Jan. 9, 1934. L. H. SCHAFER 1,942,776

WINDOW SCREEN FOR AUTOMOBILES

Filed Sept. 23, 1933 2 Sheets-Sheet 1

Fig. 1.

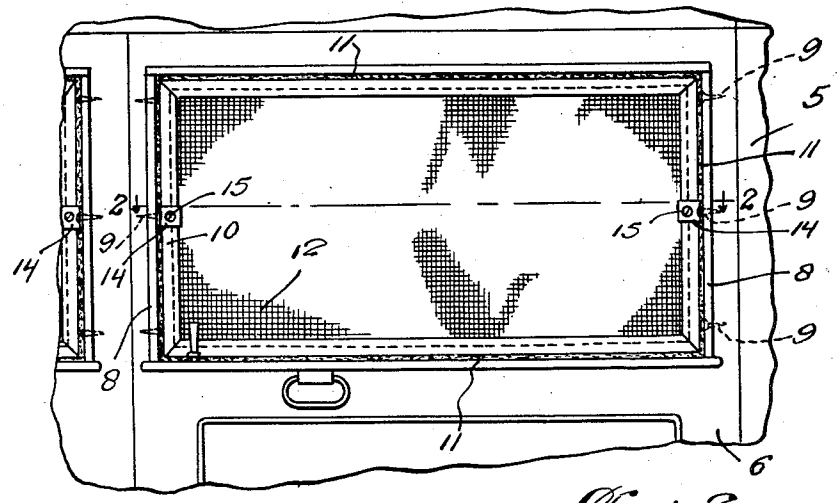


Fig. 2.

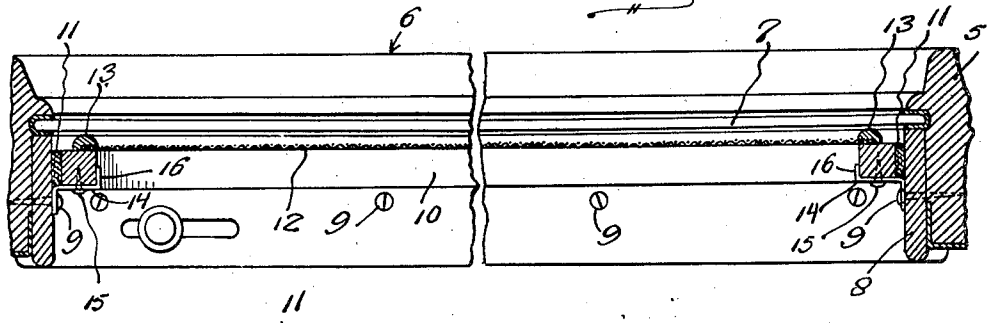
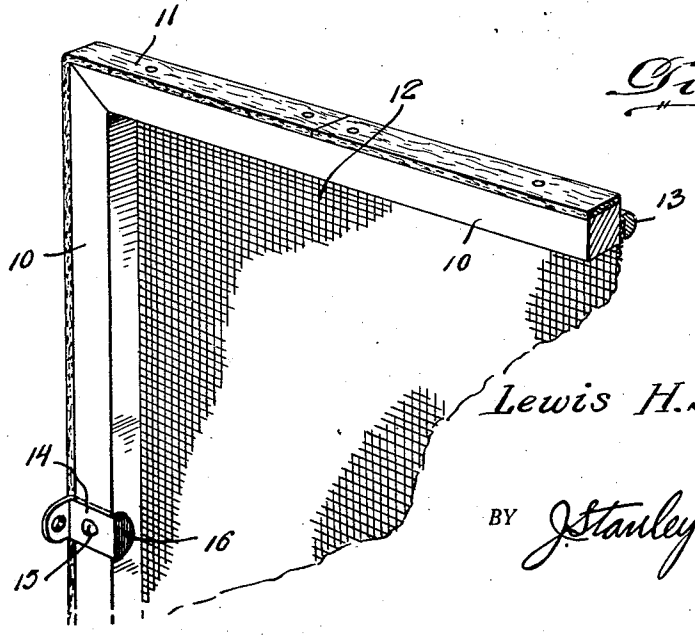


Fig. 3.



