Nov. 30, 1948. F. MASTRANGELO 2,455,077

DETACHABLE SASH FASTENER

Filed Nov. 18, 1944

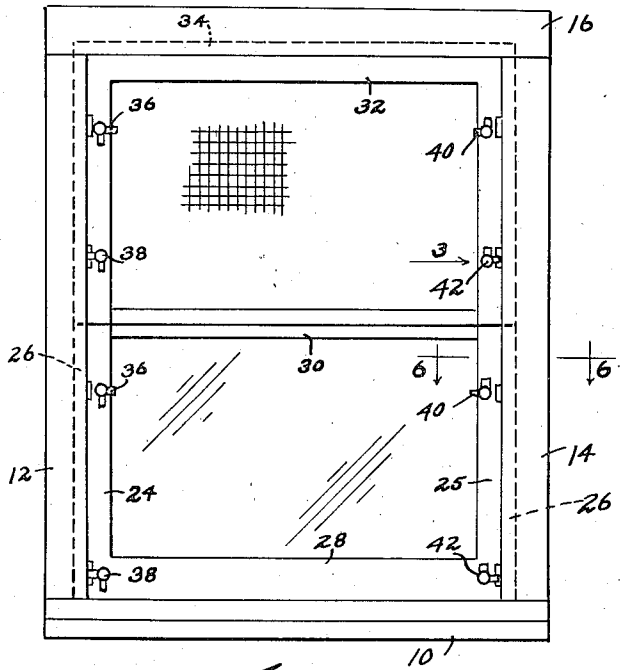


Fig. 1

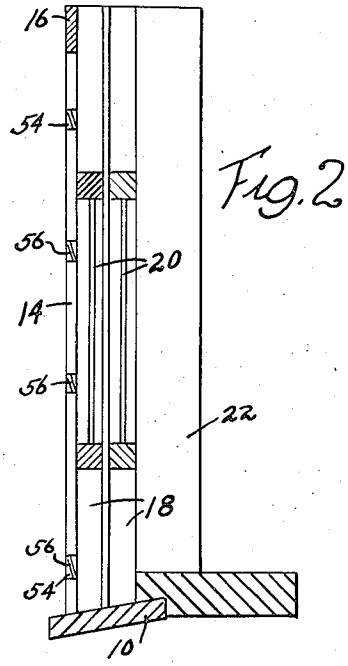


Fig. 2

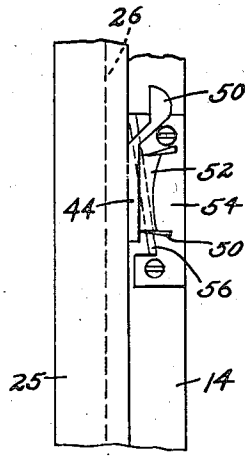


Fig. 3

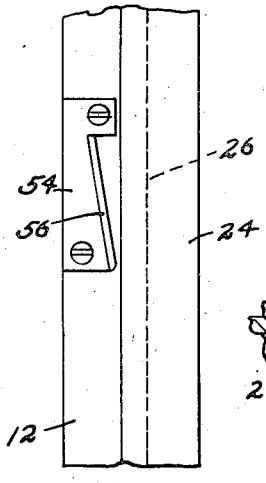


Fig. 4

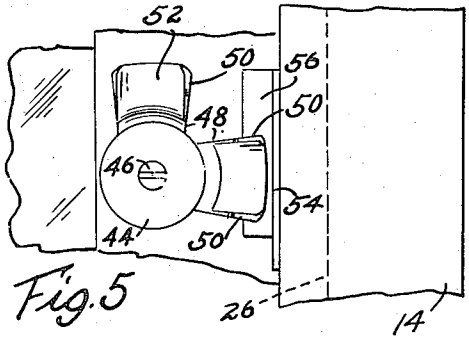


Fig. 5

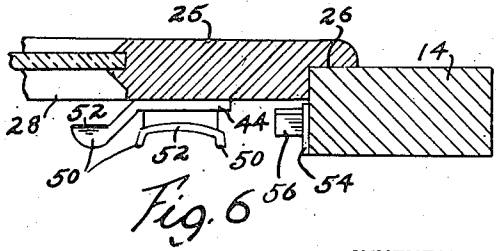


Fig. 6

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DETACHABLE SASH FASTENER

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1 Claim. (Cl. 292—241)

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This invention relates to quick detachable sash fastener which can be used either for screens or window glass.

Objects of the invention include the provision of quick detachable and interchangeable sash for storm windows and screens which are installed from the interior of the building without the necessity for any additional frames, other than the conventional window frame which forms a permanent part of the building in any case; and the provision of a special type of hardware for fastening the detachable sash to the window frame at the interior only and still allowing the upper permanent window to be raised and lowered.

Other objects of the invention include the provision of a combination storm and screen sash in combination with a special type of hardware which provides for securement of the sash to a window from the interior, the hardware being disposed on the sash and on the edge of the window frame and allowing raising and lowering of the permanent windows.

