

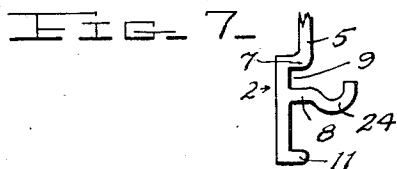
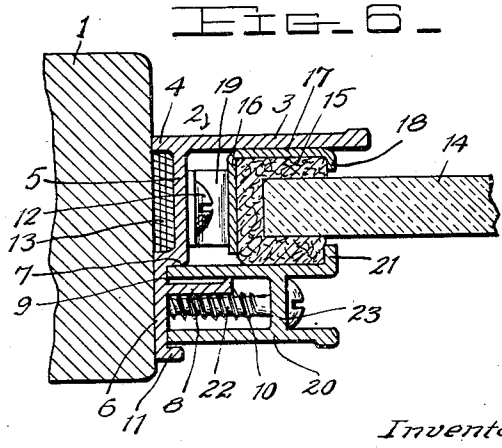
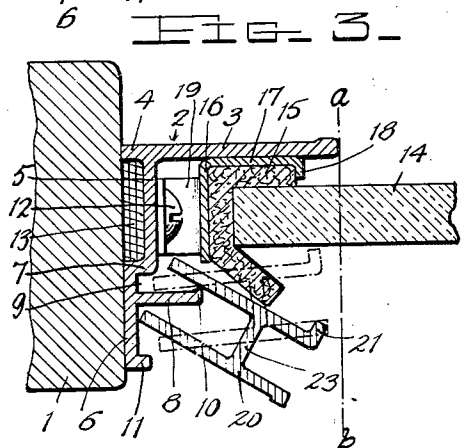
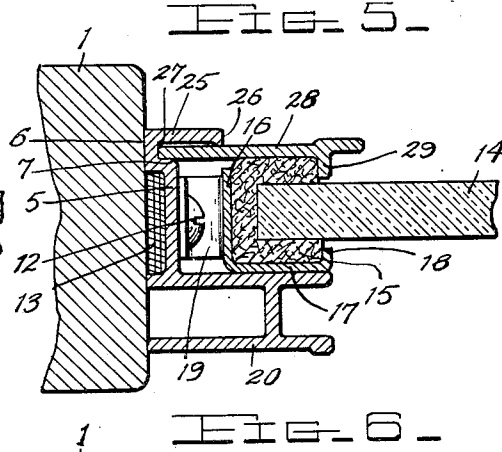
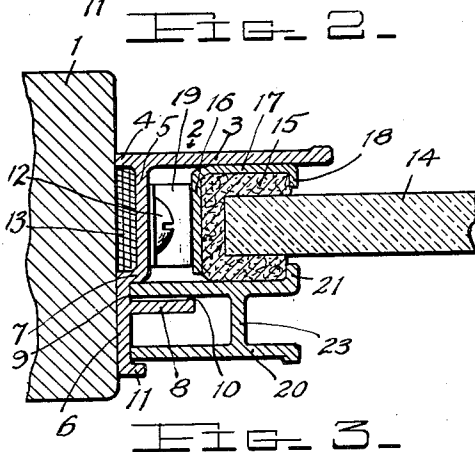
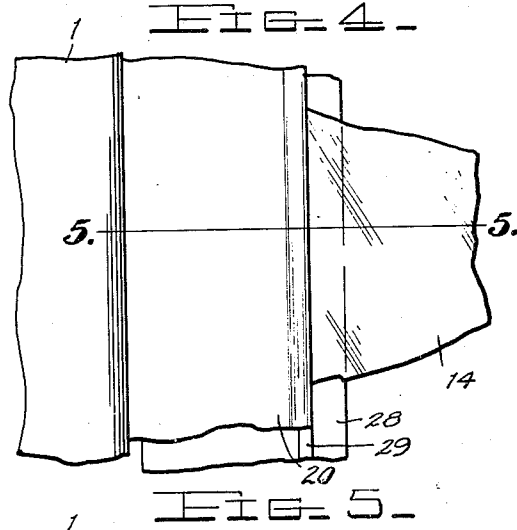
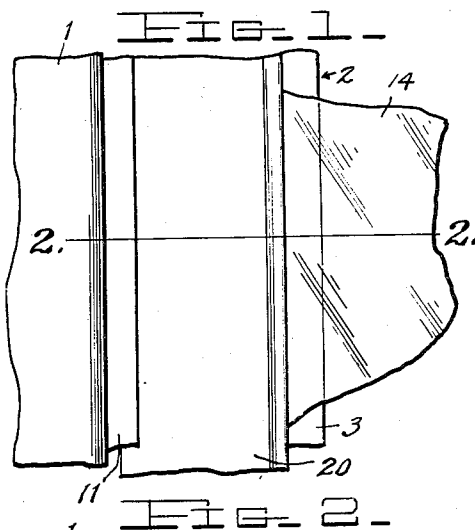
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BUS OR CAR WINDOW CONSTRUCTION

