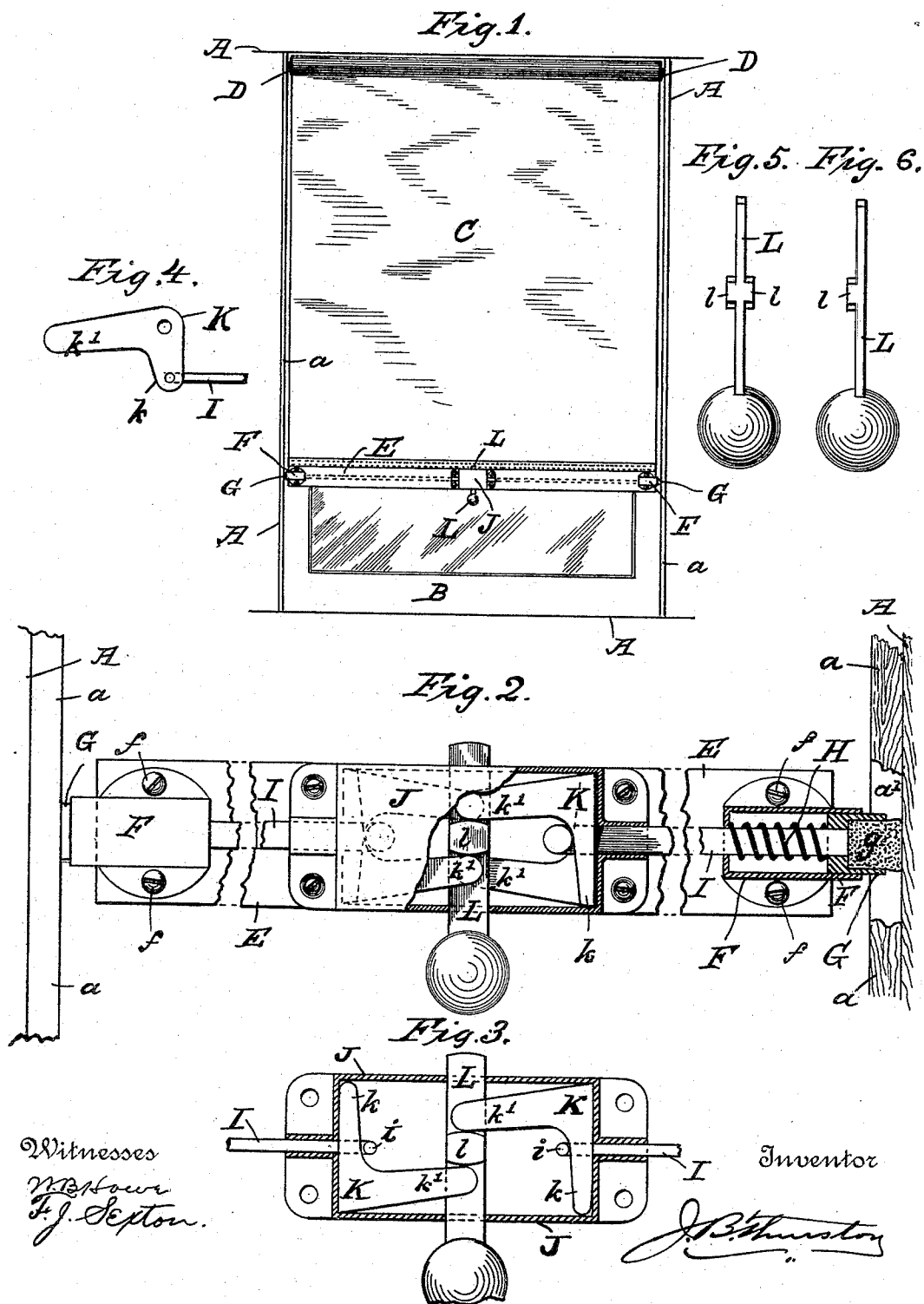


(No Model.)

J. B. THURSTON.
SHADE HOLDING MECHANISM.

No. 493,879.

Patented Mar. 21, 1893.



UNITED STATES PATENT OFFICE.

JAMES B. THURSTON, OF CONCORD, NEW HAMPSHIRE.

SHADE-HOLDING MECHANISM.

SPECIFICATION forming part of Letters Patent No. 493,879, dated March 21, 1893.

Application filed September 15, 1891. Serial No. 405,739. (No model.)

To all whom it may concern:

Be it known that I, JAMES B. THURSTON, a citizen of the United States, residing at Concord, in the county of Merrimac and State of New Hampshire, have invented certain new and useful Improvements in Shade-Holding Mechanism; and I do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same.

This invention relates to spring actuated window shades, the object being to provide a simple means for holding and controlling the movement of a shade.

The invention consists particularly in the application to the frictional holding mechanism attached to the bottom of a shade and operating against the window frame, of a novel releasing device embracing an actuating bar capable of movement vertically in either direction coincident with the movement of a shade. The difficulty with frictional holding mechanism for spring actuated shades, especially where such are used upon public conveyances such for instance as steam railway or street cars, lies in the fact that people of varying degrees of intelligence are called upon to manipulate them, and hence the device by which the friction is released and the shade may be raised or lowered should be one whose particular movement, or required mode of operation would be suggested to the ordinary individual at sight.

