C. H. TURNER.

CAR WINDOW.

APPLICATION FILED DEC. 8, 1915.

1,203,281.

Patented Oct. 31, 1916.

3 SHEETS—SHEET 1.

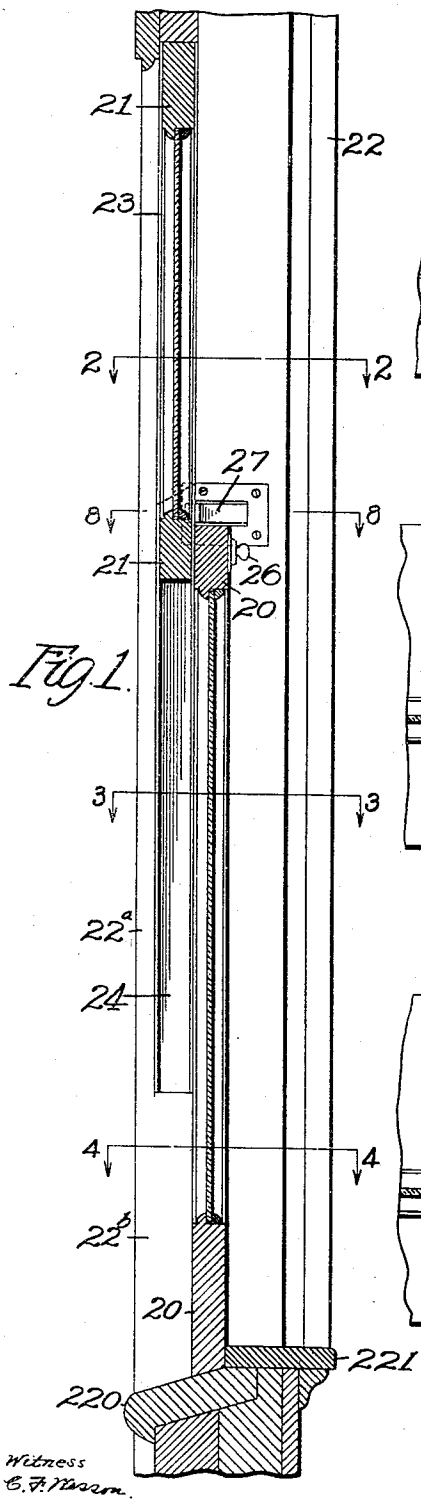


Fig. 1.

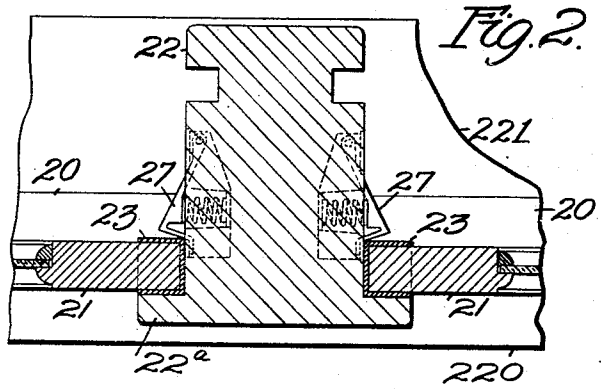


Fig. 2.

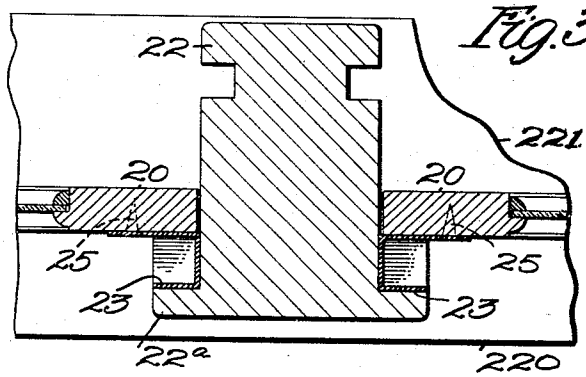


Fig. 3.

