Aug. 20, 1935. T. G. CONWAY 2,012,156

BUS OR CAR WINDOW CONSTRUCTION

Filed Jan. 13, 1934

Fig. 1.

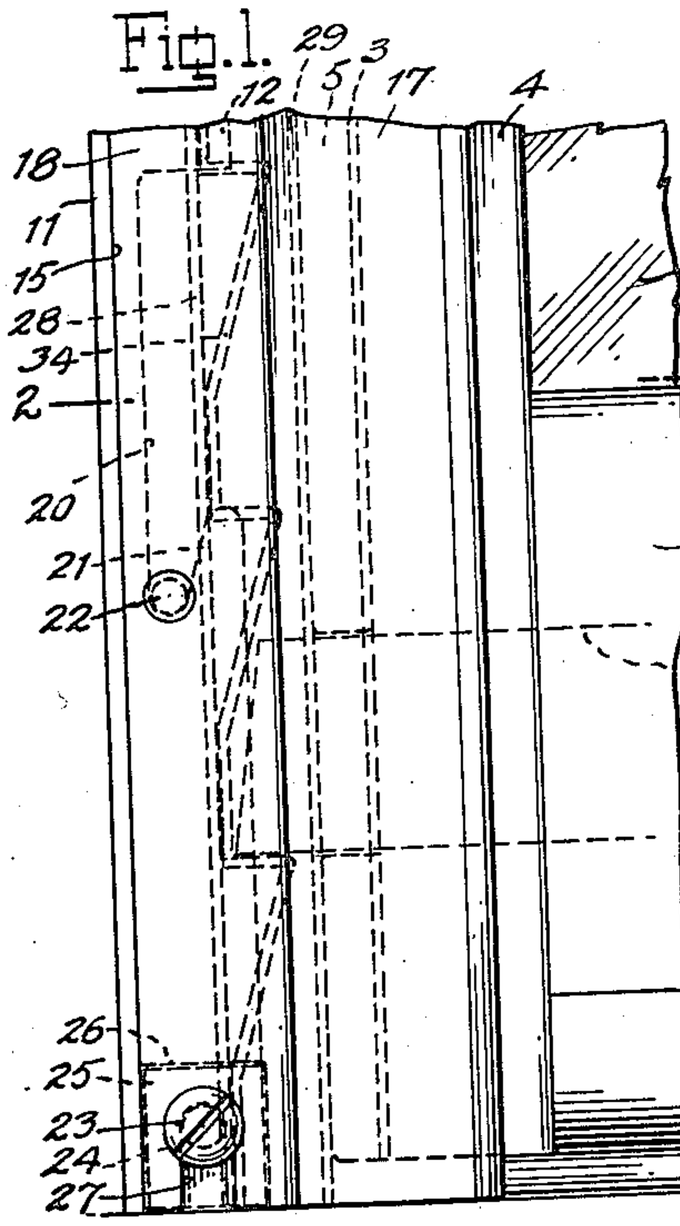


Fig. 3.