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Filed Sept. 23, 1933 2 Sheets-Sheet 2

Fig. 4.

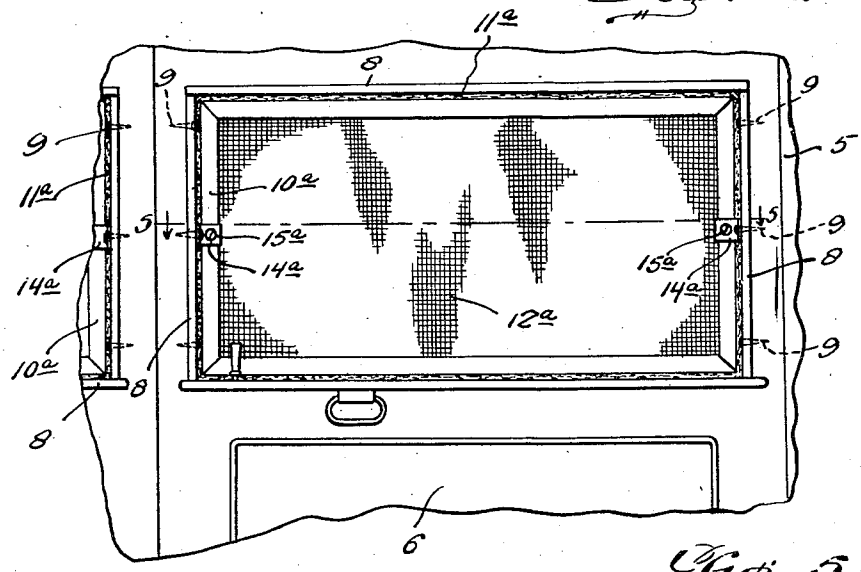
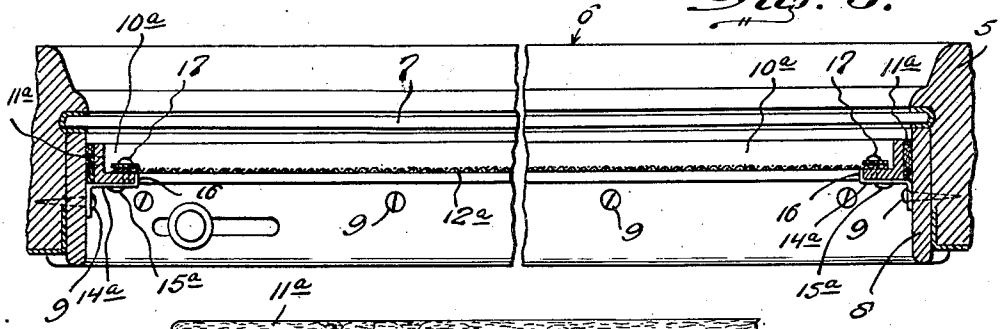


Fig. 5.



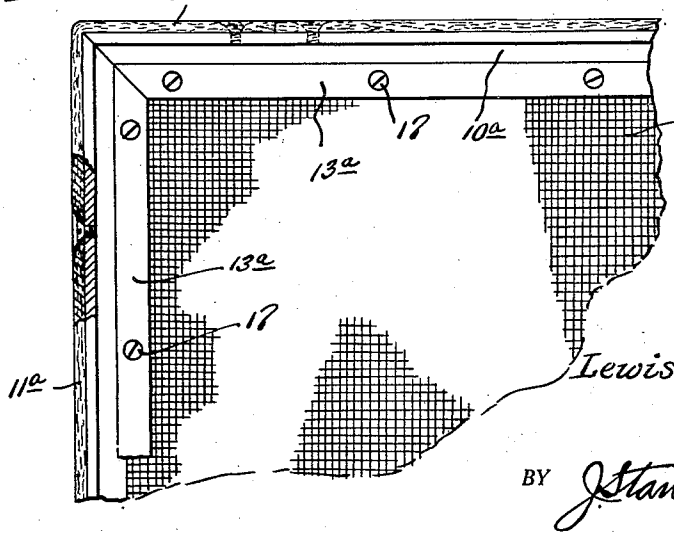


Fig. 6.

