

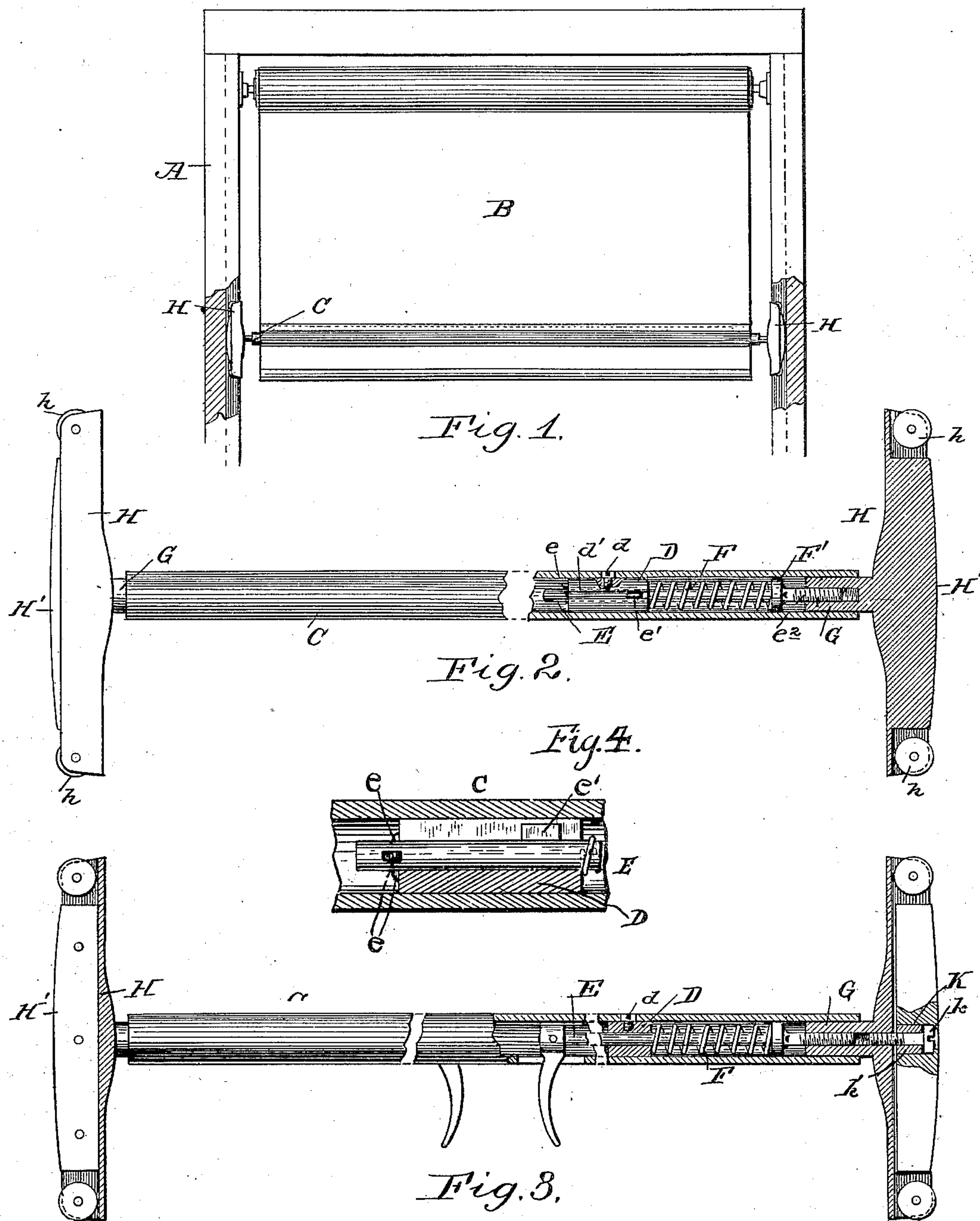
No. 705,031.

Patented July 22, 1902.

E. T. BURROWES.
DEVICE FOR SPRING ACTUATED SHADES.

(Application filed Mar. 22, 1898.)

(No Model.)



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UNITED STATES PATENT OFFICE.

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DEVICE FOR SPRING-ACTUATED SHADES.

SPECIFICATION forming part of Letters Patent No. 705,031, dated July 22, 1902.

Application filed March 22, 1898. Serial No. 674,817. (No model.)

To all whom it may concern:

Be it known that I, EDWARD T. BURROWES, a citizen of the United States, residing at Portland, in the county of Cumberland and State of Maine, have invented certain new and useful Improvements in Devices for Spring-Actuated Shades; 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 an improvement in holding devices for spring-actuated shades; and it is embodied in the construction and arrangement of parts hereinafter described, and defined in the claims.

