Oct. 27, 1942. J. SCHUNK 2,299,954

BUS OR CAR WINDOW CONSTRUCTION

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Fig. 1.

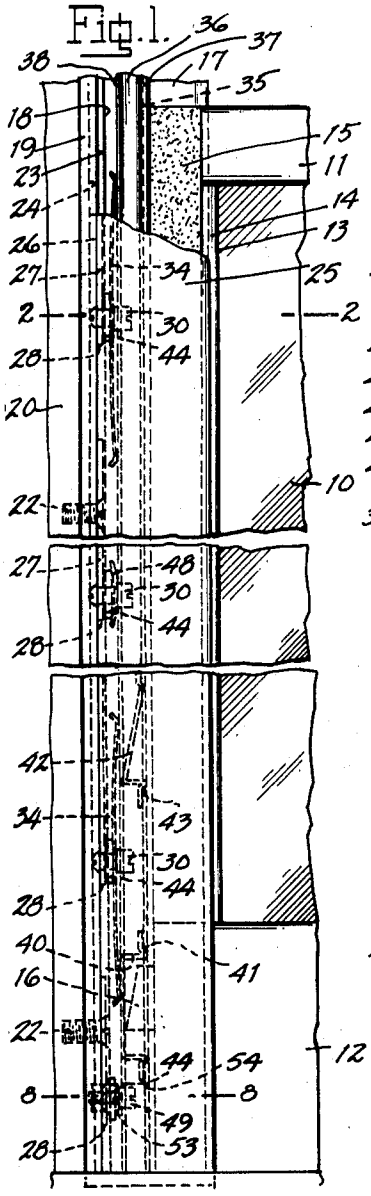


Fig. 3.

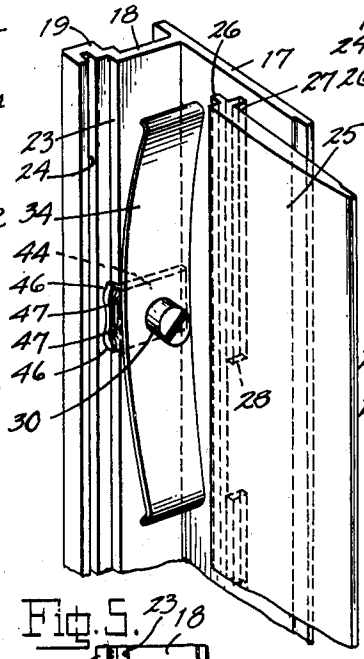


Fig. 4.

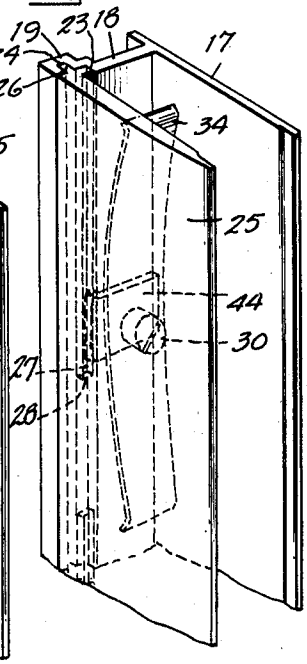


Fig. 5.

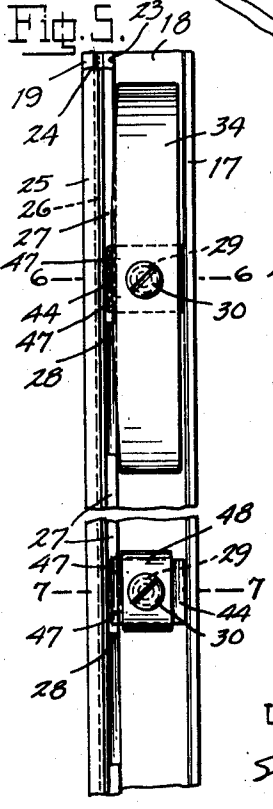


Fig. 6.

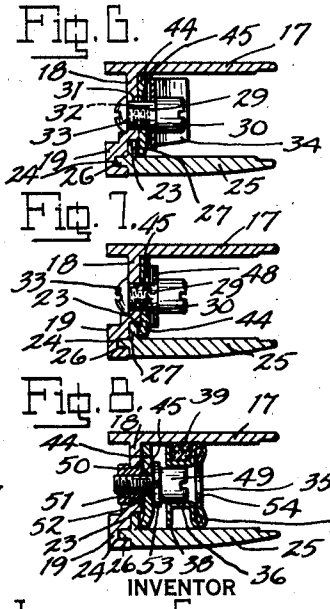
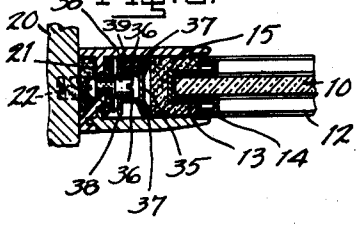


Fig. 7.

