No. 676,557. Patented June 18, 1901.

D. HOYT.

WINDOW SHADE HOLDER.

(Application filed Dec. 8, 1900.)

(No Model.)

Fig. 1.

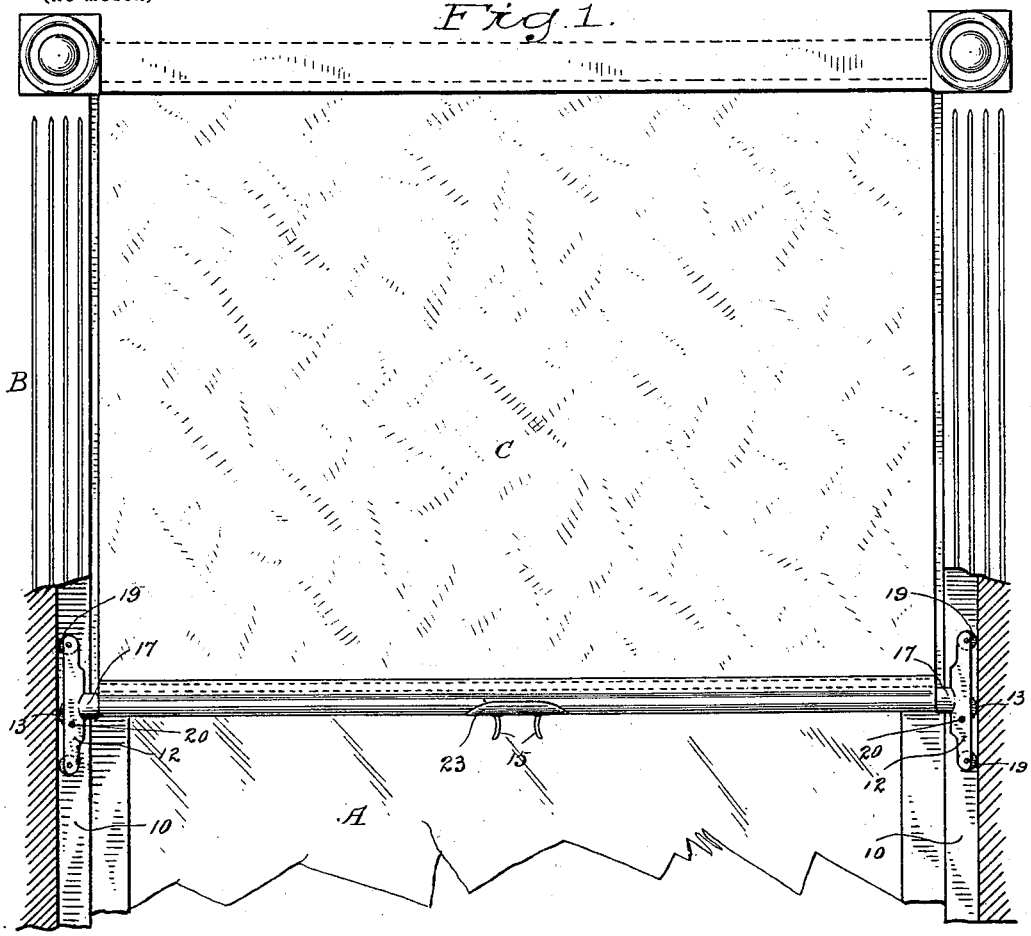


Fig. 2.

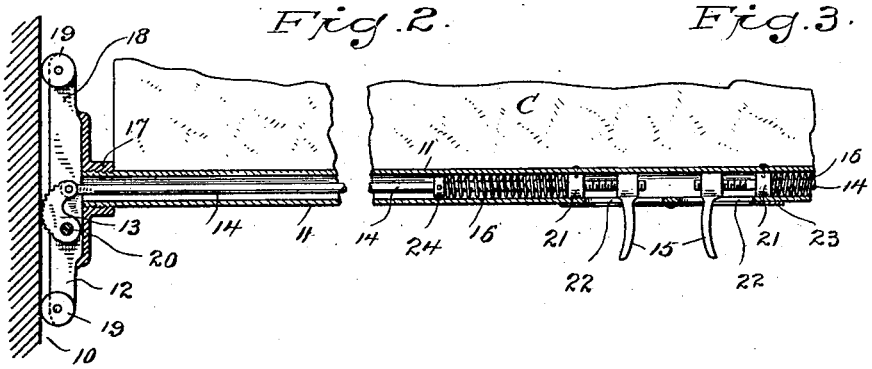
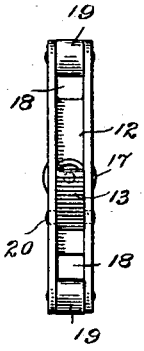


Fig. 3.