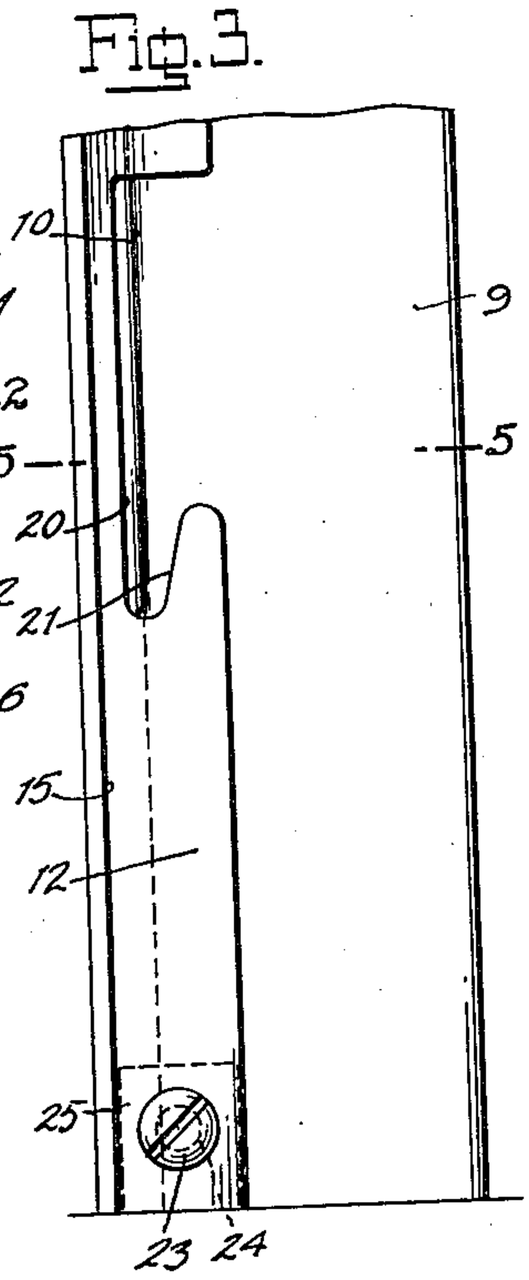


Fig. 4.

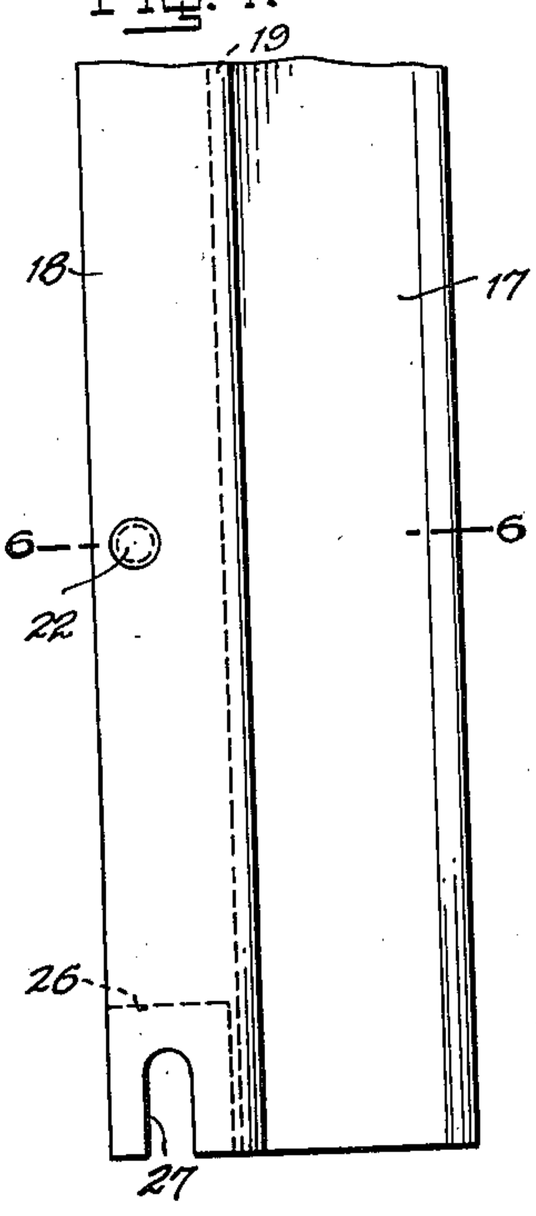


Fig. 2.

