July 31, 1934. C. H. LARSON 1,968,529

SASH CONSTRUCTION

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Fig. 1.

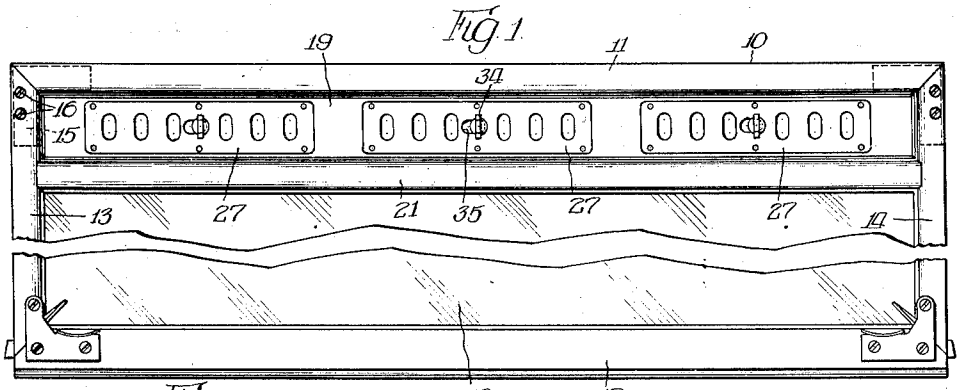


Fig. 2.

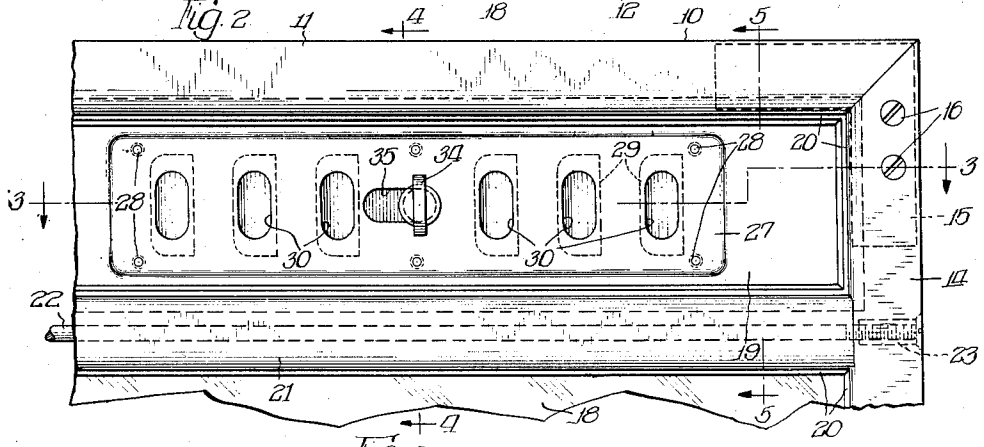


Fig. 3.

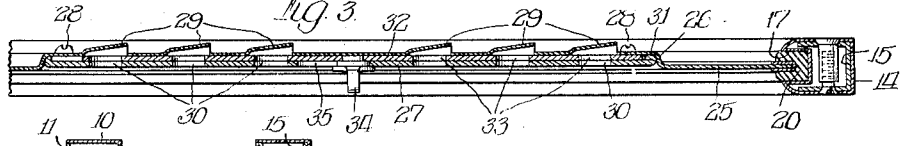


Fig. 4

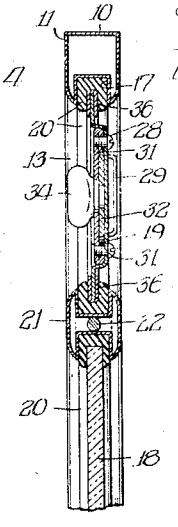


Fig. 5

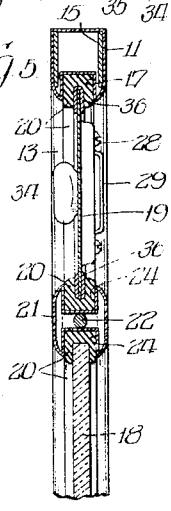
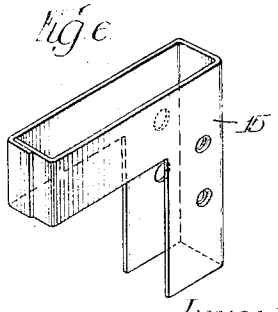


Fig. 6



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Fig. 7.

