May 22, 1928. 1,670,595

H. T. PLUMMER

ADJUSTABLE WINDOW PARTICULARY FOR AUTOMOBILES

Filed July 23, 1926

Fig.1.

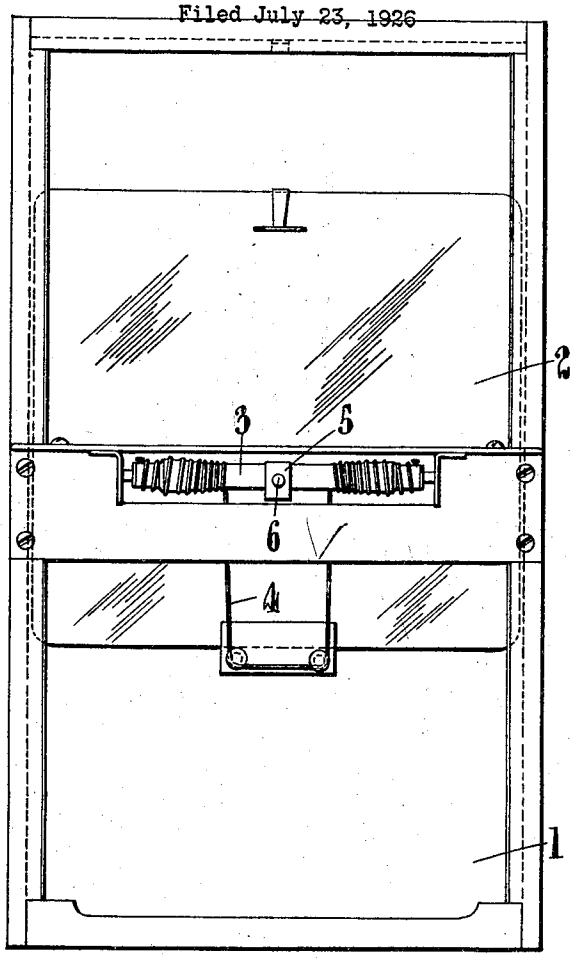


Fig.2.

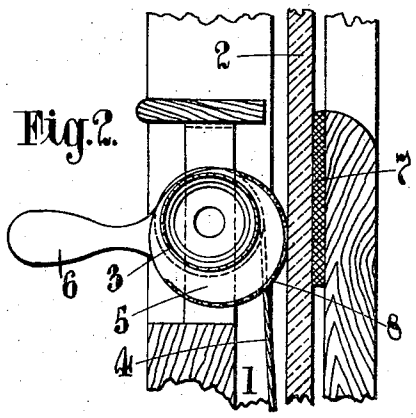
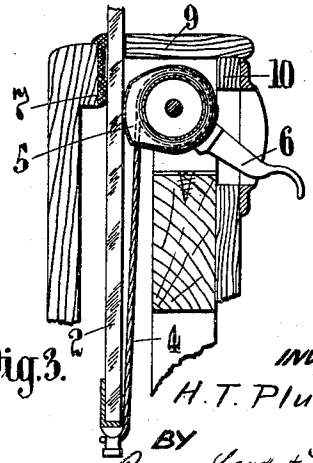


Fig.3.



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Patented May 22, 1928. 1,670,595

UNITED STATES PATENT OFFICE.

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ADJUSTABLE WINDOW PARTICULARLY FOR AUTOMOBILES.

Application filed July 23, 1926, Serial No. 124,530, and in Great Britain June 2, 1926.

This invention relates to adjustable windows and has particular reference to the adjustable windows of automobiles and has for its chief object to provide a simple effective and inexpensive form of braking device to retain the window at any desired height.

According to the present invention the braking device comprises an eccentric sleeve frictionally mounted upon a member which is itself rotated by the raising and lowering of the window so that the rotation of said member tends to carry the eccentric sleeve with it. The invention is particularly applicable to window raising mechanism of the spring barrel type, in which case the aforesaid sleeve is of course conveniently mounted on the barrel.

The invention will now be described more fully with reference to the preferred embodiment illustrated in the accompanying drawings in which:—

Figure 1 is a front view of an automobile door having a vertically sliding window,

Figure 2 is an enlarged fragmentary view of the more essential parts, and

Figure 3 illustrates a modification.