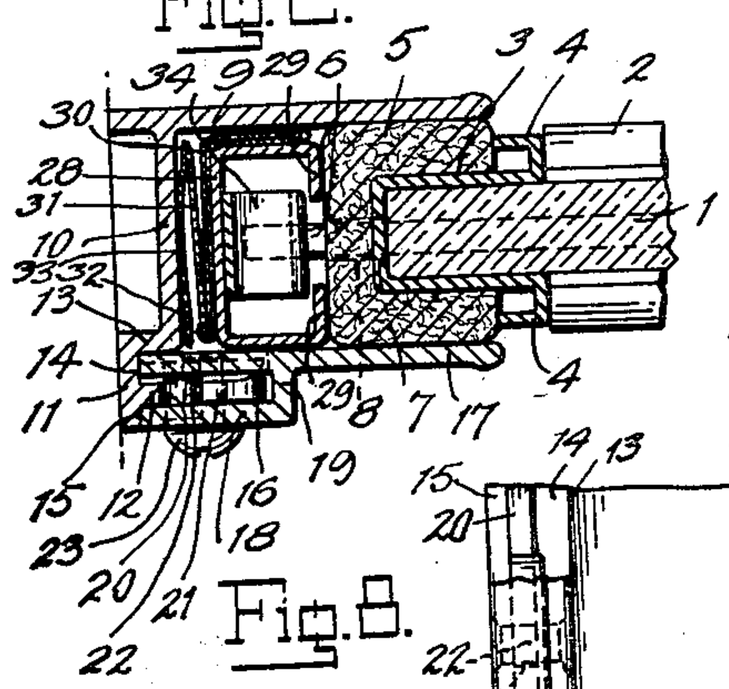


Fig. 5.

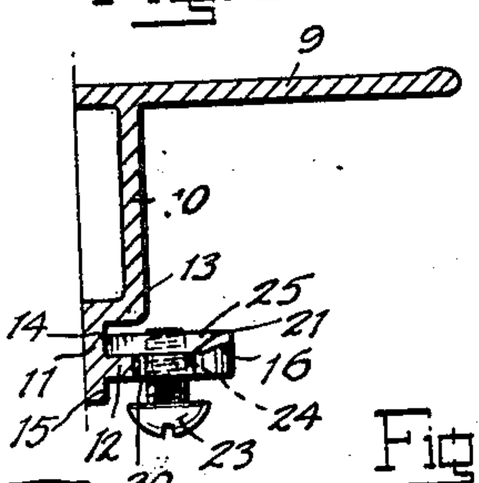


Fig. 6.

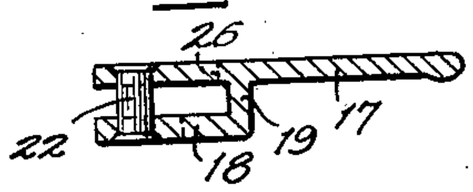


Fig. 7.

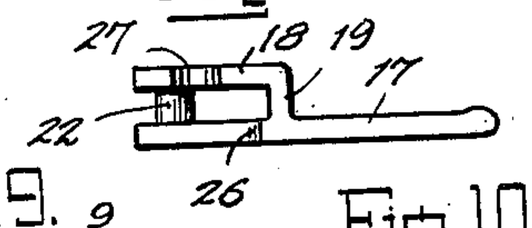


Fig. 8.

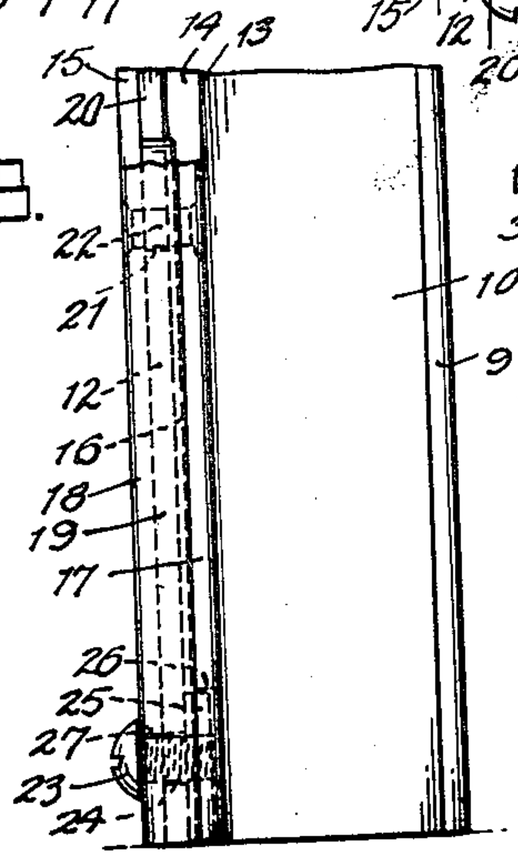


Fig. 9.

