 and have their inwardly extending webs 28 disposed outwardly with respect to the window frame whereby the sash B and C will enter into the open angles of the said stops and will be restrained against outward movement by the said webs 28 in a manner similar to the rabbeted stops 9 and 10. Approximately midway between the center and lower ends of the side angle irons 9*a*, pins 29 are threaded in the webs 30 of the said irons and are extended inwardly therefrom. The stiles 1 of the lower sash C are provided with locking plates 31 on their outer faces, which plates are provided with slots 32 opening at their lower ends at the outermost edges of the said plates whereby to receive and hold the said pins 29 when the lower sash is mounted in the window frame. The action of mounting both the sash B and C is identical with that first described with reference to the window frame A, and it is not thought that further description is necessary. To lock the upper screen sash B in place, a latch 22*a* identical in mounting and operation to the latch 22, is provided and is adapted to enter and lockingly engage a slot 25*a* provided in the upper angle iron 10*a* as shown in Figure 9.

From the foregoing it will be evident that the screen or storm sash may be readily mounted in the window frame from the interior thereof and may be as readily removed when necessary, the removal being accomplished by first unlocking and removing the upper sash and then raising and removing the lower sash as will be readily understood. The performance of these operations entirely from within the window or room has manifold advantages particularly in cases where the windows are located a considerable distance above the ground or street level. The use of two sash for each window is of advantage in the storing or transportation of the sash especially when the windows are large.

While I have herein set forth a certain preferred embodiment of my invention, it is understood that I may vary from the same in minor structural details, so as best to construct a practical device for the purposes intended, not departing from the spirit of the invention and within the scope of the appended claim.

I claim:

In a device of the kind described, a sash

lock for mounting medially at one side of a window frame, the said lock comprising an attached plate and an integrally formed lug extended perpendicularly from one margin of the plate, the said lug having an end turned again outwardly substantially perpendicularly to the lug, to form a rest for the pin extended from the side rail of a storm sash fitted to said frame.

In testimony whereof I affix my signature.

PETER DIETZ.