July 15, 1924. 1,501,131

F. A. MOSMAN

WINDOW SCREEN CONSTRUCTION

Filed Feb. 10, 1922

Fig. 1.

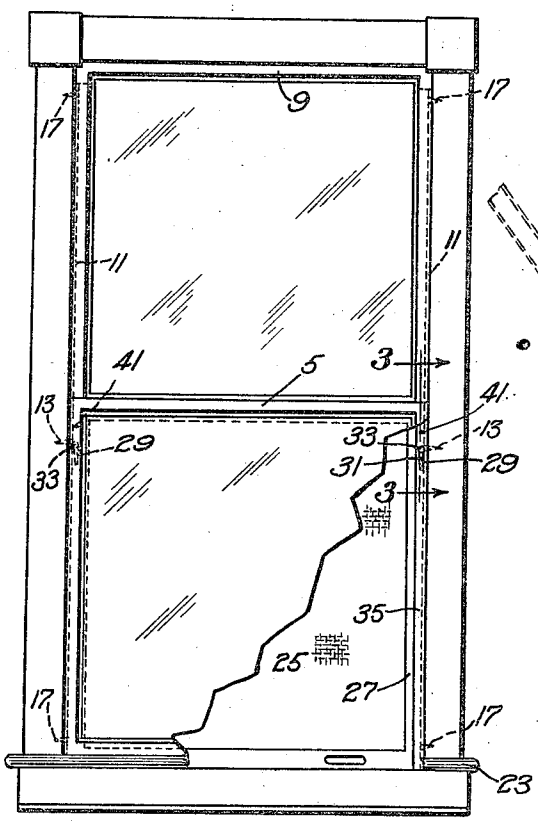


Fig. 2.

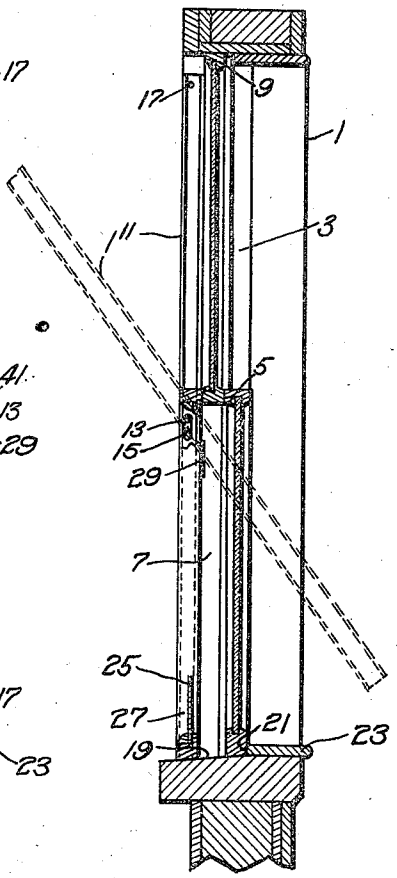


Fig. 3.

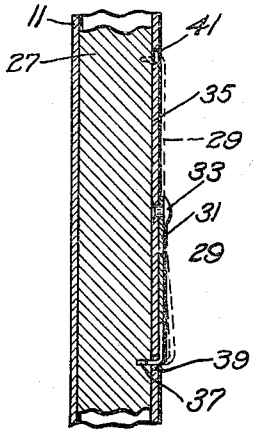


Fig. 4.

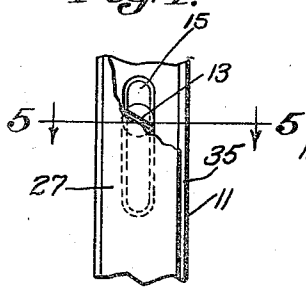
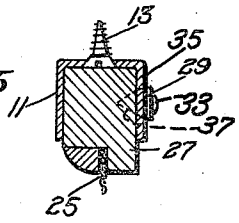


Fig. 5.



Inventor:
Franklin A. Mosman
by Warren G. Ogden
Atty.

Patented July 15, 1924. 1,501,131

UNITED STATES PATENT OFFICE.

FRANKLIN A. MOSMAN, OF CAMBRIDGE, MASSACHUSETTS.

WINDOW-SCREEN CONSTRUCTION.

Application filed February 10, 1922. Serial No. 535,455.

