Aug. 22, 1944. W. W. KEUSDER 2,356,409

WINDOW CONSTRUCTION

Filed April 17, 1943

Fig. 1.

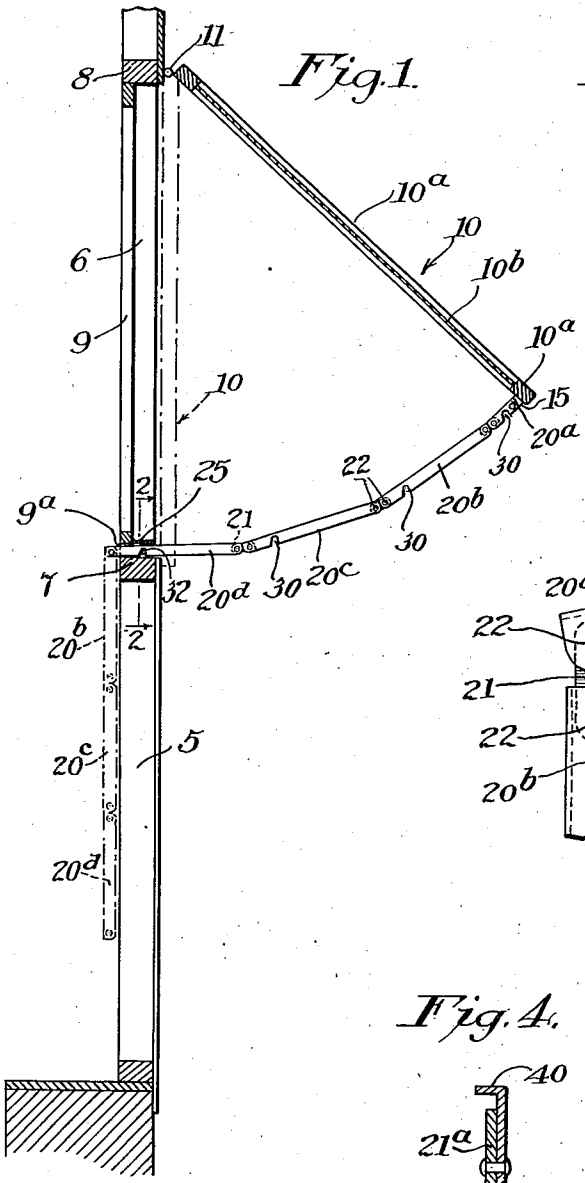


Fig. 2.

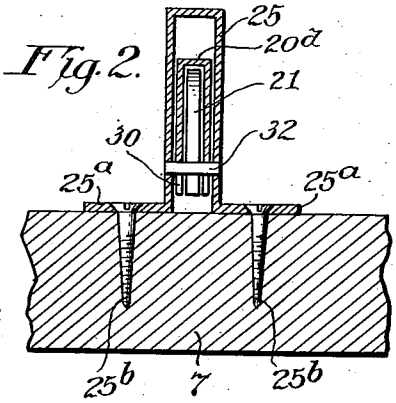


Fig. 3.

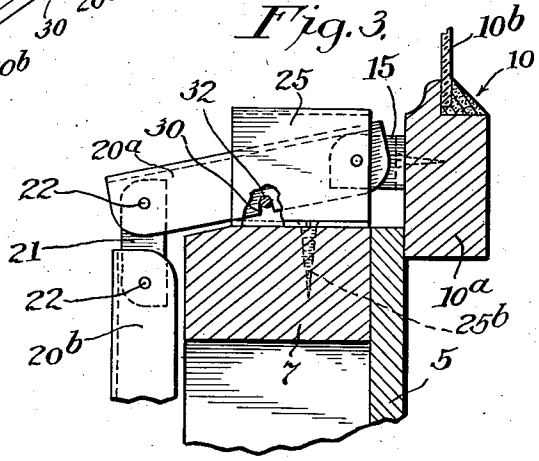


Fig. 4.

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WINDOW CONSTRUCTION

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Application April 17, 1943, Serial No. 483,381

2 Claims. (Cl. 268—102)

My invention relates to window construction for buildings and the like and, while not so limited in its application, is particularly well adapted for use in portable houses such, for instance, as disclosed in my copending application Serial No. 473,459, filed January 25, 1943.

It is an object of the invention to provide a window construction embodying simple, economical and efficient means for opening and closing from the building interior without the necessity of opening or removing the intervening screen, and which embodies means for retaining the window in open or closed position as may be desired.

Another object is the provision, in such window construction, of means to prevent rattling and vibration of the window under the influence of wind pressures, etc.

My invention has still further advantages and how those as well as the foregoing particularly recited objects are achieved will be best understood from the following detailed explanation of one presently preferred embodiment thereof, for which purposes reference will be made to the accompanying drawing. I wish it understood, however, that in its broader aspects as defined by the appended claims, my invention is not to be confined to the details and associations of parts now to be particularly described, since other physical adaptations will occur to those skilled in the art from the following description.

In the drawing:

Fig. 1 is a vertical sectional view, showing the window in open position, the closed position being denoted in dot-dash lines;

Fig. 2 is an enlarged fragmentary section on line 2—2 of Fig. 1;

Fig. 3 is an enlarged fragmentary elevation, partly in section, showing position of parts when the window is closed; and

Fig. 4 is a fragmentary section showing a variational form of link.