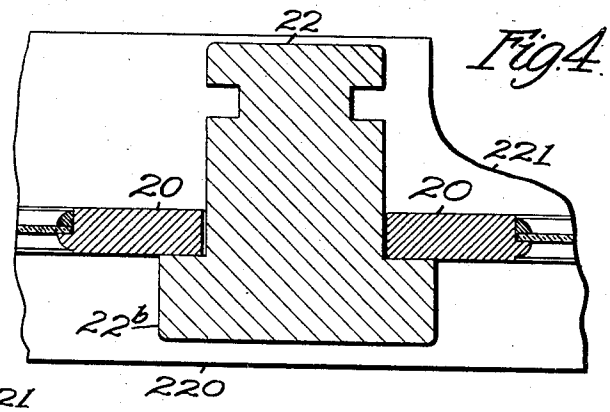


Fig. 4.

Witness
E. F. Mason.

Inventor
C. H. Turner
by attorneys
Southgate & Southgate

THE NORRIS PETERS CO., PHOTO-LITHO., WASHINGTON, D. C.

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3 SHEETS—SHEET 2.

Fig. 5.

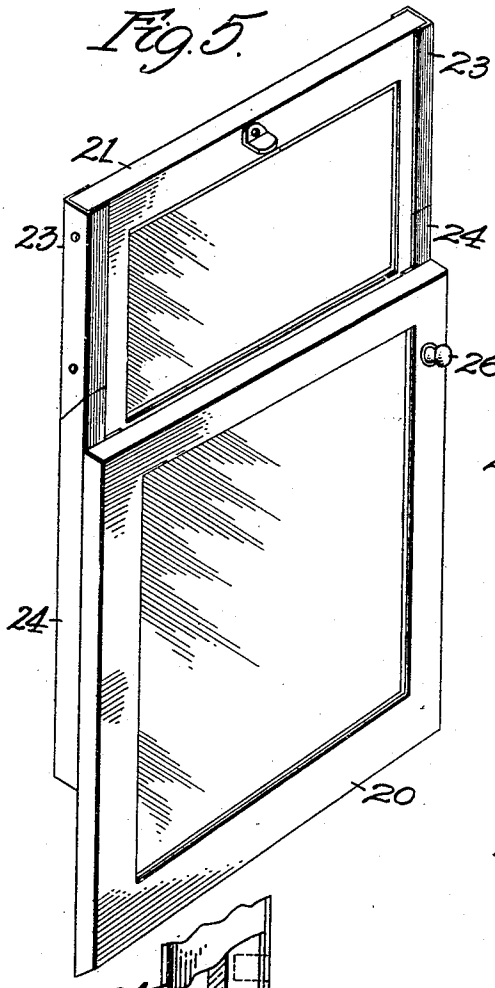


Fig. 6.