WITNESSES.

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UNITED STATES PATENT OFFICE.

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WINDOW-SHADE HOLDER.

SPECIFICATION forming part of Letters Patent No. 676,557, dated June 18, 1901.

Application filed December 8, 1900. Serial No. 39,115. (No model.)

To all whom it may concern:

Be it known that I, DANIEL HOYT, a citizen of the United States, residing at South Norwalk, county of Fairfield, State of Connecticut, have invented a new and useful Window-Shade Holder, of which the following is a specification.

My invention has for its object to provide a window-shade holder which will permit the shade to be drawn down practically without resistance and without manipulation of any parts whatever and which will automatically lock the shade against upward movement in any position in which it may be placed, it being an important feature of my novel shade-holder that the locking of the shade is effected by cam action rather than by spring action and that when force is applied to raise the shade that entire force is caused to act on both sides of the casing to resist the upward movement of the shade, thus rendering it practically impossible to raise the shade by a direct upward movement, while, on the other hand, the shade may be instantly and conveniently released by manipulation of the holder, it being understood, of course, that the holder is especially adapted for use upon spring or, as they are commonly called, "self-acting" shades or curtains.

I am of course well aware that various devices have heretofore been applied to car-window shades and other shades for the purpose of retaining them in any desired position. I am not aware, however, of the production of any device that would accomplish the desired results with entire satisfaction under the varying conditions of use as they are accomplished by my present invention, it being essential to the success of a device of this character that it be simple in construction, practically impossible to get out of repair, economical in cost, easily applied to any shades and upon any windows, that the device will not mar the window or the casing either in application or use, and that the locking of the shade to the casing shall be effected in such a manner that the constant jar and vibration of use upon railway-cars shall not act to release it.

With the above ends in view I have devised the simple and novel window-shade holder which I will now describe, referring to the accompanying drawings, forming part of this specification, and using reference characters to designate the several parts.

Figure 1 is a front elevation of a window, the casing being partly broken away to illustrate the application and use of my novel shade-holder; Fig. 2, an enlarged detail sectional view, and Fig. 3 is an edge view of one of the guides or travelers.

A denotes a window, and B a window-casing, which is shown as provided in front of the window-sash with a groove 10. It should be understood, however, that this groove may be deep or shallow, as preferred, it being simply necessary that enough of a groove be provided on each side to retain the guide in place.

C denotes a shade or curtain, preferably a spring or self-acting shade.

My novel shade-holder comprises the following elements, to wit: a tube 11, fixed at the lower edge of the curtain, guides or travelers 12, rigidly secured to the ends of the tube, locking-cams 13, lying within the guides and bearing upon the casing, rods 14, finger-pieces 15 for retracting the locking-cams, and springs 16 for returning the locking-cams to the locking position after they have been retracted. The guides are rigidly secured to the ends of the tube in any suitable manner. In the present instance I have shown the ends of the tube as threaded externally to engage corresponding threads in hubs 17 on the guides. The guides may be formed in any suitable manner—that is to say, they may be cast or may be struck up and formed from sheet metal, the only requirement being that each guide be provided with a groove 18, at the ends of which rollers 19 are pivoted and in which also the locking-cams are pivoted, as at 20. The rollers bear lightly upon the casing, so as to prevent the possibility of jamming or wedging, the guides, with their rollers, insuring that no matter whether the power applied to move the shade be applied in a direct line or not, the shade, if it moves at all, must move evenly, the only effect of sidewise pressure being to make one or the other of the rollers in the guides bear more