Fig. 8.

Fig. 2.



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Smith & Matteson

ATTORNEYS

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BUS OR CAR WINDOW CONSTRUCTION

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Fig. 9.

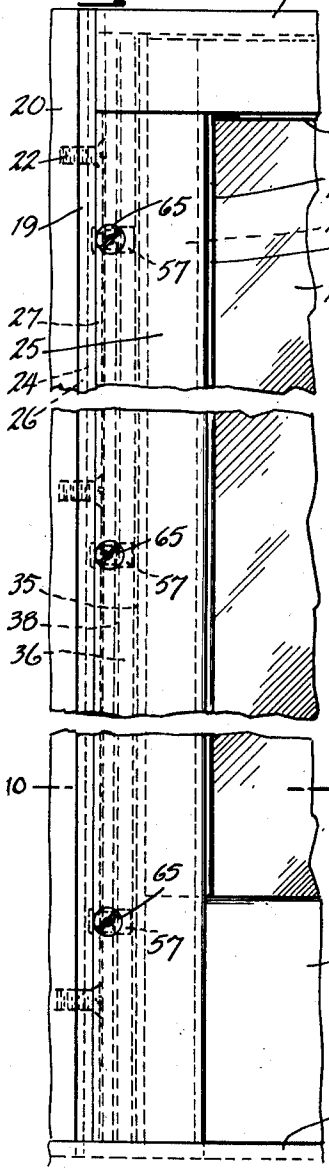


Fig. 11.

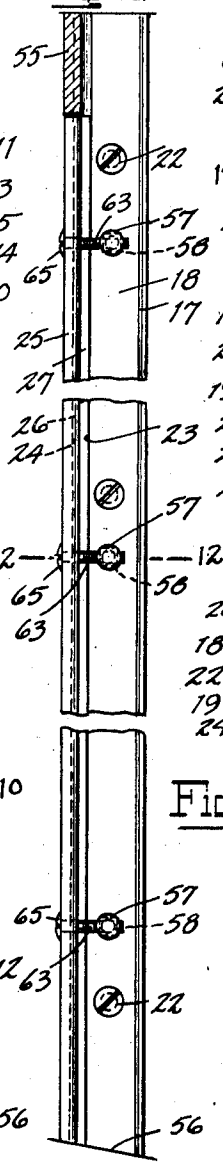


Fig. 13.

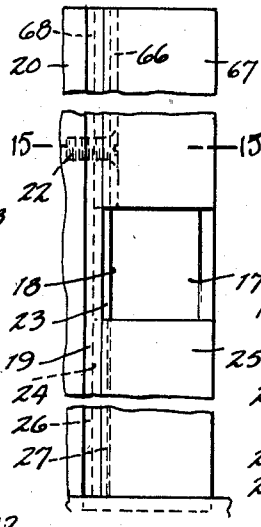


Fig. 14.

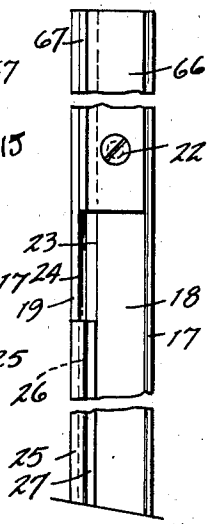


Fig. 15.

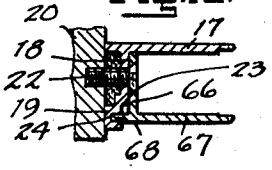


Fig. 16.

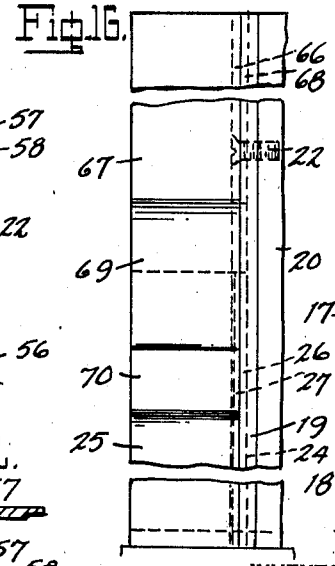


Fig. 17.

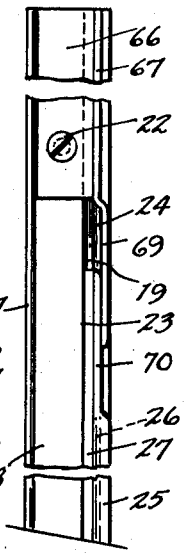


Fig. 10.