After varied experiments with operating devices for frictional holding mechanism for shade sticks, I am convinced that the most natural movement for such device would be a push or pull, in the direction which it is intended to move a shade. There are many methods of carrying this principle into practice, one of which will be fully set forth in the following specification and claims, and clearly illustrated in the accompanying drawings forming a part thereof, of which,—

Figure 1. represents, a car window frame, its sash, and a spring actuated shade having my improvements attached, all in elevation, Fig. 2. being an enlarged broken sectional elevation showing a portion of the frame of a window, a shade stick provided with frictional

holding mechanism, and one form of my improved releasing mechanism, by which the friction is released at both ends of the stick at each movement. Fig. 3. is a simple modification whereby the friction is released at one end only at each movement. Fig. 4. is a detached view of portions of my invention slightly modified. Figs. 5 and 6 are detached edge views showing the push and pull bar, as illustrated respectively in Figs. 2—3.

Similar reference letters indicate corresponding parts throughout the various views.

A represents a window frame, B, its sash.

C, is a shade, and D, a spring actuated shade roller.

E, is a shade stick to which any desired friction mechanism may be applied; that which I show in the drawings consisting of small metallic housings F, secured one at each end to the shade stick E, by screws *f*, in each of which is mounted a hollow plug G, carrying a rubber tip *g*, a spring H, acting expansively between the closed end of either housing F and the inner end of either plug G, and the release rods or wires I, attached one to either plug G, and extending out through the closed end of either housing F, near to a point equidistant from the ends of the shade stick.

The springs H, may be conveniently mounted upon these wires I, as shown. When properly adjusted relative to the distance between the sides of the window frame a slight movement of either of the wires I, toward the other, will release the friction sufficient to permit the shade to be moved up or down; but in Fig. 2, I have shown a construction which involves the movement of both wires I, simultaneously at each movement of the push or pull bar, while Fig. 3, illustrates the construction involving the movement of but one of the wires I, at each movement of the push or pull bar. The adjacent ends of the wires I, enter opposite sides of a metallic housing J, and may each be bent as at *i*, so as to bear against one arm *k*, of a bell crank K, one at each side of said housing, as seen in Fig. 3, or two of the said bell cranks may be used as seen in Fig. 2; or the said wires I, may be pivotally connected to said arms *k*, as at *i'*, in Fig. 4. The opposite arms *k'*, of said bell cranks K, rest at opposite sides of a boss *l*,

formed upon the push or pull bar L, as seen in Fig. 3, in which case the push or pull bar is of the form shown in Fig. 6, but when four of the bell cranks K, are used,—two at each end,—a push or pull bar having a similar boss l, at opposite sides (as seen in Figs. 2 and 5) must be used. In either construction it is obvious that a movement of the said push bar upward will first release the friction and then carry the shade C, and vice versa. In the construction shown in Fig. 2, the required motion of the said push bar is less than that which it would be required to move by the construction shown in Fig. 3; but the maximum movement required to release the friction of the plugs G, upon the window frame is less than one eighth of an inch of said push bar, in either direction. The said push or pull bar is carried in a groove in the upper and lower edges of said housing J, and is held by the arms K' of the bell cranks K, normally in the position shown, by reason of the arms k, being pressed normally against the walls of the housing J, from the action of the springs H, against the plugs G; and said pull bar after being moved in either direction will, upon being released always return automatically to its normal position. The arms k of the bell cranks K, are preferably made to reach from top to bottom of said housing in order to avoid the expense of fulcrum pins.

Two cleats a are secured to the side of each window frame whereby a groove a' is formed for the reception of the friction plugs G.

Having described my invention, what I claim is—

1. The combination with a shade stick, provided with a retaining device, of a casing secured to said stick, a longitudinally movable release rod secured to said device at one end and having its other end within the casing, a longitudinally movable bar within the casing at an angle to the rod and an angle lever within the casing one end of which engages with the rod and the other end engages with the bar, substantially as set forth.

2. The combination with a shade stick, provided with a retaining device, of a casing secured to the stick provided with an interior angle, a longitudinally movable release rod secured to said device at one end and having its other end within the casing, a longitudinally movable bar within the casing at an angle to the rod, and an angle lever loosely se-

cured within the casing, the angle of the lever being more acute than the angle of the casing and located therein, one end of which lever engages with the rod and the other end engages with the bar, substantially as set forth.

3. The combination with a shade stick of a casing secured thereto provided with four interior angles, of a longitudinally movable rod arranged transversely within the casing, a longitudinally movable rod projecting into each end of the casing substantially in a line with each other and at right angles to the first mentioned rod, and an angle lever in each corner of the casing, one arm of each of which engages with the transverse rod and the other arm of two of the levers engage with each one of the other rods, respectively, substantially as set forth.

4. The combination with a shade stick, of three casings secured thereto, the outer two of which are each provided with a spring, and the central casing is provided with four angles, a longitudinally movable rod arranged transversely in the central casing, four angle levers loosely mounted in said central casing, one arm of each of which engages with the rod, and two rods, the outer end of each of which is provided with a cushion and is located within one of the end casings, and the other end enters the central casing and engages with one arm of each of two of the levers within the casing, substantially as set forth.

5. The combination with a shade stick, of a casing secured to said stick, of a longitudinally movable spring actuated rod, one end of which is provided with a cushion and the other end is provided with a projection and enters the casing, a longitudinally movable bar within the casing at an angle to the rod and provided with a projection within the casing, and two angle levers in the casing, one upon each side of the end of the rod and each having one of its ends in engagement with the projection thereof, the other ends of said levers being in engagement with the projection on the bar, substantially as set forth.

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

JAMES B. THURSTON.

Witnesses:

NATHL. E. MARTIN,
FRANK A. MERRILL.