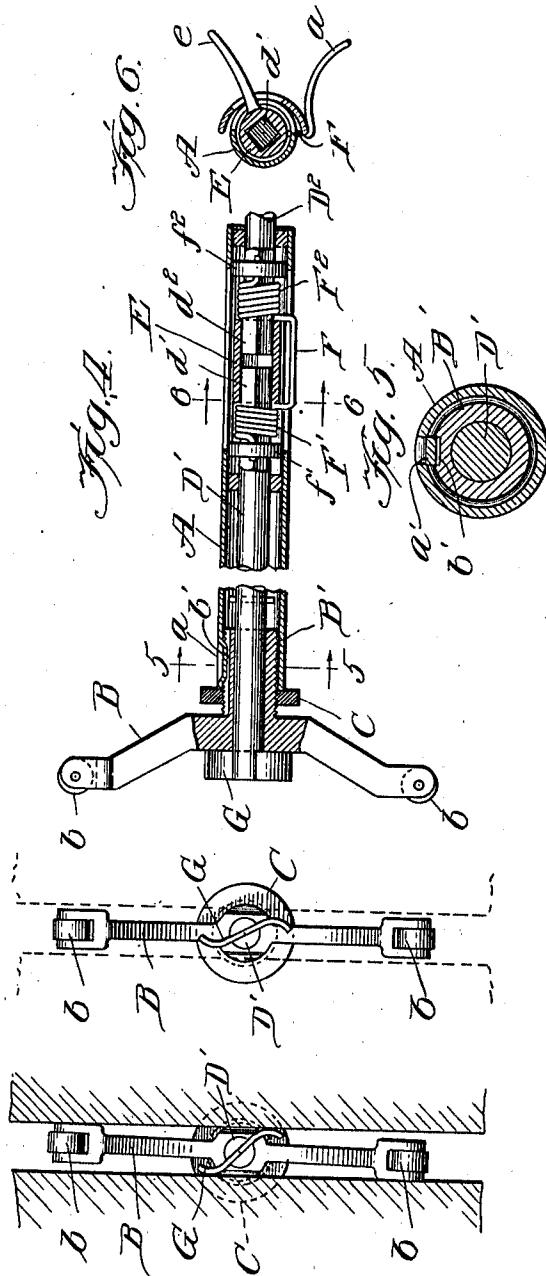
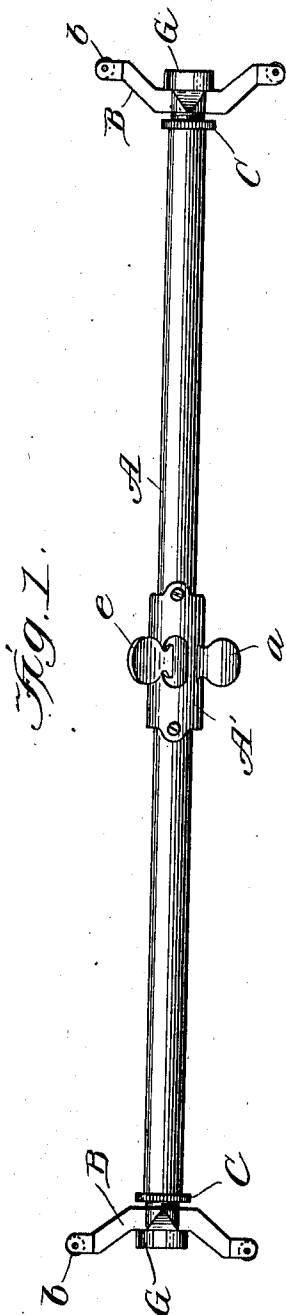


E. W. WEBB & T. P. CONVEY.
WINDOW SHADE.
APPLICATION FILED SEPT. 2, 1909.

1,004,319.

Patented Sept. 26, 1911.



Witnesses:
Harry S. Gaither
Florence C. Flouell

Inventors:
Edwin W. Webb and
Thomas P. Convey
Sherman Willkenson & Scott
attys

UNITED STATES PATENT OFFICE.

EDWIN W. WEBB AND THOMAS P. CONVEY, OF CHICAGO, ILLINOIS.

WINDOW-SHADE.

1,004,319.

Specification of Letters Patent.

Patented Sept. 26, 1911.

Application filed September 2, 1909. Serial No. 515,914.