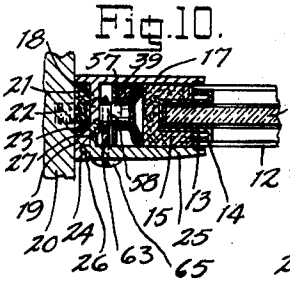
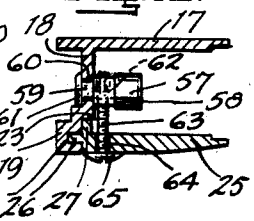


Fig. 12.



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UNITED STATES PATENT OFFICE

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BUS OR CAR WINDOW CONSTRUCTION

Joseph Schunk, Newark, N. J., assignor to The National Lock Washer Company, Newark, N. J., a corporation of New Jersey

Application January 14, 1941, Serial No. 374,309

14 Claims. (Cl. 189—73)

The present invention relates to improvements in bus or car window construction, and more particularly to the vertical channel posts or guideways within which the window sash is supported at its vertical side edges, the invention contemplating either a window construction in which the sash is of the movable type, to be raised and lowered, or of the stationary type.

It is an object of the invention to provide a channel post structure consisting of a fixed stop member, comprising a base and a projecting flange to be secured to the side vertical frame portion of the window opening, and a removable stop member attachable to the base of the fixed stop in opposed spaced relation to the flange to complete the channel, the invention contemplating a structure in which the removable stop member may be either at the inside or the outside of the window structure, depending upon the particular requirements of the installation.

Heretofore it has been proposed to provide a removable stop member secured to the fixed stop member by means of bayonet slot and pin connections which are adapted to be engaged and disengaged by vertical movement between the fixed and movable stops. This type of movable stop is objectionable because of the necessity for employing a hold down screw, and the fact that exact tolerances have to be maintained in order to obtain a relatively tight fit, and any appreciable wear upon the engaging surfaces of the bayonet slots and pins will cause looseness. Also an exact dimensional relation has to be maintained between the bayonet slots and pins and the surface of the sill in order to insure a closed engaging relation between the removable stop and the sill when the former is moved vertically downwardly into engaged position.

It is an object of the present invention to provide a channel post structure in which the removable stop member may be readily engaged with the base of the fixed stop member to provide a closely engaged interlocking relation between them, and to provide securing means which will securely retain the engaged position of the removable stop member, irrespective of relative wear between the parts and of slight dimensional variations. It is a further object to provide a structure which will permit the removable stop to be vertically moved downwardly without limitation, while at the same time maintaining a uniformly tight fit in any position of vertical movement, so that its lower end can be brought into closely fitting relation with the sill.

Another object is to provide a channel post structure including spring means arranged to exert side pressure upon the edge of the window sash, and which spring means also acts to provide a spring reaction in the retaining means for the removable stop member, to the end that there is a yieldable engagement of the retaining means with the removable stop which permits of dimensional variations while still obtaining the necessary holding effect. Another object is to provide a channel post structure in which the exposed surfaces may present a smooth unbroken appearance, free from screws, and which will preclude tampering with or loosening by passengers or unauthorized persons.

A still further object is to provide a structure in which a single form of fixed stop may be used in any of the various arrangements to which the invention is adaptable, that is, for either inside or outside removal of the window sash, and for either movable or fixed window sashes, as well as window constructions in which the structure of the car or bus necessitates different top or header rail arrangements in the window frame.

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

In the drawings:

Fig. 1 is a fragmentary elevation of one side of a window construction, according to an exemplary illustrated embodiment of the invention, certain of the parts being broken away.

Fig. 2 is a horizontal sectional view taken along the line 2—2 of Fig. 1.

Fig. 3 is a perspective view showing the fixed stop member and the removable stop member in separated relation.

Fig. 4 is a perspective view of the fixed removable stop members in assembled relation.

Fig. 5 is a fragmentary end elevation from the inner side of the channel structure, the sash and the backing channel strip for the sash being removed, this view being on a larger scale than the showing in Figs. 1 and 2.

Fig. 6 is a horizontal sectional view, taken along the line 6—6 of Fig. 5.

Fig. 7 is a horizontal sectional view, taken along the line 7—7 of Fig. 5.

Fig. 8 is a horizontal sectional view, taken along the line 8—8 of Fig. 1.

Fig. 9 is a fragmentary elevation of one side of a window construction, according to a modified

form of the invention especially adapted for a stationary sash.

Fig. 10 is a horizontal sectional view, taken along the line 10—10 of Fig. 9.

Fig. 11 is an end elevation of the open side of the channel post shown in Fig. 9, the window sash and the backing channel strip being removed.