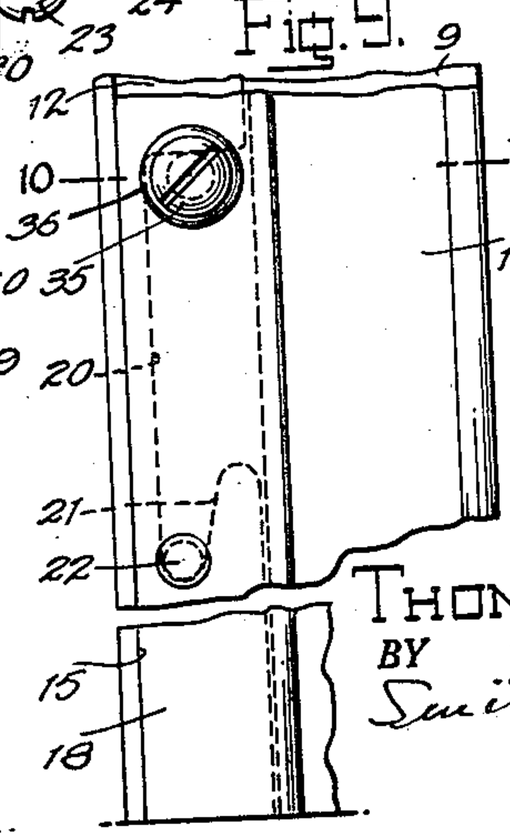
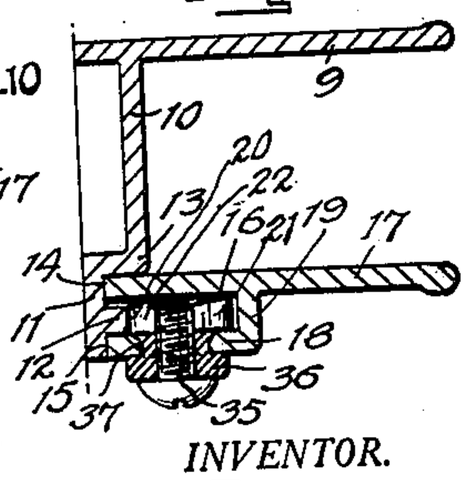


Fig. 10.



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UNITED STATES PATENT OFFICE

2,012,156

BUS OR CAR WINDOW CONSTRUCTION

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Application January 13, 1934, Serial No. 706,506

1 Claim. (Cl. 189—73)

The present invention relates to improvements in bus or car window construction, and more particularly to the vertical side channels within which the window sash is supported at its vertical edges and adapted to be raised and lowered. Certain types of side channels heretofore known consist of a stop member, usually the outside stop, which is fixed to the window frame or casing, and which includes a leg portion and a base portion, and a removable stop, usually the inside stop, which is connected to the outside stop to form the opposed leg of the channel. The inside stop includes a rack with which the sash lock is adapted to cooperate, this rack being disposed in exposed relation in a plane inwardly of the central plane of the window sash. It is an object of the present invention to provide a side channel which will be compact, narrow in width, and in which the removable stop may be conveniently engaged and disengaged with the fixed stop, and further to provide means for securing a removable stop to the fixed stop which will not materially increase the width of the channel. A further object is to provide a side channel in which the rack means for the sash lock may be conveniently housed therein in concealed relation substantially in the central vertical plane of the window sash, and without increase in the width of the channel to accommodate these parts.