The door has a hollow lower part 1 in which the window 2 disappears when lowered and is provided with a known form of window-raising mechanism of the automatic lifting type comprising a horizontal spring actuated barrel 3 on which lifting cord 4 winds and unwinds itself. 5 is the eccentric sleeve which is mounted on the barrel 3 with slight frictional adherence preferably at about the mid point in the length of the barrel and is provided with a handle 6 for manually tilting it upon the barrel. Assuming that the barrel when raising the window rotates about its axis upwards and away from the adjacent face of the window, then the eccentric sleeve is normally situated as shown with its greatest radius somewhat below the horizontal plane passing through the barrel axis; the said sleeve is also of such a size that at and near its smallest radius it is spaced away from the adjacent face of the window but at and near its greatest radius it is so large as not to be free to pass. It will therefore be understood that as the barrel 3 rotates, it will frictionally carry the sleeve 5 round with it until the large portion of the sleeve comes into contact with the glass 2 and forces it against the padded rail 7 whereupon the tendency of the spring barrel to raise the glass further merely increases the wedging effect of the engagement between the sleeve and the glass. The glass is thus effectively held against further rise.

In order to release the glass, the sleeve is manually turned away from its wedging engagement with the glass by tipping the handle 6 upwards, and to enable the glass to automatically travel upwards to any desired extent the handle is merely held tipped for a corresponding interval. To arrest the upward travel of the glass at any desired height the handle 6 of the eccentric sleeve is merely released, whereupon the frictional drive between it and the barrel immediately sweeps it into a window-arresting position.

Any convenient form of handle may be employed and it may if desired be deliberately weighted and located so that when released it acts by its leverage to assist the frictional drive of the barrel.

The surface of the eccentric sleeve may be covered with any suitable gripping and cushioning material 8 such as rubber.

It may be observed that an important advantage of this simple and reliable form of braking device is that the raising and lowering of the window can be effected with one hand. To raise the window it is only necessary to keep the eccentric sleeve handle tipped while the spring barrel rotates and lifts the window. To lower the window it is only necessary to push the window down. In the case of raising the window the rise is arrested merely by releasing the eccentric sleeve handle, and in the case of lowering the window it is merely necessary to remove the downward pressure of the hand on the glass when it has been lowered to the desired extent.

The wedging effect of the braking device above described is so effective that creeping of the window during excessive vibration of the automobile is prevented.

It is to be understood that the invention is not limited to the specific embodiment above described. For example, instead of using a single eccentric sleeve midway along the barrel the sleeve may be placed elsewhere or we may employ two or more sleeves so connected as to be operable by a single handle.

In Fig. 3 a modified form of sleeve 5 and handle 6 have been illustrated.

What I claim is:—

1. In slidable window raising and lowering mechanism, a cylindrical member rotatable adjacent the window by the raising and lowering movement, a sleeve eccentrically mounted rotatably on the cylindrical surface of said member with slight frictional adherence thereto, and a handle for moving the sleeve around the said member.

2. In slidable window raising and lowering mechanism, a cylindrical member rotatable alongside the face of the window about a horizontal axis by the raising and lowering movement, a sleeve rotatably mounted on the cylindrical surface of said member with slight frictional adherence with the portion of its periphery remotest from the said axis located below the horizontal plane passing through said axis, and a handle for rocking the sleeve on said member, the distance of the rotatable member and sleeve thereon from the face of the window being such that the portion of its periphery remotest from the said axis tends automatically to engage with the face of the window as the window is raised.

3. In slidable window raising and lowering mechanism of the spring barrel type, the combination with the spring barrel, of a sleeve rotatably mounted thereon with frictional adherence, and a handle on said sleeve for manually rocking it upon the surface of the barrel.

4. In slidable window raising and lowering mechanism, the combination with a spring actuated rotatable barrel mounted horizontally adjacent the face of the window, of a sleeve mounted rotatably and eccentrically on said barrel and of such dimensions that its portion of greatest radius from the barrel axis takes a wedging engagement with the face of the window as the sleeve is carried round by frictional adherence to the barrel when the latter rotates in one direction, and a handle on said sleeve for rocking it in the opposite direction away from its position of wedging engagement with the window.

5. In slidable window raising and lowering mechanism, the combination with a spring actuated rotatable barrel mounted horizontally adjacent the face of the window, of a sleeve mounted rotatably and eccentrically on said barrel and of such dimensions that its portion of greatest radius from the barrel axis is normally situated below the horizontal plane passing through the barrel axis and adjacent the face of the window so as to become wedgingly engaged therewith when the barrel rotates upwardly and outwardly away from the said face, and a handle for manually rocking said sleeve in the opposite direction to temporarily suppress the wedging engagement.

In testimony whereof I have signed my name to this specification.

HERBERT THOMAS PLUMMER.