Fig. 12 is a horizontal sectional view, on an enlarged scale, taken along the line 12—12 of Fig. 11.

Fig. 13 is a fragmentary side elevation showing an extension structure for the channel post of the type in which the removable stop member is at the inner side of the window.

Fig. 14 is an end elevation of the open side of the channel post shown in Fig. 13.

Fig. 15 is a horizontal sectional view taken along the line 15—15 of Fig. 13.

Fig. 16 is a fragmentary side elevation showing an extension structure for the channel post of the type in which the removable stop member is disposed at the outside of the window.

Fig. 17 is an end elevation of the open side of the channel post shown in Fig. 16.

Similar reference characters indicate corresponding parts throughout the several figures of the drawings.

Referring to the drawings, the window sash comprises a glass 10, having a top rail 11, a bottom rail 12, and a pair of vertical side straps 13 connecting the top and bottom rails, only one of these side straps and the cooperating channel post or guideway being shown. The side strap is of U-shape channel form in cross-section to receive the vertical edge of the glass, its vertical edges being bent outwardly and rearwardly as at 14—14, the rearward bent portions adapted to engage the edges of the felt facing strip 15, of U-shape cross-section, disposed about the side strap. The facing strip 15 forms a part of the window sash and in the case of the movable sash, adapted to be raised and lowered, moves with it. Also in the case of the movable sash the bottom rail 12 is provided at each end with a latch bolt 16, which normally projects outwardly through a slot in the facing strip 15, and is adapted to be operated by the usual latch operating mechanism, not shown, carried by the bottom rail, actuation of the latch adapted to retract the bolt out of engagement with the recessed locking and rack structure in the side channel post, as will presently more fully appear, to permit vertical raising and lowering of the sash.

The vertical edges of the sash are each engaged in a channel post or guideway, and it is with the construction of this channel post or guideway that the present invention is particularly concerned. As will presently more fully appear the basic structure of this channel post or guideway is such that it is adapted for use in connection with either a movable sash or a stationary sash, and may be arranged in the window opening so that its removable stop member which is removable for the purpose of removing and replacing a sash may be disposed either at the outside or the inside depending upon the particular requirements. In the following description the terms "outwardly" and "inwardly" will refer to the directions toward the window frame and the glass sash respectively, and the terms "rearwardly" and "forwardly" will refer to the directions toward the outer and inner sides of the window, respectively. The channel post or guideway, according to the invention, consists of a fixed stop member to be secured to the vertical side of the window frame opening and which may either be outwardly disposed or inwardly disposed, and a removable stop member to be detachably secured to the fixed stop member, this being either inwardly or outwardly disposed depending upon the arrangement of the fixed stop member.

As illustrated in Figs. 1 to 8, the fixed stop member is outwardly disposed and is shown engaged by a movable sash. The fixed stop member is of generally L-shape in cross-section and comprises a flange 17 constituting one leg of the channel, a base 18, disposed at right angles to the flange 17 and inwardly offset from the foot end thereof, and provided at its forwardly projecting edge with an outwardly offset rib portion 19, the base of which is in the plane of the base or foot end of the flange 17 and constitutes therewith the spaced parallel seating surfaces of the fixed stop member for engagement with the surface of the vertical window frame pillar 20, there being a longitudinal groove thus formed between the seating surfaces within which a strip of insulating material 21, such as felt, may be engaged in compressed relation to form a seal between the fixed stop member and the frame when the fixed stop is secured thereto by means of the screws 22, as shown clearly in Fig. 2.

At the forward end of the base 18 there is provided a shoulder 23 forming a right angle corner recess with the inner surface of the offset rib portion 19, and within this rib portion in forwardly spaced relation to the shoulder 23 there is provided a longitudinal groove 24, for the purpose of interlockingly receiving the removable stop member, as will presently more fully appear.

The removable stop member 25 which is disposed in forwardly spaced parallel relation to the flange 17 of the fixed stop member is provided at its foot or base edge with a rearwardly offset longitudinal rib 26 adapted to interlockingly seat in the groove 24 and to have sliding movement therein, and is provided at its rearward face adjacent the rib 26, with a longitudinal flange 27 adapted to seat in the corner recess against the shoulder 23 of the base 18, the flange 27 being preferably slightly less in thickness than the depth of the shoulder 23, so that its forward surface is stepped slightly from the inner surface of the base 18, for a purpose presently to be more fully pointed out.

At suitable intervals the flange 27 of the removable stop member is provided with cut-out notches 28 for cooperation with retaining lug means provided upon the fixed stop member at suitable intervals, the notches permitting the removable stop member to be engaged with the fixed stop member by engaging the lug means in the notches, the removable stop member adapted thereupon to be slidably moved longitudinally to bring the flange 27 into interlocking relation beneath the lug means.

