

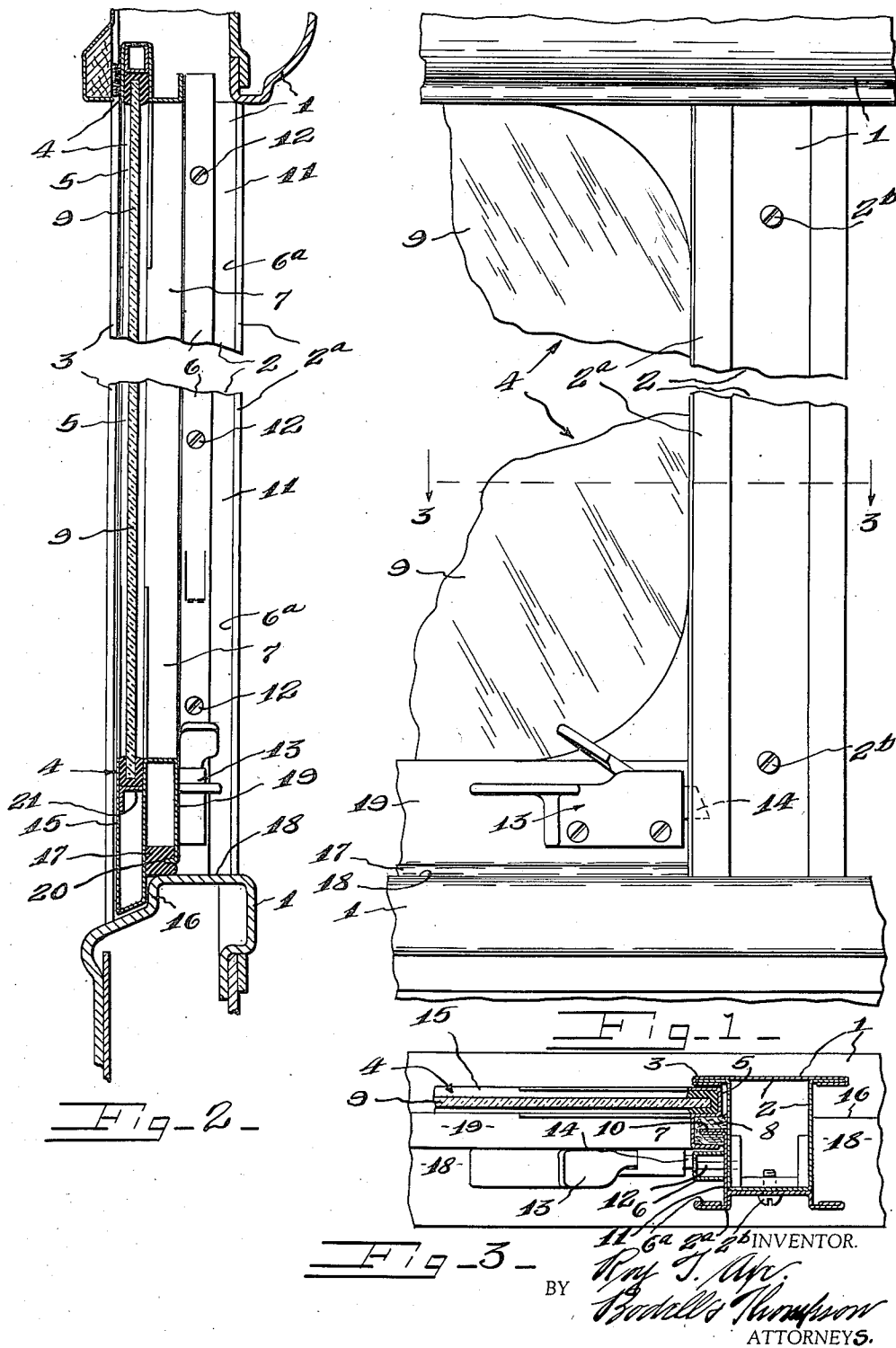
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R. T. AXE

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WINDOW CONSTRUCTION

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WINDOW CONSTRUCTION

Roy T. Axe, Syracuse, N. Y., assignor to The
O. M. Edwards Company Inc., Syracuse, N. Y.,
a corporation of New York

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This invention relates to window constructions for vehicles, as buses, railway cars, etc., and has for its object a window construction by which the sash is guided in the window frame by sash guide means offset on one side of the sash in the direction of the thickness of the sash or the stiles thereof from front to rear, whereby the sash has a maximum width of glass pane with a minimum over-all width of the sash including the sash frame or the stiles.

It further has for its object a simple and economical construction of a sash or the stiles thereof and a sash guide element carried by each stile and offset on one side thereof and located within the width of a narrow stile in the direction of the width of the sash.

It further has for its object a particularly simple and efficient offset arrangement of the weather or buffer strip at the lower edge of the sash, which buffer strip coacts with the sill.

The invention consists in the novel features and in the combinations and constructions hereinafter set forth and claimed.

In describing this invention, reference is had to the accompanying drawing in which like characters designate corresponding parts in all the views.

Figure 1 is a fragmentary elevation of a sash embodying my invention.

Figure 2 is a sectional view looking to the right in Figure 1.

Figure 3 is a sectional view on lines 3—3, Figure 1.

This window construction comprises, generally, a window frame, a sash including stiles movable in the frame, and interfitting sash guide elements carried respectively by each stile and the frame, the element carried by each stile being located outside of the stile or offset on one side thereof in one direction of the thickness of the stile from front to rear, and also located within the width of the stile in a direction widthwise of the sash, all whereby a glass pane of maximum width can be used with a stile provided with a sash guide element of minimum width, or, in other words whereby a sash with sash guide elements interfitting with complemental elements on the frame can be located within the window opening or frame of a given width and have a glass pane of maximum width.