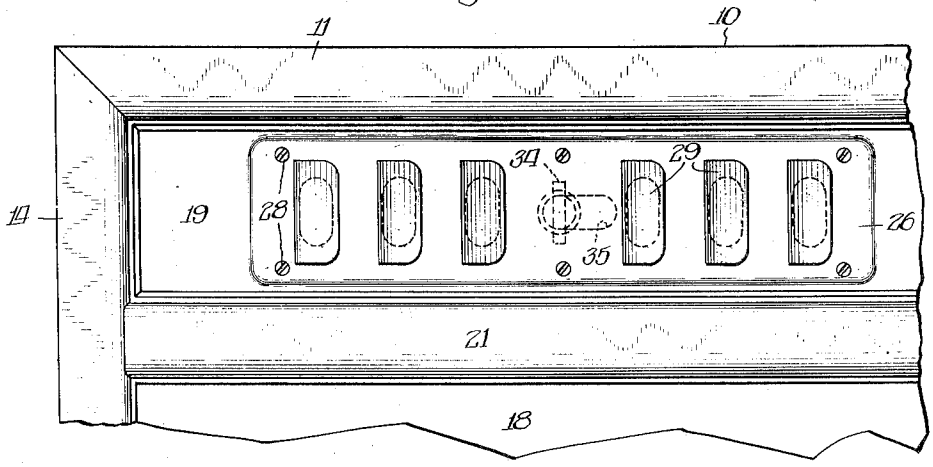


Fig. 8.

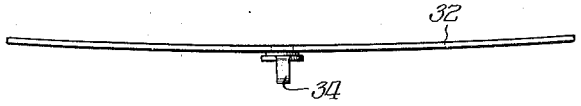


Fig. 9

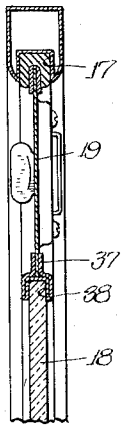


Fig. 11.

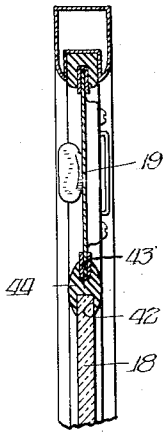
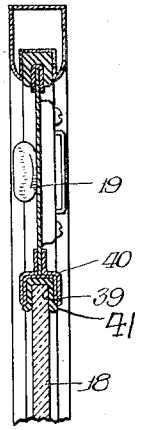


Fig. 10



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UNITED STATES PATENT OFFICE

1,968,529

SASH CONSTRUCTION

Carl H. Larson, Elkhart, Ind., assignor to The Adlake Company, Chicago, Ill., a corporation of Illinois

Application May 1, 1930, Serial No. 448,857

2 Claims. (Cl. 98—97)

This invention has to do with metal sash of the type used in motor buses and other vehicles.

The principal object of the invention is to provide an improved sash which contains a special ventilating panel within what would ordinarily be considered the glazing area.

Other objects and advantages of the invention will be evident to those skilled in the art upon a full understanding of the improved sash.

One form of the invention is presented herein for the purpose of exemplification, but it will of course be appreciated that the invention is susceptible of embodiment in other structurally modified forms coming equally within the scope of the appended claims.

In the accompanying drawings:

Fig. 1 is an inside face view of a sash equipped with the ventilating panel of the invention, with the intermediate portion of the sash broken away;

Fig. 2 is a fragmentary inside face view, showing one of the upper corners of the sash;

Fig. 3 is a horizontal section, taken on the irregular line 3—3 of Fig. 2;

Fig. 4 is a vertical section, taken on the line 4—4 of Fig. 2;

Fig. 5 is another vertical section, taken on the line 5—5 of Fig. 2;

Fig. 6 is a perspective view of one of the corner reinforcing members;

Fig. 7 is a fragmentary outside face view, showing the same corner of the sash as is shown in Fig. 2;

Fig. 8 is an edge view of one of the curved ventilating slides, as the same would appear when removed from the panel;

Fig. 9 is a vertical section corresponding to Fig. 5, showing a slightly modified form of the connection between the lower edge of the ventilating panel and the upper edge of the pane of glass;

Fig. 10 is a similar section, showing another modification of the connection; and

Fig. 11 is a similar section, showing still another modification of the connection.

The sash in the drawings includes a rectangular frame 10 which is composed of top and bottom rails 11 and 12 and side stiles 13 and 14. The top rail 11 is detachably fastened to the side stiles 13 and 14 by means of L-shaped corner members 15 which are secured in the ends of the top rail and extend downwardly into the upper ends of the side rails, where they are engaged by transfixing screws 16.