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UNITED STATES PATENT OFFICE

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WINDOW SCREEN FOR AUTOMOBILES

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Application September 23, 1933
Serial No. 690,731

3 Claims. (Cl. 156—14)

This invention relates to improvements in window screens, and has more particular reference to an improved screen for the windows of automobiles.

The primary object of the present invention is to provide a window screen of the above kind which is simple and durable in construction, which may be readily installed without danger of marring the finished surface of the walls of the window opening and so as to provide an insect-proof joint between the screen frame and the walls of the window opening, which will not interfere with the raising and lowering of the window sash when installed for use, and which may be readily and efficiently secured in operative position.

The invention consists in the novel form, combination and arrangement of parts hereinafter more fully described, shown in the accompanying drawings, and claimed.

In the drawings:

Figure 1 is a fragmentary elevational view of an automobile body, looking at the inner side of a door of the automobile whose window is equipped with a screen constructed in accordance with the present invention.

Figure 2 is an enlarged horizontal section on line 2—2 of Figure 1, partly broken away.

Figure 3 is an enlarged fragmentary perspective view showing a corner portion of the screen illustrated in Figures 1 and 2.

Figure 4 is a view similar to Figure 1 showing a modified form of window screen embodying the present invention.

Figure 5 is an enlarged horizontal section on line 5—5 of Figure 4, partly broken away; and

Figure 6 is an enlarged fragmentary elevational view, partly broken away and in section, showing a corner portion of the screen illustrated in Figures 4 and 5.

Referring more in detail to the drawings, 5 indicates an automobile body having a door 6 in the upper portion of which is provided a window opening adapted to be closed by a manually operable vertically sliding sash 7 that may be lowered to an open position for ventilation in a manner well known in the art. The walls of this window opening inwardly of the sliding sash 7 are formed by the usual relatively wide attached molding strips 8 secured in place by screws 9 passing through the molding strips intermediate the side edges thereof and into the surrounding portion of the door. Three of these screws are usually employed for fastening the side molding strips in place, one at the longitudinal center of each strip and one adjacent each end of the latter. As will presently become apparent, I utilize the central securing screw 9 of the side molding strips 8 as part of a means for securing the window screen in place.

The screen of the present invention is of a size slightly smaller than that of the window opening inwardly of the sash 7, and consists of a rigid open frame composed of top, bottom and side rails having mitered ends joined together suitably at the corners of the frame. The frame 10 in the form of the invention shown in Figures 1 to 3 inclusive is shown as constructed of wooden rails which are relatively wide and have a strip of felt or like soft and yielding material of similar width secured to the outer edges of the frame as at 11. This strip of felt provides an insect-proof joint between the edges of the screen frame and the walls of the window opening, and enables the screen to be installed without danger of marring the finished surface of the molding strips 8. Stretched over and closing the opening bounded by the frame 10 is a sheet of screen material 12 whose margin is clamped to the outer face of the frame by fastening strips 13 secured to the rails of the screen frame by nails or screws and having mitered meeting ends at the corners of the screen frame.

Attached to the side rails of the screen frame are angular brackets 14 having laterally projecting outer ends apertured to receive the central fastening screws 9 of the side molding strips 8 to secure the frame in place as shown in Figures 1 and 2. These brackets are attached by screws 15 to the inner sides of the side rails of the screen frame as clearly shown, and the laterally projecting outer ends of the brackets are substantially flush with the outer surface of the adjacent portion of the felt strip 11 so as to flatly engage the inner faces of the adjacent side molding strips 8 when the screen is positioned in place with the felt strip 11 slightly compressed as is the case when the screen is fitted in the window opening. The central screws 9 of the side molding strips 8 are of course removed before the screen is inserted, after which said screws may be replaced to form a simple and efficient means for fastening the screen in place. This avoids the necessity for separate or additional fasteners, and the screen is located inwardly of the sash 7 as well as between the latter and the fastening screws 9 of the molding strips 8 so that securing of the screen may be conveniently effected, and when the screen is in place it will not interfere in

any way with the opening and closing of the sash 7.

