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H. J. RUCHIE

STORM WINDOW AND SCREEN STRUCTURE

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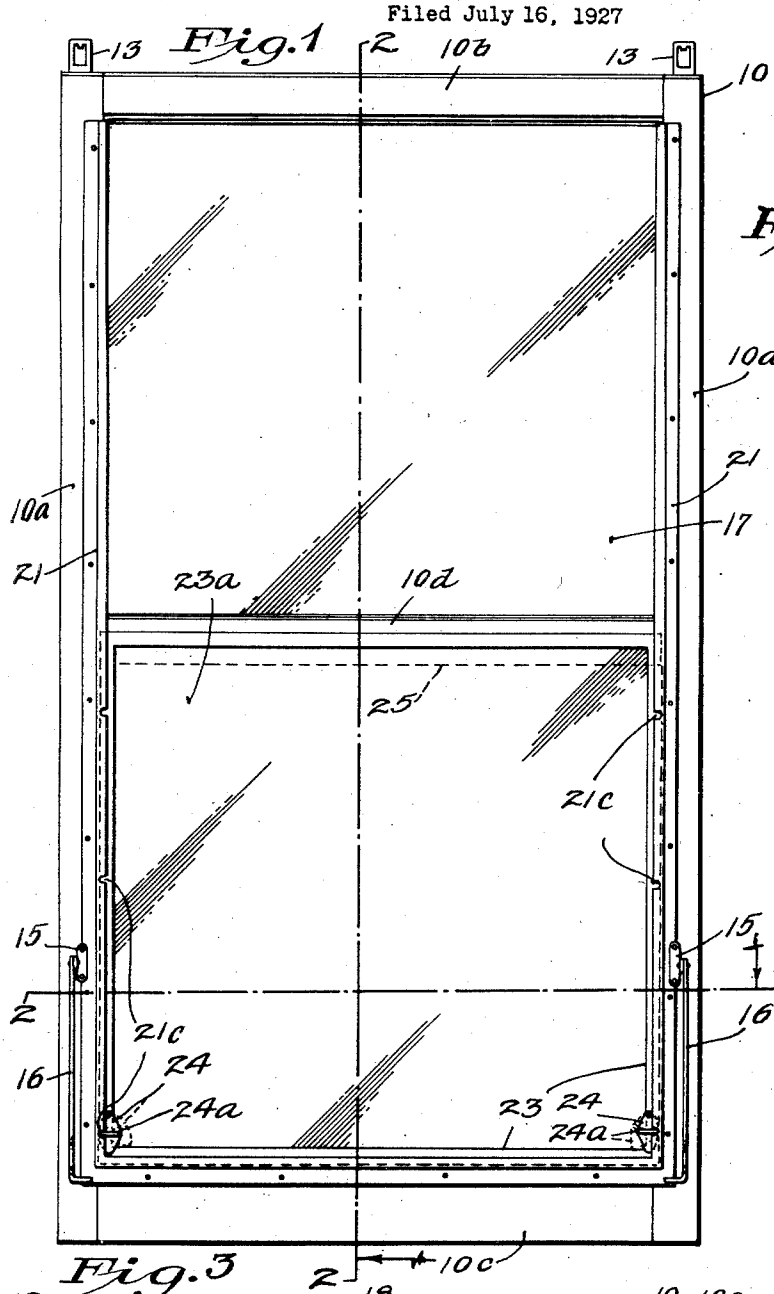

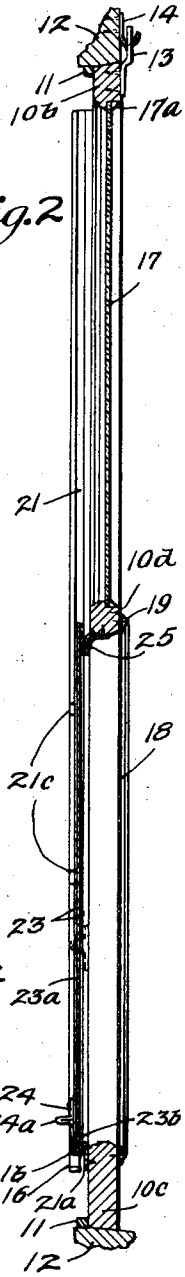

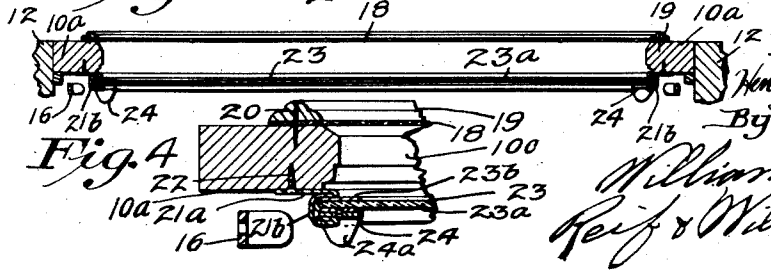

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UNITED STATES PATENT OFFICE.

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STORM-WINDOW AND SCREEN STRUCTURE.

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This invention relates to a combined storm window and screen structure. As is commonly known, it is the practice to use storm windows during the cold months of the year in the colder portions of the country, such as the Northwest. These storm windows usually comprise a unitary frame having glass panes therein, which frames fit in the usual window casing at the outer side of the slidable sash. It is also the practice to take these storm windows down in the spring and to replace the same with frames having screens thereon in the summer months.

It is an object of this invention to provide a structure which will include both the storm window and screen so that the device can be left permanently in position during all of the seasons.

It is a further object of the invention to provide such a device comprising a unitary frame of the thickness necessary for one sash, which frame carries in one portion thereof a glass pane and carries at another portion thereof a screen, said frame also being equipped with a slidable sash adapted to expose said screen.