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1,976,808

BUS OR CAR WINDOW CONSTRUCTION

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9 Claims. (Cl. 189—73)

This invention relates to bus or car window construction, and more particularly has reference to the inside and outside stops and the manner in which the window sash is positioned, an object of the invention being to provide a construction which will permit the stops to be easily inserted without interference of the locks and rails, and in which outward movement of the stops will be prevented when in the assembled position. A further object is to provide a construction in which the stop will be effectually and firmly retained in its proper operative position and which at the same time will have such freedom in its engagement as to permit of necessary manufacturing tolerances.

With the above and other objects in view embodiments of the invention are shown in the accompanying drawing, and these embodiments will be hereinafter more fully described with reference thereto, and the invention will be finally pointed out in the claims.

As the construction, according to the invention, is the same on each side of the window opening, only one side or post of said opening will be shown in the illustrated adaptation of the invention.

In the drawing:

Fig. 1 is a fragmentary inside elevation.

Fig. 2 is a horizontal section, taken along the line 2—2 of Fig. 1.

Fig. 3 is a view similar to Figure 2, but showing the manner of assembling the parts, the dot-and-dash lines showing one of the positions of the stop during assembling.

Fig. 4 is a fragmentary inside elevation of a modified form of the invention.

Fig. 5 is a horizontal section, taken along the line 5—5 of Fig. 4.

Fig. 6 is a view similar to Figure 2, but showing a screw as an additional means for securing the inside stop to the outside stop.

Fig. 7 is a fragmentary view of a modified form of the construction shown in Figs. 1 to 3.

Similar numerals of reference will be used to denote like parts in the several figures of the drawing.

1 represents a post of the window casing, and 2 generally denotes the outside stop which is made of metal.

Referring to Figures 1, 2, 3 and 6, this outside stop comprises a comparatively wide member 3 which has a leg 4 abutting the post, a member 5 that extends inwardly and is spaced from the post and is then stepped flush with the leg 4 and abuts the post, as shown at 6, and immediately

beyond the riser 7 of the stepped portion is a comparatively narrow member 8 which is integral with the stop 2 and parallel to the member 3, the spacing between the riser 7 and member 8 forming a groove 9, a protrusion 10 being formed at the end of the member 8. The portion 6 extends beyond the member 3 and terminates in a lip 11 that is parallel to said member.

This stop is secured to the post, at suitable intervals by screws 12 (only one of which is shown) the space between the member 5 and the post preferably containing any suitable packing 13, such as felt, so as to prevent dirt or moisture from entering the vehicle.

The window sash glass 14 has its side edges contained and adapted to function within felt channels, as shown at 15, and these channels are backed by a metal retaining strip which has a portion 16 that extends behind the channel, and an outer portion 17 that extends along the outer face of the channel and abuts snugly against the inner surface of the member 3, said portion 17 terminating in a lip 18 that overlaps the outer leg of the channel and serves to keep the latter in place.

The portion 16 is backed by a spring 19 that is secured by the screws 12 to the member 5, so that it will be clear that the felt channel and its retainer can be forced toward the post by thrusting the glass 13 toward the post.