The construction of Figures 4 to 6 inclusive is substantially the same as above described with respect to Figures 1 to 3 inclusive, the main difference being that the frame 10*a* of the screen is formed of angle iron rails, one flange of which forms a broad edge against which the felt strip 11*a* is secured, the other flange of each rail extending inwardly at the inner side of the screen frame and having the angular securing bracket 14*a* secured thereto by screws 15*a*. In both forms of the invention the inner ends of the brackets 14 and 14*a* are provided with lateral integral extensions 16 which overlie the inner edges of the screen frame to preclude swinging movement of the brackets relative to the screen frame so that said brackets are maintained with their laterally projecting outer ends parallel to the adjacent edge of the screen frame even though only one securing screw is provided as at 15 or 15*a*. In the form employing the wooden frame 10*a*, the brackets 14 are preferably countersunk in the side rail of the screen frame where engaging the latter, as indicated in Figure 3.

The screen of Figures 4 to 6 inclusive also include a sheet of screen fabric 12*a* which is stretched over and closes the opening of the screen frame and has its margin clamped between the inwardly projecting flanges of the frame rails and securing strips 13*a* secured to said inwardly extending flanges on the outer sides of the latter. The fastening strips 13*a* are preferably of flat metal and secured in place by stud screws 17 passing through the strips 13*a* and the margin of the screen sheet 12*a* and threaded into the inwardly projecting flanges of the rails of the screen frame 10*a*.

From the foregoing description, it will be seen that the screen is of simple and durable construction, may be readily and effectively secured in place without the use of separate or additional securing elements, will not mar the finished surface of the molding strip when installed in the window opening, is positioned for convenient fastening and in a position so as to not interfere with the opening and closing of the sash 7, and presents a neat appearance when in use.

What I claim as new is:

1. A screen for an automobile window having a vertically slidable pane, and wherein the walls of the window opening inwardly of said pane are formed by molding strips secured in place by screws passing through the molding strips and into the surrounding portion of the automobile, comprising a rigid frame shaped and proportioned to substantially fill the window opening inwardly of the sash and to assume a position between said sash and the securing screws for the molding strips, angular brackets rigidly secured to the inner sides of the end rails of the screen frame intermediate the ends of said rails, said brackets having laterally projecting outer ends arranged to flatly engage the side molding strips of the window and apertured to receive adjacent securing screws for said molding strips to rigidly secure the screen in place within the window opening, said screen frame having a sheet of screen fabric secured thereto with its margin clamped against the outer face of the screen frame.

2. A screen for an automobile window having a vertically slidable pane, and wherein the walls of the window opening inwardly of said pane are formed by molding strips secured in place by screws passing through the molding strips and into the surrounding portion of the automobile, comprising a rigid frame shaped and proportioned to substantially fill the window opening inwardly of the sash and to assume a position between said sash and the securing screws for the molding strips, angular brackets rigidly secured to the inner sides of the end rails of the screen frame intermediate the ends of said rails, said brackets having laterally projecting outer ends arranged to flatly engage the side molding strips of the window and apertured to receive adjacent securing screws for said molding strips to rigidly secure the screen in place within the window opening, said screen frame having a sheet of screen fabric secured thereto with its margin clamped against the outer face of the screen frame, said screen frame consisting of rigidly joined angle iron rails having inner inwardly projecting flanges to which the brackets are secured and to which the margin of the screen sheet is clamped.

3. A screen for an automobile window having a vertically slidable pane, and wherein the walls of the window opening inwardly of said pane are formed by molding strips secured in place by screws passing through the molding strips and into the surrounding portion of the automobile, comprising a rigid frame shaped and proportioned to substantially fill the window opening inwardly of the sash and to assume a position between said sash and the securing screws for the molding strips, angular brackets rigidly secured to the inner sides of the end rails of the screen frame intermediate the ends of said rails, said brackets having laterally projecting outer ends arranged to flatly engage the side molding strips of the window and apertured to receive adjacent securing screws for said molding strips to rigidly secure the screen in place within the window opening, said screen frame having a sheet of screen fabric secured thereto with its margin clamped against the outer face of the screen frame, said brackets having lateral extensions on the inner ends thereof flatly engaging the inner edges of the side rails of the screen frame to prevent shifting of said brackets relative to the screen in a plane parallel to the plane of said screen.

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