It is more specifically an object of the invention to provide a combined storm window and screen structure comprising a unitary frame having means for swingingly supporting the same at its upper end, which frame carries rigidly and permanently at its upper half a glass pane and has secured thereto at one side over its lower half a screen, said frame having guide strips at its side and bottom at the side opposite said screen in which is slidably mounted a metal-bound glass pane which can be raised to expose said screen.

These and other objects and advantages of the invention will be fully set forth in the following description in which like characters refer to like parts throughout the several views, and in which

Fig. 1 is a view in front elevation of the device;

Fig. 2 is a vertical section taken on the line 2—2 of Fig. 1, as indicated by the arrows;

Fig. 3 is a horizontal section taken on the line 3—3 of Fig. 1, as indicated by the arrows; and

Fig. 4 is a partial section similar to Fig. 3 shown on an enlarged scale.

Referring to the drawings, a rectangular-shaped frame 10 is shown comprising the side members 10^a and the top and bottom members 10^b and 10^c, respectively. The frame 10 is comparatively thin in thickness and of the form commonly used for storm windows, and adapted to fit against the grooved strips 11 in the ordinary window frame 12 and at the outer side thereof. The frame 10 has apertured clips 13 secured to each side of its upper end adapted to engage over hook clips 14 secured to the upper portion of the frame 12. The frame 10 is thus swingingly supported on the hook clips 14 and adapted to swing outwardly. The frame 10 also has secured thereto adjacent the lower sides thereof, small brackets 15 to which are pivoted the bars 16 adapted to lie along side of the frame, as shown in Figs. 1 and 2, or to be swung into position, substantially at right angles to the frame to hold the same in outwardly swung position, said bars having slots (not shown) on their lower sides adapted to engage over suitable brackets on the window frame (not shown), to hold the storm window in open position with its lower end swung outwardly away from the window frame. The structure so far described is of the ordinary storm window type and will be readily understood.

In accordance with the present invention, a glass pane 17 is disposed in the upper portion of the frame 10 fitting against the top 10^b, the side pieces 10^a and the cross strip 10^d, and being held in the usual way by putty or other material 17^a. A screen member 18 is secured over the opening between the sides 10^a, the cross piece 10^d and the bottom strip 10^c, being placed over this opening at one side of the frame, a molding strip 19, preferably, being used to extend about the edge of said screen 18, said strip and screen being held in place by suitable small nails 20. At the side of frame 10 opposite to that of which screen 18 is secured, are secured metal strips 21, said strips also extending across the bottom piece 10^c. While the length of the strips 21 may be varied, in the embodiment of the invention illustrated, they are shown as terminating substantially at the bottom of the top end piece 10^b. As clearly shown in Figs. 3 and 4, the strips 21 have a flange portion 21^a lying flat against the side of frame 10 and secured thereto by spaced screws 22, said strips also having an inwardly directed trough-shaped portion 21^b forming a guideway. A sash 23 is provided comprising a glass pane 23^a and a metal frame or binding

23^b extending thereabout. The frame 23^b fits within the groove of portion 21^b and is slidable therein. The portion 21^b is provided at its outer side with spaced notches 21^c and the frame 23^b has pivoted thereto at each side, catches 24 comprising flat plates having projecting outwardly at right angles thereto the flanges 24^a. The catches 24 can be swung to bring the flat plate portion thereof into portion 21^b and the flange 24^a engages in one of the notches 21^c, thus holding the sash 23 in adjusted position. A piece of weatherstripping 25 is secured to the bottom of cross piece 10^d and bears against the top portion of sash 23, thus forming a tight closure.

In operation, the storm window will be mounted, as shown in Fig. 2 and in cold weather the sash 23 will be in the lower position shown in Figs. 1 and 2. The catches 24 being closed, as shown, the side of sash 23 adjacent the frame 10 is held tightly against one side of member 21^b and the top of the sash is engaged by the weatherstripping 25 so that a tight closure is formed all about the frame 23^b. In this position, the device constitutes a storm window. This storm window may be opened in the usual manner by swinging the frame outwardly on its supports 13 and 14 and holding the same in its outwardly swung position by means of the holding members 16. In warm weather when it is desired to have a screen opening, the sash 23 is simply raised so as to be substantially in alinement with the pane 17, thus exposing the screen 18. In this position all the screen opening possible in a window is obtained and it is unnecessary to take down the storm window and substitute a screen frame therefor. It will be seen that the sash 23 may be raised different amounts and held in different positions by the catches 24.

From the above description it is seen that applicant has provided a very simple and efficient storm window and screen structure and one which will be effective for use the year around. The device is quite simple in construction and can be readily used wherever the standard storm windows are used. The device has been amply demonstrated in actual practice and found to be very successful and efficient.

It will, of course, be understood, that various changes may be made in the form, details and arrangements and proportions of the parts without departing from the scope of applicant's invention, which, generally stated, consists in a device capable of carrying out the objects above set forth, in the novel parts and combinations of parts disclosed and defined in the appended claim.

What is claimed is:

A storm window and screen structure having in combination, a unitary frame substantially of the thickness of one sash, said frame having a cross bar extending thereacross substantially midway thereof, a glass pane rigidly carried in said frame above said cross bar, a screen permanently secured to said frame extending across the lower half thereof at the outer side thereof, strips extending along the sides of said frame at the inner side thereof having channels formed therein facing each other, a strip extending along the bottom of said frame having an upwardly facing channel, a thin metal sash slidable in said channels in said strips and adapted to seat in said channel at the bottom of said frame when in its lowest position, and means for holding said thin metal sash in various positions.

In testimony whereof I affix my signature.

HENRY J. RUCHIE.