To all whom it may concern:

Be it known that we, EDWIN W. WEBB and THOMAS P. CONVEY, citizens of the United States, residing at Chicago, in the county of Cook and State of Illinois, have invented certain new and useful Improvements in Window-Shades, of which the following is a specification.

Our invention relates in general to window shades, and more particularly to window shades for cars.

In order that the window shades of cars may be adjusted to any desired position, it is customary to secure their upper ends to spring rollers and to provide guides at their lower edges which extend within grooves in the side frames of a window casing, locking devices being provided upon the ends of the guides to detachably engage the walls of the grooves. A well-known objection to window shades of this character is that the guides become displaced from the grooves in the window casing when it is attempted to raise or lower the shade.

The primary object of our invention is to provide a guide for the lower edges of window shades which may be accurately adjusted to closely fit within the guides in a window casing, thereby preventing the accidental displacement of the guides from the grooves.

A further object of our invention is to provide a guide for window shades comprising locking devices lying within the grooves at the sides of the window casing, the locking devices in the separate grooves being capable of independent locking action, thereby insuring the locking of the shade at each side of the window even when the grooves vary in width.

A still further object of our invention is to provide a guide for the lower edges of window shades which will automatically retain the shade at any desired elevation, which may be readily operated to release the shade to permit vertical adjustment thereof, and which will be simple in construction, inexpensive in manufacture, and efficient in operation.

Our invention will be more fully described hereinafter with reference to the accompanying drawing, in which the same is illustrated as embodied in a convenient and practical form, and in which—

Figure 1 is a front elevational view. Fig. 2 is an end elevation, the grooves in the

window casing being shown in vertical section, and the guide in locked position. Fig. 3 is a view similar to Fig. 2, showing the parts in unlocked position. Fig. 4 an enlarged longitudinal section, parts being broken away. Fig. 5 is an enlarged cross section on line 5, 5, Fig. 4. Fig. 6 is a cross section on line 6, 6, Fig. 4.

The same reference characters are used to designate the same parts in the several figures of the drawing.

Reference letter A indicates a tube adapted to be secured to the lower end of a window shade. A guide B is secured to each end of the tube A and is adapted to extend within the groove in the window casing at the corresponding side of the window. The guides E are provided with upper and lower portions which incline outwardly from the ends of the tube A, which are provided with anti-friction rollers *b*. In order to adjustably secure the guides B to the ends of the tube A, each guide is provided with an exteriorly screw threaded portion B' which fits within the end of the tube A and is prevented from rotating relatively thereto in any suitable manner, such, for instance, as providing a depressed rib *a'* in the tube which extends within a longitudinal groove *b'* in the tubular portion B' of the guide.

A nut C, which is preferably in the form of a ring, having a milled periphery, surrounds and is in screw threaded engagement with the tubular portion B' of each of the guides B. Each nut C bears against the adjacent end of the tube A, as clearly shown in Fig. 4.

A rod comprising two aligned parts D' and D² is located within the tube A and at its ends extends concentrically through the tubular portions B' of the guides B. The inner ends of the two parts of the rod are formed angular in cross section, as shown at *d'*, *d*², and fit within openings slightly larger but of corresponding cross section formed in a connecting member E. The member E is located within the tube A preferably at the middle thereof. The loose fit between the inner ends of the two parts of the rod and the openings in the coupling member permits a slight rotary movement between the parts of the rod and the coupling member to compensate for any unevenness in the grooves at the sides of the window casing. The inner ends of the two

parts of the rod are also movable longitudinally with respect to the coupling member E.

A spring F is provided with two coiled portions F' and F^2 surrounding the two parts of the rod adjacent the coupling member E. The ends of the spring are rigidly secured to disks or collars f' and f^2 respectively fixed to the parts D' and D^2 of the rod. The intermediate portion of the spring projects through an opening in the tube A and bears against the lower edge of such opening.

The ends of the two parts D' , D^2 of the rod which project through the guides B on the ends of the tube A are provided with transverse locking members G, G, adapted to engage the opposite walls of the grooves in the window casing. A plate A' is secured to the tube A over the central opening therein, and is provided with a finger piece a . A finger piece e projects from the coupling member E through the opening in the tube A and also through an opening in the overlying plate A' .