To all whom it may concern:

Be it known that I, FRANKLIN A. MOSMAN, a citizen of the United States, residing at Cambridge, in the county of Middlesex and State of Massachusetts, have invented certain new and useful Improvements in Window-Screen Constructions, of which the following is a specification.

The invention to be hereinafter described relates to window screens.

Heretofore considerable difficulty has been experienced in mounting screens in window frames and removing the same therefrom. One of the purposes of the present invention, therefore, is to provide a simple, cheap, durable screen construction whereby the screen may be quickly and easily placed in the window frame or removed therefrom as desired.

Under some conditions it is desirable that the screen shall be down opposite the normal position of the lower window sash, and under other conditions it is desirable that the screen shall be up opposite the normal position of the upper window sash. Another purpose of the invention, therefore, is to provide simple and efficient means whereby the screen may be secured either in its up or down position.

With the aforesaid and other purposes in view, the character of the invention will be best understood by reference to the following description of one good form thereof shown in the accompanying drawings, wherein:

Figure 1 is a front elevation of a window equipped with the screen construction embodying the invention;

Fig. 2 is a vertical section through the construction shown in Fig. 1;

Fig. 3 on an enlarged scale is a vertical section taken on line 3—3 of Fig. 1;

Fig. 4 on an enlarged scale is a detail view showing the fulcrum arrangement for one of the screen guides; and

Fig. 5 is a horizontal section taken on line 5—5 of Fig. 4.

Referring to the drawings, the illustrated embodiment of the invention shown therein, comprises a window frame 1 of usual construction, provided at opposite sides thereof with grooves 3 for receiving the lower window sash 5, and grooves 7 for receiving the upper window sash 9.

Also mounted on the side members of the window frame are suitable guides, in the present instance, in the form of channels 11 which may desirably be stamped from sheet metal. Preferably each of these guides has a length slightly less than the height of the window frame opening.

Suitable means may be provided pivotally to mount the guides on the side members of the window frame. To accomplish this, in the present instance of the invention, screws 13 may be entered through elongated slots 15 in the backs of the channel shaped guides, said screws being secured in the side members of the window frame. Preferably the screws 13 are located somewhat beneath points midway between the top and bottom of the window frame opening, or in other words, somewhat beneath the lower horizontal member of the upper sash and the opposed horizontal member of the lower sash when said sashes are respectively in their up and down positions. The channel guides may be normally secured against rocking movement in the window frame by screws 17 entered through upper and lower holes in the backs of the channel guides and threaded into the side members of the window frame.

When it is desired to swing the guide members out from the window frame, the screws 17 are released from the latter, and then the guides may be grasped and slid upward somewhat as permitted by the elongated slots 15 through which the fulcrum screws 13 are entered, and then the guides may be swung from their positions shown in full lines in Fig. 2, to their positions shown in dotted lines in said figure. The preliminary sliding movements of the guides permit their lower ends to clear the usual incline 19 and shoulder 21 adjacent the window sill 23. The location of the fulcrum screws 13 somewhat beneath points midway between the upper and lower ends of the window frame opening, permits the guides to swing without hindrance from the lower members of the window sashes. It will be understood, of course, that it is necessary to raise the lower sash to its up position before the guides can be swung outward from the window frame.

A screen of usual standard construction may be mounted in the guides. In the present instance, this screen comprises wire mesh clothing 25 suitably secured in a frame 27 which may be of wood or other suitable material.

After the guides have been swung out of the window frame to their positions shown in dotted lines in Fig. 2, the screen frame may be presented to the lower open ends of the guides, and then may be slid upward therein until the lower edge of the screen frame is somewhat above or in registration with the lower ends of the guides. Thereupon, the guides together with the screen may be swung inward, thereby carrying the former back from their positions shown in dotted lines, to their positions shown in full lines in Fig. 2. Then the guides may be lowered somewhat until the lower ends thereof rest on the incline 19 of the lower horizontal member of the window frame. This downward movement of the guides is permitted by the elongated slots 15 which receive the fulcrum screws 13. The guides may be secured again in their normal positions in the screen frame by the screws 17.

The screen may readily slide down to a position opposite that normally occupied by the lower sash, or it may be slid to a position opposite that normally occupied by the upper sash.