The lug means are supported by the stud members which position and support the backing channel strip disposed within the channel post and which engages the edge of the sash, and certain of the supporting studs are provided with springs which exert an outward pressure upon these channel strips. As it is desirable to have a greater number of retaining lugs for the removable stop member than spring members for exerting pressure on the sash, modified forms of supporting posts without sash pressing springs may be employed in cooperation with the spring

supporting posts, so that while these different types of posts may be considered modifications of the invention they may be used concurrently in the same window structure.

The spring supporting means is shown clearly in Figs. 3 to 6, and consists of a stud portion 29 provided with a shouldered head 30, slotted for the purpose of engagement by a screw driver, the stud portion 29 being engaged in a hole 31 in the base 18 of the fixed stop member and provided with a threaded bore 32 engaged by a retaining screw 33, the head of which projects beyond the hole 31 and thus retains the stud against inward movement. Upon the stud there is engaged a centrally apertured elongated leaf spring 34, this spring being bowed and adapted to be compressed when engaged with the backing channel strip of the sash, to exert outward pressure upon the edge of the sash, the head 30 being engaged within the backing channel strip to position it within the channel post.

The backing channel strip comprises a vertical face portion 35, and side portions 36—36, the corners between the face portion and the side portions being each bent into a fin-like formation 37 disposed diagonally outwardly to provide spaced vertically disposed line contact bearing surfaces to engage the vertical face of the felt strip 15. The free ends of the side portions 36 are bent outwardly at right angles forming flanges 38—38, thus providing with the corner portions 37 vertical pockets at each side of the channel strip. Within the vertical pocket adjacent the outside of the window, in this case adjacent the flange 17, there is engaged a felt weather-seal strip 39 which bears upon the flange 17. The flanges 38—38 are adapted to be engaged by the bowed lead spring 34 and the vertical channel space between the side portions 36—36 is adapted to be engaged by the heads 30 of the stud posts 29 which thus position the backing channel strip and permit of its lateral yielding under the reaction of the compressed spring 29 and the felt strip 15, during the raising and lowering movement of the window, thus providing a structure which will permit of easy raising and lowering movement while maintaining an effectual sealed relation. Near its lower end the backing channel strip has a rectangular locking recess forming strip 40 secured by welding in a slot 41 in the face 35 of the strip, and at suitable intervals above this locking recess there are provided inclined faced rack forming strips 42 secured by welding in slots 43 in the face 35, the locking recess 40 adapted to receive the bolt 16 to prevent raising of the window and the rack forming members 42 adapted to receive the bolt to support the sash in raised positions.

The lug member 44 for retaining cooperation with the removable stop member is of rectangular shape and is provided with a hole 45 engaged by the stud 29, the lug being disposed against the base 18 of the fixed stop member beneath the spring 29 and its inner edge being disposed against the flange 17 to prevent relative turning of the lug while permitting it to have movement upon the stud. As shown clearly in Fig. 6 there is a slight clearance between the surface of the lug and the spring when the spring is not compressed, that is, when the sash is disengaged from the channel post. In the engaged relation of the sash, as shown in Fig. 1, the spring is compressed and thereupon exerts pressure upon the lug, pressing it tightly against the base 18 and at the same time permitting spring reaction to take place when sufficient opposing pressure is exerted upon the lug. At its forward end the lug projects beyond the shoulder 23 and is bent at a slight inclined angle toward the surface of the rib 19, and preferably this angularly bent projecting portion is provided at each end with slightly outwardly flared corners 46—46 produced by indentations 47—47 for the purpose of providing guide surfaces to guide the flange 27 into engagement beneath the lug. This arrangement, in cooperation with the spring reaction and the spring pressure exerted to hold the lug in engagement with the flange, permits of easy engagement of the flange 27 when the removable stop is slidably moved longitudinally and provides an effectual retaining action irrespective of wear and of slight dimensional variations that may occur in the different parts.

At points along the channel post where it is desired to secure the removable strip and where it is not necessary to provide the sash pressing springs 34 the post structure is modified as shown in Fig. 7. In this case the spring 37 is dispensed with and in its place there is provided a short bowed spring 48, preferably of rectangular form, its intermediate portion being apertured and engaged beneath the head 30 and its end portions projecting over and engaging the edges of the lug to thus exert constant spring pressure thereon, so that the spring reaction in connection with these lugs is substantially the same as that in connection with the lugs cooperating with the springs 34.