The complete assembly of all parts including the inside stop 20 is effected as follows:—

The inside stop is H-shaped, and before it is applied, the inner leg of the felt channel is pulled inwardly and the sash positioned by first placing one side thereof within its channel, forcing the latter toward the adjacent post and then locating the other side of the sash within its channel; the inside stop is then positioned by rolling one leg over the member 8, and entering it underneath the edge of the felt channel, at an angle, as shown in full lines in Fig. 3, the clearance provided between the riser 7 and the felt channel permitting this, and then rotating it slightly beyond a perpendicular position, as shown in dot-and-dash lines, the felt channel being compressed in this position. At the same time the stop is pushed toward its seat, and the hand pressure released whereupon it assumes the position shown in Fig. 2. The felt channel exerts pressure on the outer end of the stop pressing the inner end against the step 7 about the protrusion 10 as a fulcrum. In this position a lip 21 on the stop overlaps said leg and co-operates with the lip 18 in holding the felt channel in place. The dot-and-dash line

a—b in Fig. 3 indicates the position of the adjacent ends of the sash lock and bottom and top rails of the vertically slidable sash, and it will be seen that by the rolling engagement and disengagement of the removable stop the latter may be inserted and removed without interference with these parts.

When the inside stop is thus placed in position, it will be noted that the felt channel and its retainer are confined between the outside and inside stops, and that the inside stop is held in position by the groove 9, the inward thrust of the adjacent leg of the channel and the member 8. The movement of the stop, after insertion into place, by outward rotation, is limited, as the end of the inside leg contacts the rise 7 and the middle portion contacts the protrusion 10. While screws or other means are used to prevent the stop from coming off and for holding it in place, this limitation of outward rotation is important, as it prevents the stop from getting into a non-operating position, in the event that the screws or other means for holding the stop become loose or do not hold tightly. For the purpose of securing the stop I have shown drive screws 22 (only one shown) screwed into the part 6 of the outside stop and through the part 23 of the inside stop, the heads of the screws impinging against said part 23, as shown in Figure 6.

The protrusion 10 of the member 8, it will be observed, minimizes the outward movement permitted by the clearances between the inner and outer legs of the stop and the member 8 and lip 11, these clearances being desirable in order to give a reasonably free fit of the stop in the pockets of the outside stop, to give necessary manufacturing tolerances, and to hold the stops in a perpendicular position.

In Fig. 7 I have shown a modification in which the protrusion on the member 8 is in the form of a bent or curved portion 24.

Referring to Figures 4 and 5, a modified form of the invention is shown, in which the outside stop has a comparatively narrow member 25 provided with a protrusion 26 at its end, while the member 5 is spaced from the post as described but is also spaced from the member 25 so as to form a groove 27, the inside stop being integral with the parts of the outside stop just described, and the felt channel retainer being reversed as compared with the retainer shown in Figures 2, 3 and 4, with the lip 18 overlapping the inner leg of the channel.

In this modified construction, the same method of positioning the sash is employed, since in this instance, the sash is put in position from the outside of the vehicle instead of the inside, it being merely necessary to pull the outer leg of the channel outwardly, locate the sash in precisely the manner heretofore described, and then to roll a separate comparatively wide member 28 of the outside stop over the member 25 and force it into the groove 27, this member 28 having a lip 29 which overlaps the adjacent leg of the channel and co-operates with the lip 18 to hold the felt channel in place.

When the member 28 is in the position shown in Figure 5, it is firmly held by the groove 27, the outward thrust of the adjacent channel leg and the member 25.

In fact, there is no difference in invention between the structures shown at Figures 2 and 5, one being a reversal of the other, so as to provide for the installation of the window sash from the inside or outside of a vehicle.

The spaced portion 5 is not absolutely necessary so long as the grooves 9 and 27 are formed in the outside stop for the purpose heretofore explained, and therefore the invention is not limited in this respect.

I have illustrated and described preferred and satisfactory embodiments of the invention, but it will be obvious that changes may be made therein, within the spirit and scope thereof, as defined in the appended claims.