The frame 10 is provided about its inner periphery with an inwardly opening groove 17, which groove serves to position within the frame both a rectangular pane of glass 18 and a rectangular ventilating panel 19. The pane of glass 18 is of the proper width to fit the frame, but is of less height than the inside vertical dimension of the latter, whereby to leave a horizontally elongated opening between the upper edge of the pane and the top rail of the frame. The ventilating panel 19 is also of the proper width to fit the frame, but is only a few inches in height, whereby to fill out the area in the frame above the pane. The ventilating panel is arranged in the same plane as the pane of glass, and those edges of both which extend into the groove 17 are seated in sections of a U-shaped rubber strip 20 which fits the groove. The upper edge of the pane of glass 18 and the adjacent lower edge of the ventilating panel 19 are supported by a horizontal cross rail 21 which is detachably positioned between the side stiles 13 and 14 by a tie rod 22. The rod 22 is headed at one end and extends through the center of the rail 21 into screw-threaded engagement at the other end with a female screw member 23. The rail 21 has the same thickness as the stiles and rails of the frame 10, and is provided with upwardly and downwardly opening grooves 24. Sections of the rubber strip 20 are positioned in the grooves 24, and the otherwise free edges of the pane and panel are held in such sections.

To replace the pane of glass 18, the screws 16 are withdrawn, the top rail 11 is removed from the upper ends of the side stiles 13 and 14, the ventilating panel 19 is lifted out, the tie rod 22 is withdrawn, and the cross rail 21 is removed from between the stiles, after which the pane of glass may be lifted out.

If desired, the ventilating panel 19 and the cross rail 21 may be left out and a full size pane of glass used in the frame, or the cross rail only may be retained and a small additional pane of glass or a screen substituted for the ventilating panel.

The particular ventilating panel shown in the drawings consists of a substantially flat sheet metal plate 25 which is provided with a plurality of outwardly embossed rectangular portions 26 in which correspondingly shaped register plates 27 are secured by screws 28. The embossed portions 26 of the plate 25 are provided with louvers 29, all of which open in the same direction, preferably rearwardly of the vehicle, and the register plates 27 are provided with openings 30 in opposition to the louvers. The register plates 27 are spaced from the embossed portions 26 of the plate

25 by edge flanges 31, and slides 32 are positioned between the same and are provided with openings 33 for registration with the openings 30. The openings 33 in the slides may be shifted into or out of register with the openings 30 by means of finger pieces 34 which are attached to the slides centrally thereof and extend through elongated slots 35 in the plates 27. The slides 32 are preferably curved slightly before assembly, as shown in Fig. 8, whereby to press resiliently against the sides of the guideway for the same and thereby insure sufficient tightiness to prevent rattling or accidental movement.

The thickness of the ventilating panel 19 does not exceed at any point the thickness of the frame 10, with the result that the sash may be raised and lowered in its guides without interference. The edges of the plate 25 are preferably enclosed within U-shaped metal strips 36, which strips both reinforce the plate and bring it up to the approximate thickness of a pane of glass, thereby permitting the use of an ordinary rubber glazing strip for both the edges of the ventilating panel and the edges of the pane of glass.

In Fig. 9 is shown a slight modification of the connection between the upper edge of the pane of glass 18 and the lower edge of the ventilating panel 19. In this form, the cross rail 21 is omitted and the metal strip 37 which extends along the lower edge of the panel and forms a part thereof is provided with a narrow downwardly opening groove 38 into which the upper edge of the pane of glass projects. The strip 37 is of approximately the same width as the groove 17 about the inner periphery of the frame, and the ends of the strip project into the groove at the points where such ends meet the side stiles.

The modification shown in Fig. 10 is quite similar to that shown in Fig. 9 except that the groove 39 which is formed in the bottom of the strip 40 on the panel 19 is made sufficiently wide and deep to accommodate a rubber lining strip 41.

In the modification shown in Fig. 11, the upper edge of the pane of glass 18 and the lower edge of the ventilating panel 19 extend into oppositely facing grooves 42 and 43 in a rubber sealing strip 44, which strip constitutes the sole means of connection between the pane of glass and the panel.

I claim:

1. In a ventilator, a substantially flat metal plate having an outwardly embossed portion provided with louvers, a register plate in the embossed portion having openings opposite the louvers, and an interposed slide having openings for movement into and out of registration with the openings in the register plate.

2. In a ventilator, a substantially flat metal plate having an outwardly embossed portion provided with outwardly projecting louvers, a register plate set into the embossed portion substantally flush with the surrounding flat portion of the plate to present a flat inside surface and having openings opposite the louvers, and an interposed slide having openings for movement into and out of registration with the openings in the register plate.

CARL H. LARSON.