With the above and other objects in view an embodiment of the invention is shown in the accompanying drawing and this embodiment will be hereinafter more fully described with reference thereto, and the invention will be finally pointed out in the claim.

In the drawing:

Fig. 1 is a fragmentary front elevation showing the lower corner of a window construction having a side channel incorporated therein, according to the exemplary illustrated embodiment of my invention.

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

Fig. 3 is a side elevation of the fixed stop member of the side channel.

Fig. 4 is a side elevation of the removable stop member.

Fig. 5 is a horizontal sectional view of the fixed stop member, taken along the line 5—5 of Fig. 3.

Fig. 6 is a horizontal sectional view of the removable stop member taken along the line 6—6 of Fig. 4.

Fig. 7 is a bottom plan view of the lower end of the removable stop.

Fig. 8 is a side elevation of the outside and inside stops in assembled relation.

Fig. 9 is a fragmentary front elevation of a modified form of side channel according to my invention.

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

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

Referring to the drawing, the window sash, with which the side channel, according to my invention is incorporated, comprises a glass 1, having a top rail (not shown), a bottom rail 2, and a pair of vertical side straps 3, connecting the top and bottom rails, only one of these side straps 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 4—4, to engage the edge of the U-shape piece of facing material 5, which is cemented, riveted, or otherwise suitably secured about the side strap, this material being of suitable composition, similar to felt or leather, as regards its wearing and sealing qualities, and adapted to have easy sliding engagement in the side post channel. A sash lock plunger 5 is disposed in the bottom rail in a suitable channel and is adapted to be projected by spring pressure and to be manually retracted by an operating handle in the usual manner. The plunger projects at its nose and through slots 7 and 8 respectively provided in the side strap 3 and facing material 5, and is adapted to engage the rack disposed within the side channel, as will hereinafter more fully appear.

The side channel according to my invention is of generally U-shape in cross-section and comprises a fixed stop, usually at the outside, of right angular form in cross section, having a flange 9 constituting one leg of the channel, a transversely disposed base 10 integrally connected to the flange 9 in spaced relation to the side post engaging foot of the flange and extending for the major portion of its width in parallel relation to the surface of the side post and being stepped at its end, as at 11, to engage the post. A relatively narrow flange 12 is formed upon the step portion 11 in spaced relation to the rise 13 of the stepped portion, a groove 14 being formed between said flange 12 and the rise 13. The flange 12 is inwardly spaced from the extremity of the stepped portion 11 to form a seating shoulder 15 for engagement by the removable stop, as will present-

ly more fully appear. The flange 12 is provided at its end with an inwardly extending protrusion 16 for engaging the removable stop.

The removable stop comprises a leg portion 17 disposed in parallel relation to the leg portion 9 of the fixed stop in the assembled relation of the stops, and an outwardly offset flange portion 18 paralliel to the leg portion 16 and integrally connected thereto by a transverse connecting portion 19.

The flange 12 is provided at suitable intervals along the height of the channel with notches 20, only one of which is shown, each having a slot 21 in its lower end, the outer face of which is downwardly and rearwardly inclined, and which notches and slots are adapted to be engaged by a series of cross pins 22 connected and secured between the leg 17 and the flange 18 of the removable stop. The removable stop is adapted to be first pressed into engagement with the flange 12 with the pins 22 engaged in the notches 20, and then longitudinally moved downwardly so that the cross pins 22 enter the slots 21 with a wedging action thereby drawing the removable stop tightly against the fixed stop. When attaching the removable stop the inner end of the leg 17 may be rolled over the protrusion 16 at the end of the flange 12 into the groove 14, the flange 18 seating upon the seating shoulder 15 at the outer side of the flange 12. When the removable stop is in this position it will be noted that the pressure of the felt material 5 is outwardly upon the outer end of the leg 17 pressing the inner end of the leg against the rise 13 about the protrusion 16 as a fulcrum, the stop being thus retained snugly in position by the pressure of the felt material, and in turn retaining the felt material in place. The removable stop may thus be very readily and conveniently engaged with the fixed stop, and thereupon longitudinally moved into locked position.