While the frictional resistance set up between the flange 27 and the lugs engaged therewith under spring reaction is sufficient to effectually retain the removable stop in place, while at the same time permitting it to be longitudinally moved to bring the notches 28 into register with the lugs for the purpose of removal, it may under certain conditions be desirable to provide a supporting post retaining means which will hold the removable stop under an adjustable frictional resistance which may be varied as desired between a positive holding effect and a relatively loose holding effect, and such retaining means may as illustrated in Fig. 1 be employed in cooperation with the two types of supporting post means shown in Figs. 6 and 7. It is preferably provided either near the lower end of the post or near the upper end, or at both of these points, being in any case at a position where it can be reached by means of a screw driver, when the window sash is raised in the case of the lower position, or by reaching above the upper end of the window sash in the case of the upper position. The lug 44 is the same as that employed in the structures shown in Figs. 6 and 7 and is engaged by a headed screw post 49 screwed into a threaded bushing 50, secured in a hole 51 in a base 18 preferably by spinning a portion of the bushing into a countersink 52 in the hole 51. A spring lock washer 53 is engaged between the head of the screw and the lug 44 so that by tightening down the screw the lug may be brought into firm relation with the flange 27, the degree of frictional resistance to relative movement being determined by the degree of tightening of the screw. A hole 54 is provided in the face 35 of the backing channel strip through which a screw driver may be engaged to turn the screw.

In Figs. 9 to 12 I have illustrated a modification of the invention particularly adapted for use with a stationary sash, although it will be

understood that the structure may also be employed in connection with a movable sash. The frame for the stationary sash structure includes a horizontal header rail 55, and the removable stop member 25 makes a fit between this header rail and the sill cap 56, so that it is not adapted to be slidably moved longitudinally as in the case of the first embodiment. The flange 27 is not provided with notches 28, as in the case of the first embodiment. Upon the base portion 18 of the fixed stop there are provided a series of post members for positioning and supporting the backing channel strip engaged with the felt strip 15 of the window sash, these stud members each consisting of a cylindrical head portion 57 for engaging the channel of the backing channel strip, a rectangular cross-section stud portion 58 and a reduced cylindrical shank portion 59 engaged in a hole 60 in the base 18 and secured by riveting over a head 61. Obviously other suitable securing means may be employed, as for instance a screw. The stud portion 58 is provided with a threaded hole 62, which is engaged by a screw 63 carried in a hole 64 in the removable stop 25, the head 65 of this screw being disposed at the outer surface of the stop member. The screws 63 serve to secure the removable stop member in its operative position in relation to the fixed stop. In order to remove the removable stop member for the purpose of removing or replacing a window sash the screws 63 are backed out to the point where they become disengaged from the studs 58, and thereupon the stop may be shifted inwardly to disengage the flange 26 of the removable stop member from the groove 24 of the fixed stop member.

In certain installations in connection with the type of removable stop, as shown in the modification illustrated in Figs. 1 to 8, the car or bus structure is such that sufficient space is provided in the transom to permit of the vertical movement of the removable stop member to engage and disengage it, and in other constructions a sufficient clearance may be provided in relation to the header rail of the window frame to permit of this vertical movement. In other constructions, however, as for instance where the ceiling structure does not allow for sufficient clearance in the transom, and in installations where the removable stop member is provided at the outside, it is desirable to provide a fixed extension means at the upper end of the fixed stop member. Extension structures for this purpose are shown in Figs. 13 to 17, Figs. 13 to 15 showing the extension structure for use where the removable stop member is provided at the inside, and Figs. 16 and 17 showing the extension structure for use where the removable stop member is provided at the outside.

Referring to Figs. 13 to 15 the fixed stop member is extended above the upper end of the removable stop member 25 and in spaced relation above the upper end of the removable stop member, for a distance sufficient to permit of its vertical engaging and disengaging movement, there is provided an extension stop member of generally L-shape in cross-section, and consisting of a base portion 66 and a flange portion 67, the base portion 66 being seated upon the base 18 of the fixed stop member and secured by the attaching screws 22. At the base of the flange portion 67 there is provided a longitudinal rib extension 68 which interlocking seats in relation in the groove 24.

In the case of the removable stop member being provided at the outside, as shown in Figs. 16 and 17, the extension member is substantially the same as that shown in Figs. 13 to 15, but is provided at the lower end of the flange 67 with a downwardly projecting outwardly offset apron portion 69 beneath which there is engaged in overlapping relation a reduced thickness upper end portion 70 of the removable stop member, this arrangement providing a sealed connection between the removable stop member and the extension which at the same time permits vertical sliding movement of the removable stop member.

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 side channel post for receiving the edge of a window sash, comprising a fixed stop member adapted to be secured within the window opening and including a base portion and a flange portion projecting therefrom in spaced relation to a longitudinal edge thereof, said base portion having an angular recess extending along said longitudinal edge including an outwardly offset seat surface and an abutment shoulder, there being a longitudinal groove in said seat intermediate said shoulder and the longitudinal outer edge of said seat, a removable stop member having a base portion parallel to and engageable with said seat and shoulder and having a longitudinal rib spaced from a longitudinal edge thereof and engageable with said groove, and retaining means connected between said removable stop member and said base adapted to removably retain said removable stop member in engagement with said seat and groove.