Having thus described my invention what I claim and desire to secure by Letters Patent is:—

1. In a window construction, a window post, a glass sash having an edge disposed in relation to said post, a stop fixed to said post disposed and adapted to retain said glass sash at one side, a removable stop disposed at the other side having inner and outer spaced legs disposed in planes parallel to the plane of the sash and forming a channel between them, and a retaining member disposed in a plane parallel to the plane of the sash engaged in said channel between said legs adapted to engage the inner leg of said removable stop to retain one edge in relation to said post and another edge in relation to said glass sash, the outer leg enclosing and concealing said retaining member.

2. In a window construction, a window channel post, a glass sash member having an edge portion disposed in relation to said post, said post comprising a fixed stop disposed at one side of said sash member, a transverse base opposed to the edge portion of said sash member, and a removable stop engaged at the other side of said sash member having one edge portion engaged with said base and the other edge portion engaged with said sash member, abutment means on said base adapted to engage the inner side of said removable stop member adjacent its base engaging edge, said removable stop being engaged at its inner side adjacent its other edge with said sash member, said abutment means terminating in spaced relation to the edge of said sash member whereby a clearance space is provided extending in the direction of said fixed stop between said abutment means and said sash member, a retaining member secured to said base outwardly spaced from said abutment means engaging said removable stop at its outer side intermediate the edges of said removable stop and retaining said removable stop in engagement with said abutment means and said sash member, said removable stop adapted to be engaged and disengaged through rolling movement about said retaining member during which the base edge of said removable stop moves in said clearance space.

3. In a window construction, a window channel post, a glass sash member having an edge portion disposed in relation to said post, said post comprising a fixed stop disposed at one side of said sash member, a transverse base opposed to the edge portion of said sash member, and a removable stop engaged at the other side of said sash member having one edge portion engaged with said base and the other edge portion engaged with said sash member, abutment means on said base adapted to engage the inner side of said removable stop member adjacent its base engaging edge, said removable stop being engaged at its inner side adjacent its other edge with said sash member, said abutment means terminating in spaced relation to the edge of said sash member whereby a clearance space is provided extending in the direction of said fixed stop between said abutment means and said sash member, a retaining

member secured to said base outwardly spaced from said abutment means having a stop engaging portion transversely opposed to said clearance space and engaging said removable stop at its outer side intermediate the edges of said removable stop and retaining said removable stop in engagement with said abutment means and said sash member, said removable stop adapted to be engaged and disengaged through rolling movement about said retaining member during which the base edge of said removable stop moves in said clearance space.

4. In a window construction, a window channel post, a glass sash member having an edge portion disposed in relation to said post, said post comprising a fixed stop disposed at one side of said sash member, a transverse base opposed to the edge portion of said sash member, and a removable stop engaged at the other side of said sash member, abutment means on said base adapted to engage the inner side of said removable stop member adjacent its base engaging edge, said removable stop being engaged at its inner side adjacent its other edge with said sash member, said abutment means terminating in spaced relation to the edge of said sash member whereby a clearance space is provided extending in the direction of said fixed stop between said abutment means and said sash member, a retaining member secured to said base outwardly spaced from said abutment means having an inwardly projecting fulcrum portion transversely opposed to said clearance space and engaging said removable stop at its outer side intermediate the edges of said removable stop and retaining said removable stop in engagement with said abutment means and said sash member, said removable stop adapted to be engaged and disengaged through rolling movement about said fulcrum portion of said retaining member during which the base edge of said removable stop moves in said clearance space.

5. In a window construction, a window channel post, a glass sash member having an edge portion disposed in relation to said post, said post comprising a fixed stop disposed at one side of said sash member, a transverse base opposed to the edge portion of said sash member, and a removable stop engaged at the other side of said sash member, compressible means associated with said sash member and yieldable under pressure toward said fixed stop, abutment means on said base adapted to engage the inner side of said removable stop member adjacent its base engaging edge, said stop being engaged at its inner side adjacent its other edge with said sash member, a retaining member secured to said base outwardly spaced from said abutment means having a stop engaging portion engaging said removable stop at its outer side intermediate the edges of said removable stop and retaining said removable stop in engagement with said abutment means and said sash member, there being clearance at the outer side of said removable stop between said stop engaging portion and the base whereby outward rocking movement of said removable stop away from said abutment means is permitted, said removable stop being movable toward said sash member during said rocking movement through yielding of said compressible means.