The flange 12 is provided at its lower end with a locking screw 23 extending through a hole 24 in the flange and screwed into a block member 25 disposed at the inner side of the flange. The lower end of the leg portion 16 of the removable stop is provided with a cut-out 26 which engages about the block member 25 in the assembled relation of the stops and the flange 18 is provided at its lower end with an open-ended slot 27 which engages over the shank of the locking screw 23 as the outside stop is moved downwardly to its assembled position. Thereupon the screw 23 is tightened, drawing the block member 25 tightly against the inner side of the flange 12 and the head of the screw tightly against the flange 18 of the removable stop, thereby securing the latter against retractive or disengaging movement.

A channel strip 28 is disposed within the side channel, and has its forward edges bent inwardly as at 29—29 to engage the facing material 5, these edges being spaced apart to provide a vertical slot through which the sash lock plunger 6 projects and is adapted to have vertical movement as the window is raised and lowered. A pressure spring is secured to the rear side of the channel strip, and comprises a right angular base portion 30, spot-welded, or otherwise suitably secured to the rear face and one side face of the channel strip, an intermediate spring leaf portion 31 bent from one vertical edge of said base portion, and a spring leaf abutment portion 32 bent back from the edge of the spring leaf portion 31, this spring leaf portion 32 preferably having a convex engaging surface 33 for engaging the base of the side channel. In the assembled relation this spring is compressed between the base 10 of the side channel and the base of the channel strip 28, and presses the latter inwardly against the facing material 5 to yieldingly retain the edge of the window sash against looseness and rattling and at the same time permit it to be easily raised and lowered. A rack member 34 is secured to the inner face of the channel member, as by spot-welding, riveting, or other suitable means, and is adapted to be engaged by the sash lock plunger 6 to retain the window sash in any desired point of adjustment. This rack member is in substantially concealed relation in the central vertical plane of the window sash, and is incorporated in the side channel without increase in the width of the latter. It will be understood that the particular construction and arrangement of the parts housed within the side channel form no part of the present invention, and other parts and arrangements may be employed therein, as desired.

In the modified form of my invention illustrated in Figs. 9 and 10 the locking of the removable stop is effected by means of a screw 35 supported in a shouldered bushing 36 swedged or otherwise suitably secured in a hole 37 in the flange 18 of the removable stop, disposed at a point where the screw may be screwed beneath the upper shoulder of the slot 20 of the flange 12 in the engaged position of the removable stop to thereby secure the latter against retractive or disengaging movement. To disengage the removable stop the screw is withdrawn to a point where it is out of the path of the flange 12 thereby permitting the stop to be moved longitudinally and the cross-pin 22 to be disengaged from the slot 20.

The side channel according to my invention is very compact and narrow in width, providing a maximum clear vision through the window, is of light weight, and provides a construction in which the removable stop may be readily and conveniently engaged and disengaged with the fixed stop.

I have illustrated and described a preferred and satisfactory embodiment 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 claim.

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

In a window construction, a side channel for receiving the edge of a window sash, comprising a stop adapted to be fixed to a side post, said fixed stop comprising a side leg, a base, and a flange projecting from said base in spaced relation to said leg, said flange having a longitudinal notch and a bayonet slot at one end of said notch, a removable stop comprising a side leg and a flange in spaced and parallel relation to said side leg, a cross pin secured between said side leg and flange of said removable stop retaining said flange against outward distortion with respect to said side leg, adapted to be laterally engaged with said notch and engaged with said bayonet slot through longitudinal movement of said removable stop, said leg being disposed at the inner side and said flange being disposed at the outer side of said flange of the fixed stop, to enclose and conceal said flange of the fixed stop.

THOMAS G. CONWAY.