1 designates the frame which includes the post structures 2 which define the sides of the window opening. The post structure is here shown as formed up of sheet metal to provide an outer stop 3.

4 designates the sash, and 5 the stile on each side edge thereof, the stile being adjacent the outer stop 3. The frame is also provided with a removable inner stop 6 and a curtain guide 6^a. The sash and the frame are provided with interfitting sash guide elements, one being a channel and the other a rib interfitting in the channel.

In the illustrated embodiment of my invention, the channel element is provided on each stile and is offset from the stile or located on one side thereof in the direction of the thickness of the stile from front to rear and also within the width of the stile in a direction widthwise of the sash.

7 designates the channel guide element on each stile, this being usually provided with a U-shaped liner 8 of a pliable or fibrous material.

In the illustrated embodiment of my invention, the stile and the channel guide element 7 are formed up in one piece of metal and are in the general form of a letter S in cross section providing channels facing laterally in opposite directions, one of these channels receiving the margin of the glass pane 9, and the other facing toward the window frame.

10 designates the other interfitting part or guide element carried by the window frame and extending into the channel element 7, or the liner 8 thereof, this being preferably a rib, here shown as suitably carried by a base plate 11 lying flatwise on the post structure and held in position by the removable inner stop 6. The removable inner stop 6 may be formed up channel-shaped in cross section with its open side toward the base plate 11. It is secured to the post structure by screws 12 extending through the stop 6 and through the base plate 11 and threading into the post structure, so that the screws, when tightened, clamp the inner stop against the base plate and hence hold it in position. Thus, the interfitting guide elements are located between the sash or the stile thereof and the inner stop. Both the sash and the guide elements are held from metal to metal contact with the outer stop 3 and the inner stop 6 by reason of the rib 10 coacting with the fibrous liner 8 within the guide element 7. The rib 10 may be adjusted in a direction widthwise of the sash by inserting or removing shims from between the plate 11 and the post structure, it being understood that a widthwise adjustment is desirable in order to adjust the rib for slight misalignments in the post structure.

One side of the curtain guide 6^a, which is a channel, is formed by the margin of a face plate 2^a secured to the post structure 2, as by screws 2^b. The face plate forms one side wall of the 55

curtain guide channel on each side of the post structure. The sash and guides are removable by removing the face plate and the inner stop 6. Also, the face plate 11 can be adjusted to adjust 5 the rib 10 in a widthwise direction, upon the demounting of the inner top 6 and the face plate 2^a.

The sash is provided with the usual sash holders 13 on the bottom rail thereof, the bolts 10 14 of which coact with recesses or sockets formed in the removable inner stop 6.

The bottom rail 15, as here shown, laps an upright portion 16 of the riser of a step formation of the sill structure of the frame, when the 15 sash is closed, but is held off the sill by a buffer or weather strip 17 offset from the rail or the inner side thereof and arranged to engage an elevated or top surface 18 of the step formation of the sill. As here shown, this buffer or weather 20 strip 18 is carried at the lower edge of an offset filler 19 located in the space between the lower ends of the sash guide elements 7. The filler 19 and the bottom rail are formed up of sheet metal, so that the bottom rail is hollow and light 25 with the open side of the filler presented downward. The buffer 18 is secured to the lower edge of the filler, in any suitable manner, as by an inturned flange 20, at the lower edge of the filler and interlocked in the buffer strip.

30 As seen in Figure 2, when the sash is lowered, the filler holds the lower edge of the bottom rail off the sill. As here shown, the bottom rail and the filler are formed up of sheet metal and are in a general flattened S shape in cross section 35 forming an upwardly facing channel for receiving the lower margin of the glass pane and a downwardly facing channel for receiving the buffer strip. The channel, which receives the margin of the glass pane, is provided with a strip 40 21 which forms the bottom of the groove in which the margin of the glass pane is seated.

The arrangement of the sash guide means is particularly economical in manufacture and of 45 special advantage in that it renders the sash construction particularly compact, permitting interfitting sash guide means to be so located that said means do not increase the over-all width of the sash, and hence permit a glass

pane of maximum width to be used with stiles of minimum width. The bottom rail structure is particularly advantageous in that the buffer strip is not open to the elements where it can become stuck or frozen to the sill structure and 5 be mutilated and torn when pulled away from the sill structure, when the window is raised.

What I claim is:—

1. In a window construction, a window frame, a sash movable in the frame, the sash including 10 stiles, the sash and frame including interfitting guide elements, the guide element carried by the sash being located entirely on one side of the portion of the stile in which the glass pane is mounted, in the direction of the thickness of the 15 stile from front to rear.

2. In a window construction, a window frame, a sash movable in the frame, the sash including stiles, each stile being formed with oppositely facing grooves arranged side by side, one of the 20 grooves facing inwardly and receiving the glass pane and the other groove facing outwardly and being a guide groove, and a guide rib carried by the frame and extending into the guide groove.

3. In a window construction, a window frame, 25 a sash movable in the frame, the sash including stiles, each of which is substantially S-shaped in cross section providing oppositely facing grooves, one facing inwardly to receive the margin of the glass pane and the other facing outwardly to- 30 ward the window frame and constituting a guide groove and a rib carried by the window frame and extending into the guide groove.

4. In a window construction, a window frame, 35 a sash movable in the frame, the sash including stiles, each stile being formed with oppositely facing grooves arranged side by side, one of the grooves facing inwardly and receiving the glass pane and the other groove facing outwardly and being a guide groove, and a guide rib carried by 40 the frame and extending into the guide groove, a base plate on which the guide rib is mounted, the base plate lying flatwise against the window frame, a removable stop overlying the base plate and holding the same in position, the stop coact- 45 ing with the outer wall of the guide groove.

ROY T. AXE.