The operation of our improvement is as follows: The nuts C are rotated so as to retract the guides B, B, thereby facilitating the insertion of the guides B and transverse locking members G within the grooves in the sides of the window casing. In order to insert the guides and locking devices within the window casing, the finger piece e is depressed toward the finger piece a , thereby oscillating the coupling member E and with it the two parts D' and D^2 of the rod against the tension of the spring F. This oscillation of the two parts of the rod rotates the locking members G on the ends thereof into the position shown in Fig. 3, that is, the ends of each locking member G are moved toward the corresponding arms of the adjacent guide B, thereby restricting the combined width of the locking members and guides to less than the width of the guide grooves in the window casing. In order to retain the shade at any desired elevation, it is merely necessary to release the finger piece e so that the tension of the spring F will relatively rotate the tube A and inclosed rod. Such relative rotation of the tube and rod causes the locking devices G to rotate in an opposite direction to the rotation of the guides B, so that the parts assume the position shown in Fig. 2. The locking of the shade is effected through the frictional contact of the corresponding ends of the locking devices G and guide B with the opposite walls of the guide grooves in the window casing. When it is desired to adjust the elevation of the shaft, the finger piece e is pressed downwardly against the tension of the spring F, thereby oscillating the two parts of the rod relatively to the tube so that the locking devices and guides will be

rotated toward each other and out of contact with the walls of the guide grooves. In order to produce a snug fit with the grooves in the window casing, the guiding members B, B may be outwardly adjusted by rotating the nuts C, C such nuts through their engagement with the ends of the tube A serving to project the guides B outwardly. The outward adjustment of the two parts of the rod is also permitted by reason of the sliding engagement between the inner ends d^1 and d^2 of the two parts thereof with the coupling member E. In order that the guides B, B may not be adjusted so far as to prevent the adjustment of the window shade, the anti-friction rollers b are provided which, through engagement with the inwardly directed surfaces of the guide grooves, permit the guides B to be moved up and down even when adjusted outwardly as far as can be effected by the nuts C. The slight rotary movement between the two parts of the rod and the coupling member E, owing to the loose fit shown in Fig. 6, results in the locking devices G, G having a slight relative rotation sufficient to compensate for any unevenness in the widths of the grooves in the window casing, thereby insuring the shade being locked at each side thereof. It is evident from the foregoing description of the operation of our invention that the guides B, B also serve as locking means, inasmuch as they coöperate with the locking devices G, G to clamp against the walls of the guide grooves.

From the foregoing description it will be observed that we have invented an improved guide for window shades, which will securely lock the shade at each side thereof to the window casing at any desired elevation; which may be readily operated to release the shade and permit vertical adjustment thereof; which may be longitudinally adjusted to exactly correspond with the width of the window casing and thereby prevent accidental disconnection of the shade guides from the window casing grooves; and in which the locking engagements at the opposite side of the window casing are sufficiently independent to positively lock each side of the shade regardless of slight difference in the width of the window casing grooves.

We claim:

1. In a guide for window shades, the combination with pairs of locking members adapted to extend within guide grooves in the window casing, the members in each pair lying in intersecting planes, means for relatively rotating the locking members in each pair away from or toward each other to engage the same with or disengage the same from the walls of the guide grooves, and means for longitudinally adjusting the pairs of locking members.

2. In a guide for window shades, the combination with a rod comprising two relatively movable parts, of a tube surrounding said rod, locking members secured to the ends of said rod and tube respectively adapted to extend within guide grooves, means connecting the two parts of said rod to permit relative longitudinal adjustment thereof to vary the length of said rod, and means for relatively rotating said rod and tube in opposite directions, thereby engaging said locking members with and disengaging them from the walls of the guide grooves.

3. In a guide for window shades, the combination with a rod comprising two relatively movable parts, of a tube surrounding said rod, locking members secured to the ends of said rod and tube respectively adapted to extend within guide grooves, means connecting the two parts of said rod to permit a slight relative rotary adjustment thereof, and means for relatively rotating said rod and tube in opposite directions, thereby engaging said locking members with and disengaging them from the walls of the guide grooves.

4. In a guide for window shades, in combination with a tube, a rod formed in two separate aligned parts carried within said tube, locking members secured to the ends of said rod adapted to extend within guide grooves in the window casing, means connecting the two parts of said rod to permit relative longitudinal adjustment thereof and also a slight relative rotary adjustment thereof, and means for rotating said rod in opposite directions to engage said locking members with and disengage them from the walls of the guide grooves.