Referring now to the drawing I show at 5 a side wall of a building having a window opening 6, within the bottom of which there is mounted the conventional window sill 7 and at the top of which there is a conventional top plate 8. A conventional window screen is shown at 9.

The closure member 10 consists of conventional sash 10*a* and panes 10*b*, and is hingedly mounted on the exterior of the wall 5 at its top edge immediately above the window opening, as by hinge members 11, only one being shown, so that the closure member may be swung outwardly about the hinges between the dot-dash line position and the full line position of Fig. 1. The closure member construction described is merely typical since any conventional closure member may be used.

To the bottom side edge of the closure member I secure an inwardly disposed bracket 15 to which I pivotally connect the link or chain construction now to be described.

The chain comprises a plurality of channel iron links 20*a*, 20*b*, 20*c*, 20*d* interconnected by flat links 21, adjacent links being pivotally connected to the opposite ends of the links 21 by cross pins 22. The outermost link 20*a* is relatively shorter than the others but is long enough to project transversely through the window opening as well as an opening 9*a* in the screen sash, as shown, in Fig. 3.

To guide the chain, I secure a U-shaped bracket 25 to the window sill, which bracket has attaching flanges 25*a* provided with holes to pass the attaching nails 25*b*.

Each of the links 20*a*, 20*b*, 20*c*, 20*d* has a downwardly opening slot 30 in each of its side walls so that it may be longitudinally locked within the bracket 25 by cross pin 32, there being sufficient space above the top edge of each link and the top wall of the bracket to permit the respective links to be lifted within the bracket sufficiently to clear the cross pin from the slot.

From the foregoing description it will be observed that the window may be swung about its hinges from the inside of the building without removing or opening the screen, simply by lifting the slotted link which happens to be within the bracket 25 from its locked position on the cross pin 32, and then pushing or pulling on the linkage as the case may be. For instance, to open the closure member the links are fed outwardly through the opening 9*a* in the screen sash and the bracket 25 until the closure member is in the desired position and then the slot 30 which is then within the bracket 25 is engaged over the cross pin 32 to retain the window in such adjusted position.

The connecting links 21 each extend into the adjacent ends of the channeled links far enough to engage the top wall of the connected channeled links and prevent the chain from folding or collapsing in a downward direction when the closure is open (Fig. 1), although the links 21 fit the links 20*a*, etc. with sufficient play to permit the chain, particularly under the influence of the weight of the closure member, to sag downwardly into the bowed position shown in Fig. 1 when the closure is open and its weight is upon the linkage. This is sufficient under ordinary circumstances to prevent vibration of the chain when

in such position. The linkage member is collapsible in the opposite direction so that when the window is in closed position the links within the room hang suspended and the weight of the links is sufficient to hold the window tightly closed and prevent vibration, since the link **20***a* tilts about the pin **32** as a fulcrum (see Fig. 3). To facilitate this action the slot in link **20***a* is spaced from the inner surface of the sash a distance substantially equal to the distance between the cross pin **32** and the plane of the outer surface of wall **5**.

In practice, one set of linkage members may be applied to each side of the window, if desired, although if the window is of sufficiently light construction, a single set of links may be used satisfactorily.

It is possible to use angle irons for the link members, as shown in Fig. 4, in which event the top wall **40** of the angle iron is contacted by the top edge of the connecting link members **21***a* to prevent complete folding of the links one upon the other, although such modified structure is not as preferable as the channel iron links since it does not provide as much support against lateral bending stresses imposed from the sides.

I claim:

1. Window construction comprising, in combination with a wall having a window opening, a frame for the opening, a sash hingedly connected at its top edge to the wall above the opening whereby to be swingable relative to the frame, means for adjusting the sash in position relative to the opening comprising a guide member secured to the frame, a cross pin in the guide member, links of U-shaped cross-section, means interconnecting adjacent ends of adjacent links including a bar extending at its ends into the adjacent ends of adjacent links and pivotally connected to said links at points spaced inwardly from the adjacent ends thereof, said links being longitudinally slidable inwardly and outwardly through the guide member and the outermost link being pivotally connected to the sash, and a slot in the bottom edge of each link adjacent its inner end, said cross pin being selectively engageable in the slots to releasably lock the sash against swinging movement.

2. Window construction comprising, in combination with a wall having a window opening, a frame for the opening consisting of bottom, top and side members, a sash hingedly connected at its top edge to the building above the opening whereby to be swingable relative to the frame, means for adjusting the sash in position relative to the opening comprising a U-shaped guide member secured to the bottom frame member, a cross pin in the guide member, links of U-shaped cross section, means interconnecting adjacent ends of adjacent links including a bar extending at its ends into the adjacent ends of adjacent links and pivotally connected to said links at points spaced inwardly from the adjacent ends thereof, said links being longitudinally slidable inwardly and outwardly through the guide member and the outermost link being pivotally connected to the bottom edge of the sash, and a slot in the bottom edge of each link, into which slot said cross pin is selectively engageable, said outermost link being of a length substantially equal to the width of the bottom frame member whereby when the sash is in position closing the opening, the outermost link fulcrums on the cross pin and the remaining links hang suspended against the inner surface of the wall.

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