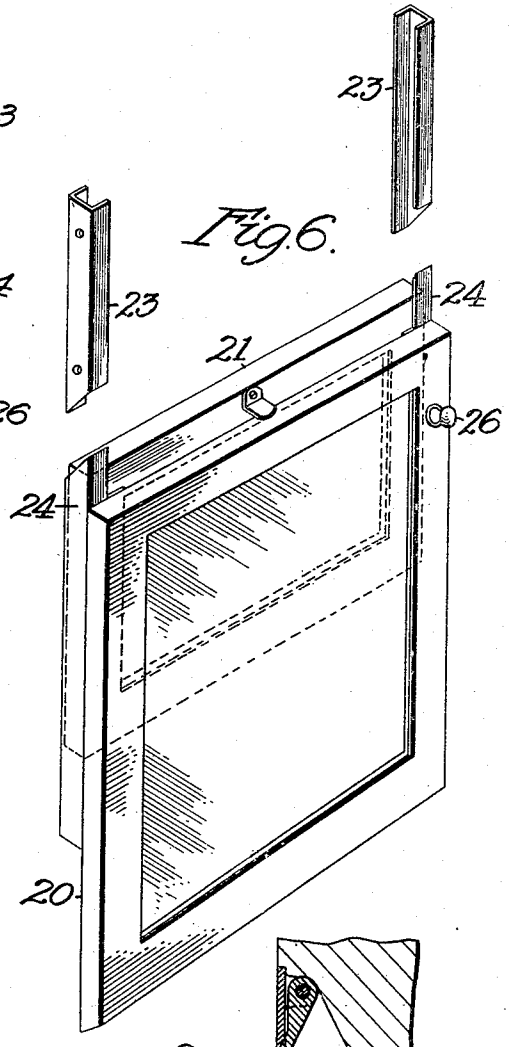


Fig. 7.

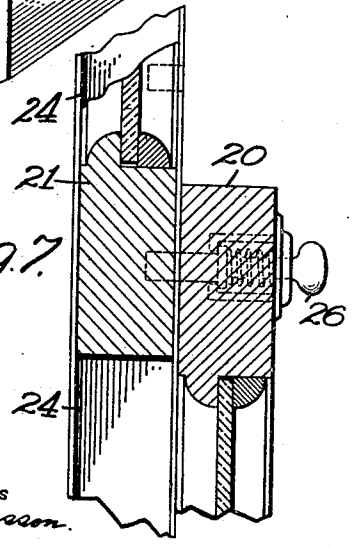
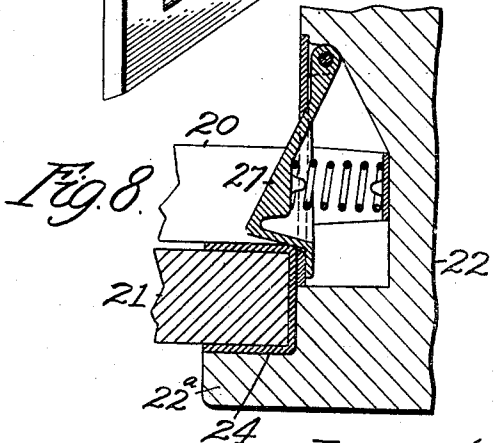


Fig. 8.



Witness
E. F. Mason.

Inventor
C. H. Turner.
By attorneys
Southgate & Southgate

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3 SHEETS—SHEET 3.