Generally speaking, the invention is an improvement on that type or class of devices for holding a spring-actuated shade at different points of adjustment against the tendency of the spring of the shade-roller to wind the shade up. Devices of this character have usually been formed with spring-pressed friction shoes or tips attached to or carried by a stick, usually applied to the curtain or shade at the lower margin thereof, the spring or springs which are used in connection with the tips serving to set the same against the jamb of the window-frame with sufficient friction to overcome the constant tendency of the shade-roller spring to wind up the shade. Heretofore a style or pattern of shoe or tip has been suggested which is somewhat elongated, the friction-tip being pivotally secured in the shoe, so that the same will tilt should the curtain-stick be thrown out of horizontalism. This form of fixture has been found to be successful in use. There are, however, objections to an independent movable friction tip or surface, owing primarily to the fact that the same is a loose member and under certain conditions will rattle, and, further, a pivotal friction-surface requires special and accurate adjustment or fitting to the shoe carrying the same.

The above style of fixture is generally known as the "self-righting" fixture, and of that type there is the pivotal-tip fixture and the fixed or stationary tip fixture. The lat-

ter form requires a relatively large friction-surface, and it has been found that the anti-friction-rollers which are at the ends of the shoes will not be brought into play promptly, but only after the stick has been considerably tilted.

The object of the present invention is to overcome objections which may be urged against the pivotal and fixed tip forms; and it may be stated as consisting generally in a shoe having a friction-surface of rocker or inclined formation in combination with setting-springs.

The invention further consists in a construction of fixture whereby the friction setting mechanism is adapted for adjustment to the outer ends of the hollow curtain-stick.

The invention further consists in features of construction presently to be described.

In the drawings I have shown the invention in a convenient and operative form, but desire it understood that the same is not limited to the construction therein delineated.

Figure 1 is a side elevation of a window-frame, showing the shade placed therein, which latter is provided with the improved fixture, portions of the frame being shown in section. Fig. 2 is an enlarged sectional elevation through the shoe and a portion of the hollow stick. Fig. 3 illustrates a modified form of fixture, and Fig. 4 is an enlarged detail section through the securing-sleeve, showing the adjacent portions in elevation.

In the drawings, A represents the window-frame, and B the curtain, which is mounted on the well-known spring-actuated roller, the spring of which, however, has a constant tendency to roll or draw the curtain up. In the lower margin of the curtain or shade is a tubular stick C, the same being secured, as is usual, in a pocket formed on or in the shade.

In the preferred form of fixture I place the holding mechanism, presently to be described, in the outer ends of the stick and without compressing or retracting instrumentalities. I desire it understood, however, that the invention is not limited to this particular arrangement. Fixedly secured in each end of the stick is what I term a "sleeve" D, the

same being rigidly secured within the stick at points somewhat back from the ends and secured by any suitable means, conveniently by a screw d passing through the wall of the stick into the sleeve, as shown in Fig. 2. This sleeve has a channel or groove d' cut longitudinally therethrough. Loosely passing through the sleeve and extending beyond the same in opposite directions is a rod E, the inner end of which has a shoulder e , formed thereon in any convenient manner, which is designed to abut against end of the sleeve. This rod is extended outwardly and has sleeved thereon a spiral spring F, the inner end of which abuts the sleeve, while the outer end rests against a washer or collar F', conveniently fixed on the rod. By this means the tendency of the spring is to force the rod outward toward the end of the stick. To prevent the rod turning in the sleeve, I form a projection or spline e' on the rod. This projection or spline is so placed on the rod that it will lie in the channel formed in the sleeve, which is of a width less than that of the channel, so that it will not interfere with the reciprocating movement of the rod in the sleeve. The outer end of the rod E has a thread e^2 formed thereon, which takes into a threaded thimble G, loosely fitted into the end of the shade-stick.

On the outer end of the thimble G is an elongated shoe H, having in its opposite ends antifriction wheels or rollers h . Between the rollers the outer edge of the shoe is fashioned conveniently into the form of an elongated rocker H', the convexed surface of which is presented outwardly and extends from points adjacent to the rollers, its crown or central portion being on a plane slightly beyond the plane of the periphery of the rollers. This rocker-surface may be formed directly on the surface of the edge of the shoe proper, or the same may be constructed of a separate piece and in any other convenient manner secured within the shoe. In the form shown in Fig. 2 the shoe is conveniently a block having the rocker-shaped outer edge, the opposite ends being bifurcated to receive the rollers, while in the form shown in Fig 3 at the left the shoe is hollow and the rocker-tip portion is fixedly secured within the same, conveniently by pins.

To adjustably secure the shoe to the thimble, I conveniently form a central opening or chamber K in the shoe, as shown at the right in Fig. 3, and locate therein the head of a screw k , the head being loosely secured within the chamber by placing back of the same and within the chamber a washer k' . To permit the turning of the screw, a small opening is formed in the outer face of the rocker portion of the tip or shoe, the diameter of which is less than that of the head of the screw, and through this opening a suitable screw-driver or other instrument may be passed for engaging the kerf in the head of the screw. The inner end of the screw k takes into a threaded opening

in the thimble G. By this means the shoe can easily and readily be adjusted in or out to accommodate the fixture to varying widths of frames. The adjustment by means of the screw k , I may state, is auxiliary to the adjustments which may be secured through the screw connection between the thimble and rod and is designed more particularly to effect a small adjustment without turning the entire shoe one half-revolution, as is the case when the adjustment is effected through the threaded connection between the thimble and rod.