Other objects and advantages of the invention will appear hereinafter.

Reference is to be had to the accompanying drawings, in which

Fig. 1 is a view in elevation from the interior and showing the detachable sash in place, the windows being removed for clarity in illustration;

Fig. 2 is a vertical section through the window illustrating the strikers on the window frame edge;

Fig. 3 is an enlarged detail of the hardware at the right of the window looking in the direction of arrow 3 in Fig. 2;

Fig. 4 is an enlarged detail of a striker plate at the left of the window;

Fig. 5 is an enlarged showing of the hardware at the right of the window, and

Fig. 6 is an enlarged section on line 6—6 of Fig. 1.

The desirability of providing storm and screen sash to be secured at the window area from the interior of the building has always been recognized, but in the prior art it has been found necessary to first secure a frame about the window against which the storm sash is interiorly secured, this frame being then permanent. This invention does away with the frame and provides a construction wherein the sash is secured directly to the original window frame at the exterior thereof, but is applied from the interior, the detachable fastenings all being interior of

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the sash and out of the way of movement of the permanent windows which may be raised and lowered as usual.

In the drawings there is shown by way of illustration a window frame forming a permanent part of a building as originally set in, this frame having a sill 10, side members 12, and 14 and a lintel 16. In Fig. 1, the interior aspect is seen and in Fig. 2 the side member 14 is shown as having the usual vertical window guides 18 for the permanent window sash 20, the latter being movable in the guides. The casement is shown at 22.

The detachable storm and screen sash comprise side members 24 and 25 rabbeted at 26, a bottom member 28 and top member 30 connecting the rabbeted members. The upper and lower detachable sashes are of course different in their top and bottom members, the top member 32 of the upper sash being rabbeted at 34. All the rabbets are such as to accommodate and fit the sides 12, 14 and lintel 16 as shown in Fig. 1, so that the body of each of the detachable sash members extend slightly inwardly of the exterior surface of the permanent frame as best shown in Fig. 6.

Latches are provided to secure the detachable sash to the permanent frames, and it is particularly to be noted that all the latches are exactly the same. Cam type striker plates are provided on the permanent frames, and as the latches are rotated to secure the sash, they also draw the sash up tightly to the frame. In Fig. 1 there are shown left-hand latches at 36 in free or unlatched condition and latches at 38 in locking condition; and right-hand free latches at 40 and locked latches at 42.

Each rotary latch comprises a body 44 which is adapted to rotate on a pin or screw fastener 46. Each rotary body has a pair of radial projections 48 disposed at right angles to each other. Each projection has a pair of upturned ears 50 forming finger grips as well as means to start the projections onto the cams to be described, on a raised or offset portion 52, the latter being concave at their surfaces facing the body portion 44. It is to be noted that these rotary latches all have a horizontal and a vertical projection in Fig. 1, whether or not the sash is latched, and that in all cases the entire latch is located within the side edges of members 24 and 25 when in latched condition, so that they are invisible from the outside of the window. In all cases, one projection of each latch acts as a handle and the other as the latch member.

All the cam striker plates are alike and each such plate comprises a base **54** from which is struck up a cam element **56** located at an angle to the edges of the plate as clearly shown in Figs. 3 and 4. The bases **54** are fastened to the vertical side edges only of the permanent window frames and face each other. The uninterrupted long side edge of the base is aligned generally with the interior aspect of the window frame at both sides of the window and the base is narrower than the thickness of the window frame to allow the rabbet on the detachable sash to correctly fit, see Fig. 6.

By this means, all the striker plates at the right-hand side of the window, as the observer looks outwards, are located with the inclined cam **56** descending to the right, see Figs. 2 and 3; while the left-hand cams, although turned end for end, extend in the same direction. This means that the upper ends of the right-hand cams are closer to the sash member **25** than the lower ends; and the reverse is true of the left-hand cams. Therefore, the latches are all rotated in a clockwise direction to latch and rotate anti-clockwise for unlatching, but the left-hand latching projection is turned up and the right-hand latching projection is turned down.

As clearly shown in Figs. 3 and 6, the striker plates and latches are entirely contained within the area or dimension found between the inside surface of the permanent frame **12, 14**. No part of the hardware extends either to the outside of the detachable sash or to the inside or outside of the permanent frame. No fasteners mar the appearance outwardly of the installation and the latches are largely hidden behind the side members of the permanent sash so far as the inward appearance is concerned.

Having thus described my invention and the advantages thereof, I do not wish to be limited to the details herein disclosed, otherwise than as set forth in the claim, but what I claim is:

Latch for detachable sash comprising a rotary member adapted to be mounted on the detachable sash for co-action with a cam member on a permanent support, a plurality of radial fingers on the rotary member, said fingers each having a curved under surface for engagement with the cam, each finger being selectively operable as a latching member or a handle, and including flanges on the fingers providing finger grips.

FRANK MASTRANGELO.

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