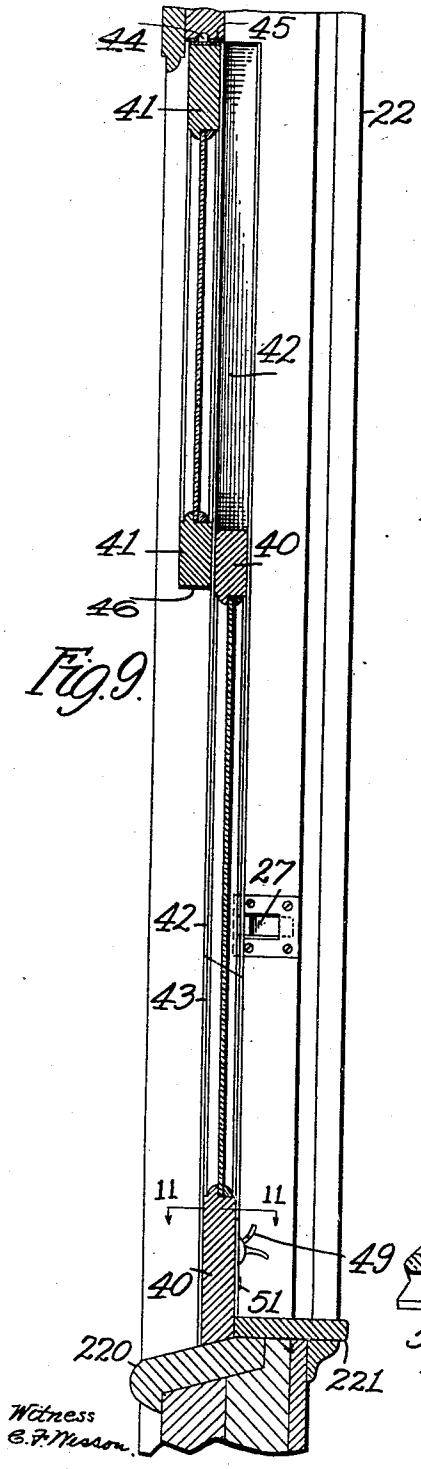


Fig. 9.

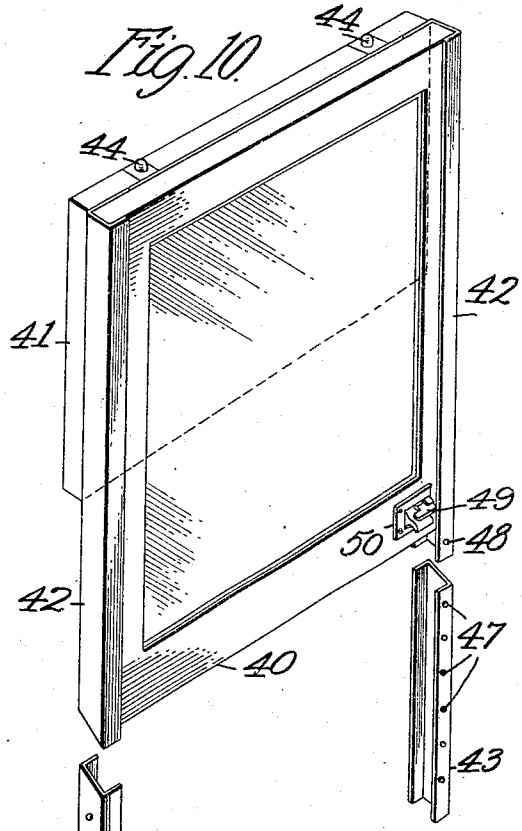


Fig. 10.

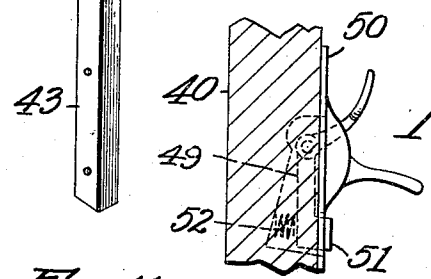


Fig. 12.

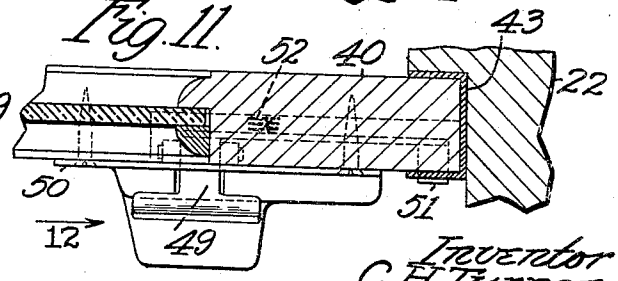


Fig. 11.

Witness
E. F. Mason.

Inventor
C. H. Turner.
By attorneys
Southgate & Southgate

THE NORRIS PETERS CO., PHOTO-LITHO., WASHINGTON, D. C.

UNITED STATES PATENT OFFICE.

CHARLES H. TURNER, OF WORCESTER, MASSACHUSETTS, ASSIGNOR TO OSGOOD BRADLEY CAR COMPANY, OF WORCESTER, MASSACHUSETTS, A CORPORATION OF MASSACHUSETTS.

CAR-WINDOW.

1,203,281. Specification of Letters Patent. Patented Oct. 31, 1916.

Application filed December 8, 1915. Serial No. 65,810.