6. In a window construction, a window channel post, a glass sash member having an edge portion disposed in relation to said post, said post comprising a fixed stop disposed at one side of said sash member, a transverse base opposed to the

edge portion of said sash member, and a removable stop engaged at the other side of said sash member, compressible means associated with said sash member and yieldable under pressure toward said fixed stop, abutment means on said base adapted to engage the inner side of said removable stop member adjacent its base engaging edge, said stop being engaged at its inner side adjacent its other edge with said sash member, a retaining member secured to said base outwardly spaced from said abutment means having an inwardly projecting stop engaging fulcrum portion engaging said removable stop at its outer side intermediate the edges of said removable stop and retaining said removable stop in engagement with said abutment means and said sash member, there being clearance at the outer side of said removable stop between said stop engaging fulcrum portion and the base whereby outward rocking movement of said removable stop away from said abutment means is permitted, said removable stop being movable toward said sash member during said rocking movement through yielding of said compressible means.

7. In a window construction, a window channel post, a glass sash member having an edge portion disposed in relation to said post, said post comprising a fixed stop disposed at one side of said sash member, a transverse base opposed to the edge portion of said sash member, and a removable stop engaged at the other side of said sash member, compressible means associated with said sash member and yieldable under pressure toward said fixed stop, abutment means on said base adapted to engage the inner side of said removable stop member adjacent its base engaging edge, said stop being engaged at its inner side adjacent its other edge with said sash member, said abutment means terminating in spaced relation to the edge of said sash member whereby a clearance space is provided between said abutment means and said sash member extending in the direction of said fixed stop, a retaining member secured to said base outwardly spaced from said abutment means having a stop engaging portion engaging said removable stop at its outer side intermediate the edges of said removable stop and retaining said removable stop in engagement with said abutment means and said sash member, said removable stop adapted to be engaged and disengaged through rolling movement about said retaining member during which the base edge of said removable stop moves in said clearance space, there being clearance at the outer side of said removable stop between said stop engaging portion and the base whereby outward rocking movement of said removable stop away from said abutment means is permitted, said removable stop being movable toward said sash member during said rocking movement through yielding of said compressible means.

8. In a window construction, a window channel post, a glass sash having an edge disposed in relation to said post, a resilient channel carried by said post within which the edge of said sash tracks, said post comprising a fixed stop disposed at one side of said resilient channel against which one leg of said resilient channel firmly impinges, a transverse base opposed to the transverse portion of said resilient channel, and a removable stop disposed at the other side of said resilient channel against which the other leg of said resilient channel impinges, an edge of said removable stop being engaged with said

transverse base, said other leg of said resilient channel adapted to flare outwardly when unconfined by said removable stop to permit the transverse assembly and disassembly of the edge of said sash with said channel strip, spring means interposed between said transverse base and the transverse portion of said resilient channel pressing the latter toward the edge of said sash, abutment means on said base adapted to engage the inner side of said removable stop member adjacent its base engaging edge, there being a clearance space between said abutment means and said resilient channel extending transversely toward said fixed stop, a retaining member secured to said base outwardly spaced from said abutment means engaging said removable stop at

its outer side intermediate the edges of said removable stop and retaining said removable stop in engagement with said abutment means and said resilient channel, said removable stop adapted to be engaged and disengaged through rolling movement about said retaining member during which the base edge of said removable stop moves in said clearance space.

9. The invention as defined in claim 8, further characterized in that said removable stop is provided at its outer end with a transversely extending flange adapted to engage the edge of the leg of said resilient channel engaged by said removable stop and against which it is urged by said spring means.

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