By the construction above described it will be noticed that the friction setting mechanism is located wholly in the outer end of the stick, and I have found that in many cases it is not necessary to use retracting means for compressing the spring to release the friction of the shoes or tips, but that owing to the formation of the friction-surface the fixture can be slid up or down when pressure is applied to the stick to adjust the curtain, and this without compressing the springs. In this connection I would state that the material of which the friction-surfaces are composed is conveniently metal.

In Fig. 3 I have shown a slight modification, the chief feature of which I have already referred to. This form, however, also comprises what is commonly known as the "pinch-handle" feature of devices of this character, the handles in this particular instance being connected to the extended inner ends of the rods E and project through suitable openings in the stick at or near the center. This arrangement is sometimes convenient should the fixture be found to require an unusual amount of pressure or force to slide the shoes up or down.

The action of the elongated head with the antifriction-roll when the curtain is in operation is as follows: Should the curtain-stick be moved up horizontally, the shoes will slide on the jamb and the friction will be sufficient to overcome the tendency of the spring of the shade-roller. Should the stick be tilted during operation, the movement will transfer the friction from the rocker-surface to the antifriction-rolls, thus allowing the spring of the shade-roller to act promptly in drawing the shade up, and when the hand of the operator is removed from the stick the slight resistance offered by the antifriction-rollers will cause the spring of the shade-roller to readjust the stick to its proper horizontal position, retransferring the friction from the rollers to the rocker-shaped tips, the friction being gradually increased by virtue of the curved friction-face of the tips, thereby forming what may conveniently be termed a "wedging action."

While I have shown and described special features of construction, I desire it understood that many changes in the same may be made without departing from the nature and principle of the invention.

Having thus described the invention, what

is claimed as new, and desired to be secured by Letters Patent, is—

1. In a holding-fixture for spring-actuated shades, the combination with a shade, of
5 spring-pressed shoes carried thereby having elongated rocker-shaped friction engaging surfaces, substantially as described.
2. In a holding-fixture for spring-actuated shades, the combination with a shade, of a
10 hollow stick carried thereby and spring-pressed shoes secured to the ends of the stick having elongated rocker-shaped friction engaging surfaces, substantially as described.
3. In a holding-fixture for spring-actuated
15 shades, the combination with a shade, of spring-pressed shoes carried thereby having friction engaging members of elongated rocker shape and antifriction members above and below the rocker-shaped members, sub-
20 stantially as described.
4. In a shade-holding fixture, the combination with the shade, of spring-pressed friction devices carried by the shade located at the edges thereof, the same consisting of elongated shoes having elongated convex friction
25 engaging surfaces between their ends and members of less holding power at opposite ends of the friction-surface and means for supporting the same on the curtain.
5. In a holding-fixture for spring-actuated shades, the combination with a shade, of a stick secured thereto, a friction-shoe at the outer end of the stick, means for securing the same to the stick comprising a rod located in
35 the end of the stick, a spring on the rod for forcing the same outward, removable means at the end of the stick for limiting the outward movement of the rod, and means on the rod with which the limiting means engages.
6. In a holding-fixture for spring-actuated shades the combination with a shade, of spring-pressed shoes carried thereby having elongated friction engaging surfaces formed with outwardly-curved opposite portions extending from the center to the ends thereof.
45
7. In a holding-fixture for spring-actuated shades the combination with a hollow stick, of a friction-shoe at the end of the stick having a stem, a rod in the stick having a threaded engagement with the stem, a spring on the
50 rod and means fixed in the stick for limiting

the outward movement and preventing the turning of the rod; substantially as described.

8. In a holding-fixture for spring-actuated shades, the combination with a shade, of a
55 stick secured thereto, a friction-shoe at the outer end of the stick, a rod within the stick having a threaded engagement with the shoe, a spring on the rod, an abutment within the stick through which the rod passes and means
60 on the rod engaging the abutment for preventing the turning of the rod, substantially as described.

9. The combination with a stick, of a spring-actuated rod therein, an oblong head at the
65 end of the stick having an extension engaging the stick to prevent independent tilting, an oblong friction member in the head and means for moving the friction-surface independent of the head to vary the position of
70 its engaging surface relative to the head.

10. In a holding-fixture for spring-actuated shades, the combination with a shade, of spring-pressed shoes carried thereby having elongated oppositely-inclined friction engaging surfaces, substantially as described. 75

11. In a shade-fixture the combination with a hollow stick, of a friction-head at the end of the stick, an adjustable connection between the head and stick, an adjustable friction-block, and means for adjusting the block on the head. 80

12. In a frictional shade-holding device, the combination with a stick, of a head at the end thereof, a friction-surface carried by the
85 head, and means for adjusting the friction-surface on the head, and securing the same in adjustable positions.

13. In a shade-holding device, the combination with a stick, of a spring-actuated rod
90 therein, an oblong head at the end of the stick, an oblong friction member in the head and means for moving the friction member independent of the head to vary the position of its engaging surface relative to the head. 95

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

EDWARD T. BURROWES.

Witnesses:

H. W. ROBINSON,
F. L. RICKER.