To all whom it may concern:

Be it known that I, CHARLES H. TURNER, a citizen of the United States, residing at Worcester, in the county of Worcester and State of Massachusetts, have invented a new and useful Car-Window, of which the following is a specification.

This invention relates to a car window having upper and lower sashes and particularly adapted for use in passenger cars of the "semi-convertible" type. In such cars it is essential that the sashes be easily removable when the warm season begins, while at the same time the car must be capable of being completely inclosed for cold weather operation. During the mild weather commonly occurring between seasons, it is desirable that either the upper or the lower sash be movable to provide ventilation supplementary to that furnished by the roof ventilators.

It is the object of my invention to provide an improved construction of car window which will meet the requirements above enumerated and which will possess important advantages both in construction and in ease of operation.

As described herein each car window comprises a fixed and a movable sash.

An important feature of the invention relates to the provision of sectional guideways for the movable sash, one section of each guideway being secured to the fixed sash and removable therewith, and the remaining section of each guideway being permanently secured to the window frame.

The invention further relates to certain combinations and arrangements of parts which will be hereinafter described and more particularly pointed out in the appended claims.

A preferred form of my invention and a modification thereof are shown in the drawings, in which—

Figure 1 is a sectional elevation of the preferred form of my invention; Figs. 2, 3 and 4 are transverse sectional views taken along the lines 2—2, 3—3 and 4—4 in Fig. 1, respectively; Fig. 5 is a perspective view of the sashes and guideways removed from the window frame, the movable upper sash being raised; Fig. 6 is a view similar to Fig. 5 but showing the movable sash lowered, and the upper sections of the guideways separated from the lower sections and sashes; Fig. 7 is a detail sectional elevation showing the fastening device for holding the movable sash in adjusted position; Fig. 8 is a detail sectional view taken along the line 8—8 in Fig. 1 and showing one of the spring catches which hold the fixed sash in position in the window frame; Fig. 9 is a sectional elevation of a modified form of my invention; Fig. 10 is a perspective view of the sashes and guideways shown in Fig. 9, the movable lower sash being raised and the lower sections of the guideways being separated from the upper sections, and sashes; Fig. 11 is a transverse sectional view taken along the line 11—11 in Fig. 9 and showing the spring catch which holds the movable lower sash in adjusted position, and Fig. 12 is a detail elevation of the spring catch looking in the direction of the arrow 12 in Fig. 11.

Referring to Figs. 1 to 6, the preferred form of my invention comprises a fixed lower sash 20, and a removable upper sash 21, the sashes fitting within a window frame comprising side posts 22, a window sill 220, and a cap 221. The post 22 is shown in section in Figs. 2, 3 and 4, the post being substantially rectangular in outline and being provided at its outer edges with laterally-extending sash-engaging flanges. Throughout its greater portion 22^a each flange is comparatively narrow (Figs. 2 and 3) but in its lower portion 22^b it is substantially thickened as shown in Fig. 4.

The upper sash 21 is slidable in U-shaped guideways preferably formed of sheet metal. Each guideway is formed in two sections, as shown most clearly in Fig. 6, the upper section 23 being permanently secured to the side of the post 22 and the lower section 24 being secured to the fixed sash 20 in any convenient manner, as by screws 25 (Fig. 3). The meeting edges of the sections 23 and 24 are inclined to permit the easy withdrawal of the removable sections.

The upper sash 21 is freely slidable in the sectional guideways above described and may be secured in adjusted position by a spring-pressed plunger 26 (Fig. 7) or in any other convenient manner.

The fixed lower sash 20 and the sections of the guideways carried thereby are secured in position within the frame by spring catches 27 (Fig. 8) inserted in recesses in the side posts 22 and engaging that portion of each removable guideway 24 which projects slightly above the sash 20 to which it

is secured. The catches 27 are also closely adjacent to the upper edge of the sash 20 and prevent upward as well as inward displacement thereof.