5. In a guide for window shades, the combination with a rod, of a tube surrounding said rod, separate locking members secured to the ends of said rod and tube respectively adapted to extend within guide grooves, means for relatively longitudinally adjusting the locking members on the ends of said tube, and means for relatively rotating said rod and tube in opposite directions, thereby engaging said locking members with and disengaging them from the walls of the guide grooves.

6. In a guide for window shades, the combination with a rod, of a tube surrounding said rod, separate locking members secured to the ends of said rod and tube respectively adapted to extend within guide grooves, means for permitting a slight relative rotary adjustment of the locking members on the ends of said rod, and means for relatively rotating said rod and tube in opposite directions to engage said locking members with and disengage them from the walls of the guide grooves.

7. In a guide for window shades, the combination with a rod, of a tube surrounding

said rod, separate locking members secured to the ends of said rod and tube respectively adapted to extend within guide grooves, means for relatively longitudinally adjusting the locking members on the ends of said tube, means for permitting a slight relative rotary adjustment of the locking members on the ends of said rod, and means for relatively rotating said rod and tube in opposite directions, thereby engaging said locking members with and disengaging them from the walls of the guide grooves.

8. In a guide for window shades, in combination with a tube, a rod comprising two aligned parts having angular inner ends and carried within said tube, a coupling member intermediate of the two parts of said rod having openings angular in cross section in which the angular inner ends of the two parts of said rod loosely engage, locking members secured to the ends of said rod adapted to extend within guide grooves, and means for rotating said rod to engage said locking members with and disengage them from the walls of the guide grooves.

9. In a guide for window shades, the combination with a rod comprising two aligned parts, of a tube surrounding said rod, a coupling member rotatably located within said rod, said coupling member loosely connecting the inner ends of the two parts of said rod to permit a slight rotary movement of the two parts relatively to said coupling member, separate locking members secured to the ends of said rod and tube respectively adapted to extend within guide grooves, and means for relatively rotating said coupling member and tube in opposite directions to engage said locking members with and disengage them from the walls of the guide grooves.

10. In a guide for window shades, the combination with a rod composed of two longitudinally adjustable parts, of a tube surrounding said rod, locking members adapted to extend within guide grooves and having exteriorly screw threaded portions extending within the ends of said tube, nuts in screw threaded engagement with said portions and bearing against the ends of said tube for longitudinally adjusting said locking members relatively to said tube, locking members on the ends of said rod, and means for relatively rotating said rod and tube in opposite directions to engage said locking members with and disengage them from the walls of the guide grooves.

11. In a guide for window shades, the combination with a rod composed of two longitudinally adjustable parts, of a tube surrounding said rod, locking members adapted to extend within guide grooves and having exteriorly screw threaded portions extending within the ends of said tube, nuts in screw threaded engagement with said por-

tions and bearing against the ends of said tube for longitudinally adjusting said locking members relatively to said tube, anti-friction rollers on the ends of the locking members adapted to engage the outwardly facing walls of guide grooves, locking members on the ends of said rod, and means for relatively rotating said rod and tube in opposite directions to engage said locking members with and disengage them from the walls of the guide grooves.

12. In a guide for window shades, the combination with a rod comprising two alined parts having angular inner ends, locking members on the outer ends of said rod, a tube surrounding said rod, locking members adapted to extend within guide grooves and having exteriorly screw threaded portions extending within the ends of said tube, said latter locking members lying in the parts of planes intersecting the planes of the locking members on the ends of the rod, a coupling member located within said tube intermediate of the inner ends of the parts of said rod and having angular openings in

which are received the angular inner ends of the two parts of said rod, nuts in screw threaded engagement with the screw threaded portions of the tube, locking members bearing against the ends of said tube for longitudinally adjusting said locking members relatively to said tube, a spring interposed between and connecting the tube and inner ends of the parts of said rod, the tension of which relatively rotates said rod and tube to engage the locking members on the ends thereof with the walls of guide grooves, and finger pieces fixed to said connecting member and tube for relatively rotating the same against the tension of said spring to disengage the locking members from the walls of the guide grooves.

In testimony whereof, we have subscribed our names.

EDWIN W. WEBB.
THOS. P. CONVEY.

Witnesses:

HENRY A. PARKS,
FLORENCE A. FLORELL.

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