heavily upon the casing than the others do. The locking-cams are pivoted within the guides below the tube and are so shaped and so pivoted that they normally bear obliquely upon the casing above the pivotal point, the edges of the locking-cam being serrated, roughened, or provided with holding-pads to cause them to engage the casing. It will be seen that the action of each locking-cam when power is applied to raise the shade is to move the tube and the shade in the opposite direction—that is, against the opposite side of the casing—and as there is a similar locking-cam acting in precisely the same manner on the other side of the shade it follows that both sides of the shade will be rigidly locked against upward movement through the engagement of the cams with the casing and that the degree of pressure of the cams against the opposite sides of the casing will be wholly dependent upon the amount of power applied to raise the shade, so that it is practically impossible to raise the shade without manipulating the locking-cams, as will presently be explained. In practice I make springs 16 light, as I do not depend upon the power of the springs to hold the cams in operative position, the springs merely returning the locking-cams to their locking position the minute the pressure upon the finger-pieces is relieved after the shade has been raised or lowered. The action of the springs, therefore, is to place the locking-cams in the locking position; but after they are so placed the locking action is effected wholly independently of the springs. Rods 14 are pivoted to the upper ends of the locking-cams and extend through the tube toward the center, the inner end of each rod passing through a collar 21, which is fixed within the tube. At the inner end of each rod is a finger-piece, which extends through a slot 22 in the under side of the tube, the slot of course passing through the shade and being shown as surrounded by a plate 23. The rods and finger-pieces may be made in a single piece, or the finger-pieces may be soldered to the rods, or the inner ends of the rods may be threaded and tapped into the finger-pieces, as shown in the drawings. Each rod has a collar 24 rigidly secured thereto. The springs lie between the collars fixed in the tube through which the rods pass and the collars fixed to the rods, respectively, their action being to move the rods outward and to place the locking-cams in operative position.

The operation of my novel shade-holder will be perfectly obvious from the drawings. In fact, the locking action is wholly automatic. When it is desired to raise or lower the shade, the operator by means of the finger-pieces draws the locking-cams inward out of operative position. The shade is then free to be moved down or to be drawn up by its own spring, which has nothing to do with my present invention. The moment pressure upon the finger-pieces is removed the shade will be locked in the position it then occupies, and the application of power to move it upward will only lock it the tighter.

Having thus described my invention, I claim—

1. A window-shade holder comprising a tube, guides rigidly secured to the ends of the tube, rollers at the ends of the guides adapted to bear lightly on the casing, spring-actuated locking-cams pivoted to the guides and adapted to engage the casing above their pivotal points, and means for retracting the locking-cams when it is desired to move the shade upward.

2. A window-shade holder comprising a tube, guides rigidly secured to the ends of the tube and having rollers adapted to bear lightly upon the casing, locking-cams pivoted in the guides and adapted by engaging the casing to hold the shade against upward movement, means for retracting the locking-cams to release the shade and springs for returning the locking-cams to the locking position after they have been retracted.

3. A window-shade holder comprising a tube, guides rigidly secured to the ends of the tube and adapted to bear lightly upon the casing, pivoted locking-cams adapted to engage the casing above their pivotal points, rods lying within the tube and pivoted to the upper ends of the locking-cams, finger-pieces at the inner ends of the rods and extending through the tube for retracting the locking-cams and springs for returning the locking-cams to the locking position.

4. A window-shade holder comprising a tube, guides rigidly secured to the ends of the tube and adapted to bear lightly upon the casing, pivoted locking-cams adapted to engage the casing above their pivotal points, rods lying within the tube and pivoted to the upper ends of the locking-cams, collars fixed within the tube through which the rods pass, other collars fixed to the rods, finger-pieces by which the rods and cams are retracted and springs bearing against their respective collars, whereby the locking-cams are returned to the locking position.

5. A window-shade holder comprising a tube, guides having central hubs threaded to receive the ends of the tube and having at their ends rollers adapted to bear lightly upon the casing, locking-cams pivoted in the guides and adapted to lock against upward movement, rods lying within the tube and pivoted to the locking-cams by which the latter are retracted and springs acting to return the locking-cams to their normal position.

In testimony whereof I affix my signature in presence of two witnesses.

DANIEL HOYT.

Witnesses:
A. M. WOOSTER,
S. W. ATHERTON.