Suitable means may be provided to secure the screen in its up or down position. This means, in the present instance, comprises latches 29, each conveniently in the form of a resilient arm 31 pivotally mounted on a rivet 33 or other suitable element secured to the inner flange 35 of the guide channel. The free end of the arm 31 may be turned inward to present a locking element 37 desirably tapered and adapted to enter through a lower hole 39 or an upper hole 41 in the channel flange 35. If the screen is to be secured in its down position, the latch arm 31 is rocked about the rivet 33 to bring the locking element 37 in registration with the lower hole 39. Then the sharp locking element 37 may enter through said hole and may be pressed or hammered into one of the side members of the screen frame, the inherent resilience of the arm 31 being such that it tends to maintain the locking element 37 in position to secure the screen against sliding movement in the guides.

If it is desired to secure the screen in its up position, the latch arm 31 is rocked about the rivet 33 until the locking element 37 is brought into registration with the upper hole 41 in the flange 35 of the guide channel. Then the locking element may enter through said hole and may be pressed or hammered into the side member of the screen frame, thereby to secure the screen in its up position. When it is desired to unlock the screen in either its up or down position, it is merely necessary to pull the latch arm 31 outward against its inherent resilience until its locking element clears either the hole 39 or the hole 41. Then the arm may be rocked somewhat so that the locking element engages the outer surface of the channel flange at a point adjacent the hole from which it was withdrawn. This will hold the latch in released position until it is desired again to move the same into active locking relation with the screen frame. After the first forcing of the latch into the screen frame, the holes thus produced in the frame act as permanent apertures for receiving the latch whenever a hole 39 or 41 registers therewith according as the screen is in its down or up position. Obviously other holes may be made in the screen frame to hold it, through the agency of the latch, in any desired intermediate position.

While two latches are illustrated herein applied to both of the guides, it will be understood that in some instances a single latch on one of the guides may be employed to lock the screen in its up or down position if desired.

Since the latches are located on the inner flanges of the guide channels, they are only accessible from the inner side of the screen, and thus unauthorized persons at the exterior of the screen are prevented from unlocking the screen. The latches are located well up on the screen guides where they cannot readily be tampered with by small children. By the construction described, the guides and the screen may be securely held in the window frame without liability of displacement by wind pressure.

By my invention, a screen construction is provided which is strong, durable and cheap to manufacture, and it may be quickly and easily applied to standard window frames.

It will be understood that the invention is not limited to the specific embodiment shown, and that various deviations may be made therefrom without departing from the spirit and scope of the appended claims.

What is claimed is:

1. A window screen construction comprising a pair of guides extending substantially the length of the window frame, means for connecting said guides to said frame at points substantially midway in the lengths of said guides constructed and arranged to provide for a longitudinal and a swinging movement of the guides that the latter may be lifted and moved into and out of the frame, and a screen slidably mounted in said guides and adapted to be inserted into or removed therefrom when the guides are in their out positions.

2. A window screen construction comprising a pair of guides extending substantially the length of the window frame each provided with a central longitudinal slot, means entered through said slots pivotally connecting said guides to said frame and located at the upper ends of said slots when

the guides are seated on the window sill that the latter may be lifted to swing into and out of the frame, a screen slidably mounted in said guides and adapted to be inserted into or removed therefrom when the guides are in their out positions, and means for securing said guides against swinging movement in said frame.

3. A window screen construction comprising a pair of guides having a length slightly less than the height of the window frame opening, said guides having centrally located elongated slots therein, fulcrum elements entered through said slots and secured to opposed sides of the window frame, said guides being susceptible of longitudinal and rocking movements about said fulcrum elements to and from positions within the frame, and a screen slidably mounted in said guides.

4. The combination with a window frame of a pair of channel guides, means pivotally connecting said guides to said frame that the guides may swing into and out of the frame, a screen slidably mounted in said channel guides, and a latch device movable to enter different pairs of registering apertures in the guide and screen frame according as the screen is in up or down position in said guides and lock the screen in such position.

5. The combination with a window frame of a pair of guides, a screen having a frame slidable on said guides at least one of said guides having a pair of spaced apertures through its inner flange, the lower of which is opposite the upper end of the screen when in its down position and the upper of which is opposite the lower end of the screen when in its up position, and a latch adjustably mounted on the guide to enter one or the other of said apertures to lock the screen in either position.

FRANKLIN A. MOSMAN.