2. In a window construction, a side channel post for receiving the edge of a window sash, comprising a fixed stop member adapted to be secured within the window opening and including a base portion and a flange portion projecting therefrom in spaced relation to a longitudinal edge thereof, said base portion having an angular recess therein extending along said longitudinal edge including an outwardly offset seat surface and an abutment shoulder, there being a longitudinal groove in said seat intermediate said shoulder and the longitudinal outer edge of said seat, a removable stop member having an inwardly extending seating flange parallel to and engageable with said seat and shoulder and having a longitudinal rib at its underside spaced from a longitudinal edge thereof and engageable with said groove, and retaining means connected between said removable stop member and said base and disposed over said seating flange adapted to removably retain said removable stop member in engagement with said seat and groove.

3. In a window construction, a side channel post for receiving the edge of a window sash, comprising a fixed stop member adapted to be secured within the window opening and including a base portion and a flange portion projecting therefrom in spaced relation to a longitudinal edge thereof, said base portion having an angular recess therein extending along said longitudinal edge including an outwardly offset seat surface and an abutment shoulder, there being a longitudinal groove in said seat intermediate said shoulder and the longitudinal outer edge of said seat, a removable stop member having an out-

wardly extending seating flange parallel to and engageable with said seat and shoulder and having a longitudinal rib at its underside spaced from a longitudinal edge thereof and engageable with said groove, and retaining lug means connected to said base and projected over said seating flange adapted to removably retain said removable stop member in engagement with said seat.

4. In a window construction, a side channel post for receiving the edge of a window sash, comprising a fixed stop member adapted to be secured within the window opening and including a base portion and a flange portion projecting therefrom in spaced relation to a longitudinal edge thereof, said base portion having an angular recess therein extending along said longitudinal edge and forming a seat, there being a longitudinal groove in said seat intermediate its longitudinal edges, a removable stop member having a seating flange engageable with said seat and having a longitudinal rib engageable with said groove, and retaining lug means connected to said base and projected over said seating flange to retain said removable stop member in engagement with said seat, said seating flange having a notch adapted through relative longitudinal movement of said removable stop member to be brought into register with said lug means to permit engagement and disengagement of said removable stop member.

5. In a window construction, a side channel post for receiving the edge of a window sash, comprising a fixed stop member adapted to be secured within the window opening and including a base portion and a flange portion projecting therefrom in spaced relation to a longitudinal edge thereof, said base portion having an angular recess therein extending along said longitudinal edge and forming a seat, there being a longitudinal groove in said seat intermediate its longitudinal edges, a removable stop member having a seating flange engageable with said seat and having a longitudinal rib engageable with said groove, and retaining lug means connected to said base and projected over said seating flange to retain said removable stop member in engagement with said seat, spring means yieldably pressing said lug means toward said base member, said seating flange having a notch adapted through relative longitudinal movement of said removable stop member to be brought into register with said lug means to permit engagement and disengagement of said removable stop member.

6. In a window construction, a side channel post for receiving the edge of a window sash, comprising a fixed stop member adapted to be secured within the window opening and including a base portion and a flange portion projecting therefrom in spaced relation to a longitudinal edge thereof, said base portion having an angular recess therein extending along said longitudinal edge and forming a seat, there being a longitudinal groove in said seat intermediate its longitudinal edges, a removable stop member having a seating flange engageable with said seat and having a longitudinal rib engageable with said groove, and retaining lug means connected to said base and projected over said seating flange to retain said removable stop member in engagement with said seat, screw means adjustably pressing said lug means toward said base, said seating flange having a notch adapted through relative longitudinal movement of said removable stop member to be brought into register with said lug means to permit engagement and disengagement of said removable stop member.

7. In a window construction, a side channel post for receiving the edge of a window sash, comprising a fixed stop member adapted to be secured within the window opening and including a base portion and a flange portion projecting therefrom in spaced relation to a longitudinal edge thereof, said base portion having an angular recess therein extending along said groove in said seat intermediate its longitudinal edges, a removable stop member having a seating flange engageable with said seat and having a longitudinal rib engageable with said groove, and retaining lug means connected to said base and projected over said seating flange to retain said removable stop member in engagement with said seat, screw means adjustably pressing said lug means toward said base, said seating flange having a notch adapted through relative longitudinal movement of said removable stop member to be brought into register with said lug means to permit engagement and disengagement of said removable stop member, and spring means interposed between said screw means and said lug means.