The lower end of the sash 20 is positioned between the flange 22b at the lower end of each side post and the sill cap 221 which engages the inner face of the sash.

In assembling the parts the lower end of the fixed sash 20 is first placed in position and the sash is then swung about its lower edge until the removable guideways 24 are alined with the fixed guideways 23, in which position the sash is retained by the spring catches 27. When thus positioned the upper sash may be raised by sliding it in the sectional guideways 23 and 24, which act under these conditions as single or integral guideways.

When the sashes are to be removed from the car the upper sash is lowered into the position shown in Fig. 6 and the two sashes together with the removable guideways 24, are then removed as a unit from the window frame. In this condition they may be conveniently stored and there is no possibility of separating the two sashes which form a pair. Furthermore, the upper sections of the guideways, which would project above the sash 20 if formed integrally, remain permanently secured in the upper portions of the window frame.

The construction shown in Figs. 9, 10, 11 and 12 is similar in many respects to that already described with the exception that the lower sash is made movable instead of the upper sash. In these figures the movable lower sash is indicated at 40, the fixed upper sash at 41, and the sections of the guideways are indicated at 42 and 43, the sections 42 being permanently secured to the fixed upper sash 41. The sash 41 is provided in its upper edge with dowel pins 44 adapted to engage plates 45 secured in the upper end of the window frame. The lower edge of the sash 41 rests upon shoulders 46 which separate the narrow and wide portions of the flanges on the side posts. The removable guideways 42 are of substantially the same length as the lower sash, and extend below the fixed sash to which they are secured, as clearly shown in Fig. 10. Near their lower ends they are engaged and secured in position by spring catches 27 as previously described. In order to secure the sash 40 in raised position one of the guideways 43 is provided with a series of perforations 47 and an additional perforation 48 is provided in the lower end of the corresponding fixed guideway 42. A spring-operated latch 49 is horizontally pivoted to the rear face of a plate 50 secured to the sash 40, the latch being provided with an outwardly extending projection 51 adapted to engage the holes 47 and 48, and normally pressed outwardly by a spring 52.

When the sashes shown in Figs. 9 and 10 are to be removed from the car, the lower sash is raised until the latch engages the opening 48 at the lower end of the guideway 42. The sashes are thus secured together and may be removed as a unit as previously described, the lower portions 43 of the guideways remaining fixed to the side posts.

It will thus appear that I have provided an exceedingly simple and efficient construction by which a movable sash is available for ventilation and at the same time the entire sash structure is readily removable from the window frame as a unit when it is desirable to arrange the car for warm weather operation. Furthermore, the sash structure is removable from the inside of the car and does not involve the use of any tools whatever either when it is removed or when it is replaced.

Having thus described my invention it will be evident that other changes and modifications can be made therein by those skilled in the art without departing from the spirit and scope thereof as set forth in the claims, and I do not wish to be otherwise limited to the details herein disclosed, but

What I do claim is:—

1. A car window comprising a window frame, a sash removably fixed in said frame, means to secure said sash in said frame, a pair of sectional guideways having a section of each secured to said sash only and removable therewith and having coöperating sections permanently secured to the window frame and alined with the removable sections, a second sash slidable in said sectional guideways, and means to secure said second sash in the sections of said guideways carried by said removable sash, whereby the removable sash supports the second sash when thus secured, and said sashes may be entirely removed from said frame and may be handled and stored as a unit.

2. A car window comprising a window frame having side posts, a removable sash, means for securing said sash in fixed position in said frame, said means including yielding catches mounted in the side posts and preventing inward and upward movement of said sash, guideways comprising U-shaped members secured to said removable sash and coöperating members fixed to said side posts, and a second sash supported by said first named sash and slidable in said guideways.

In testimony whereof I have hereunto set my hand.

CHARLES H. TURNER.

Copies of this patent may be obtained for five cents each, by addressing the "Commissioner of Patents, Washington, D. C."