8. In a window construction, a side channel post for receiving the edge of a window sash and a backing channel strip for engaging the edge of said sash within said channel post, said channel post comprising a fixed stop member adapted to be secured within the window opening and including a base portion and a flange portion projecting therefrom in spaced relation to a longitudinal edge thereof, a series of post members secured upon said base projecting therefrom to engage and position said backing channel strip and adapted to retain said strip against outward movement during outward removal of the window sash, a removable stop member engaged with said base along said longitudinal edge, rib and groove connection means between said removable stop member and said base, and retaining means connected between said removable stop member and said post means, adapted to removably retain said removable stop member in engagement with said base member.

9. In a window construction, a side channel post for receiving the edge of a window sash and a backing channel strip for engaging the edge of said sash within said channel post, said channel post comprising a fixed stop member adapted to be secured within the window opening and including a base portion and a flange portion projecting therefrom in spaced relation to a longitudinal edge thereof, a series of post members secured upon said base projecting therefrom to engage and position said backing channel strip, a removable stop member engaged with said base along said longitudinal edge, rib and groove connection means between said removable stop member and said base, a retaining flange on said removable stop member adjacent its base, and retaining lug means connected to said post means and projecting over said retaining flange to retain said removable stop with respect to said base, relative longitudinal movement between said removable stop member and said lug means adapted to disengage said lug means from said flange means.

10. In a window construction, a side channel post for receiving the edge of a window sash and a backing channel strip for engaging the edge of said sash within said channel post, said channel post comprising a fixed stop member adapted to be secured within the window opening and in-

cluding a base portion and a flange portion projecting therefrom in spaced relation to a longitudinal edge thereof, a series of post members secured upon said base projecting therefrom to engage and position said backing channel strip, a removable stop member engaged with said base along said longitudinal edge, rib and groove connection means between said removable stop member and said base, a retaining flange on said removable stop member adjacent its base, and retaining lug means connected to said post means and projecting over said retaining flange to retain said removable stop with respect to said base, spring means carried by said post means adapted to yieldably press said lug means toward said base, relative longitudinal movement between said removable stop member and said lug means adapted to disengage said lug means from said flange means.

11. In a window construction, a side channel post for receiving the edge of a window sash and a backing channel strip for engaging the edge of said sash within said channel post, said channel post comprising a fixed stop member adapted to be secured within the window opening and including a base portion and a flange portion projecting therefrom in spaced relation to a longitudinal edge thereof, a series of post members secured upon said base projecting therefrom to engage and position said backing channel strip, a removable stop member engaged with said base along said longitudinal edge, rib and groove connection means between said removable stop member and said base, a retaining flange on said removable stop member adjacent its base, and retaining lug means connected to said post means and projecting over said retaining flange to retain said removable stop with respect to said base, spring means carried by said post means adapted to engage said backing channel strip under compression and to yieldably press said lug means toward said base, relative longitudinal movement between said removable stop member and said lug means adapted to disengage said lug means from said flange means.

12. In a window construction, a side channel post for receiving the edge of a window sash and a backing channel strip for engaging the edge of said sash within said channel post, said channel post comprising a fixed stop member adapted to be secured within the window opening and including a base portion and a flange portion projecting therefrom in spaced relation to a longitudinal edge thereof, a series of adjustable screw post members secured upon said base projecting therefrom to engage and position said backing channel strip, a removable stop member engaged with said base along said longitudinal edge, rib and groove connection means between said removable stop member and said base, a retaining flange on said removable stop member adjacent its base, and retaining lug means connected to said post means and projecting over said retaining flange to retain said removable stop with respect to said base, relative longitudinal movement between said removable stop member and said lug means adapted to disengage said lug means from said flange means.

13. In a window construction, a side channel post for receiving the edge of a window sash and a backing channel strip for engaging the edge of said sash within said channel post, said channel comprising a fixed stop member adapted to be secured within the window opening and including a base portion and a flange portion projecting therefrom in spaced relation to a longitudinal edge thereof, a series of post members secured upon said base projecting therefrom to engage and position said backing channel strip, a removable stop member engaged with said base along said longitudinal edge, rib and groove connection means between said removable stop member and said base, and retaining screw means connected between said removable stop and said post means adapted to retain said removable stop with respect to said base.

14. In a window construction, a side channel post for receiving the edge of a window sash, comprising a fixed stop member adapted to be secured within the window opening and including a base portion and a flange portion projecting therefrom in spaced relation to one longitudinal edge, an extension stop member secured to said base member at its upper end portion adjacent said edge, and a removable stop member engaged with said base portion adjacent said edge for relative vertical sliding movement, the upper end of said removable stop member being spaced from said extension stop member.

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