

No. 725,062.

PATENTED APR. 14, 1903.

H. H. FORSYTH.  
SHADE HOLDING MECHANISM.

APPLICATION FILED AUG. 29, 1902.

NO MODEL.

Fig. 1.

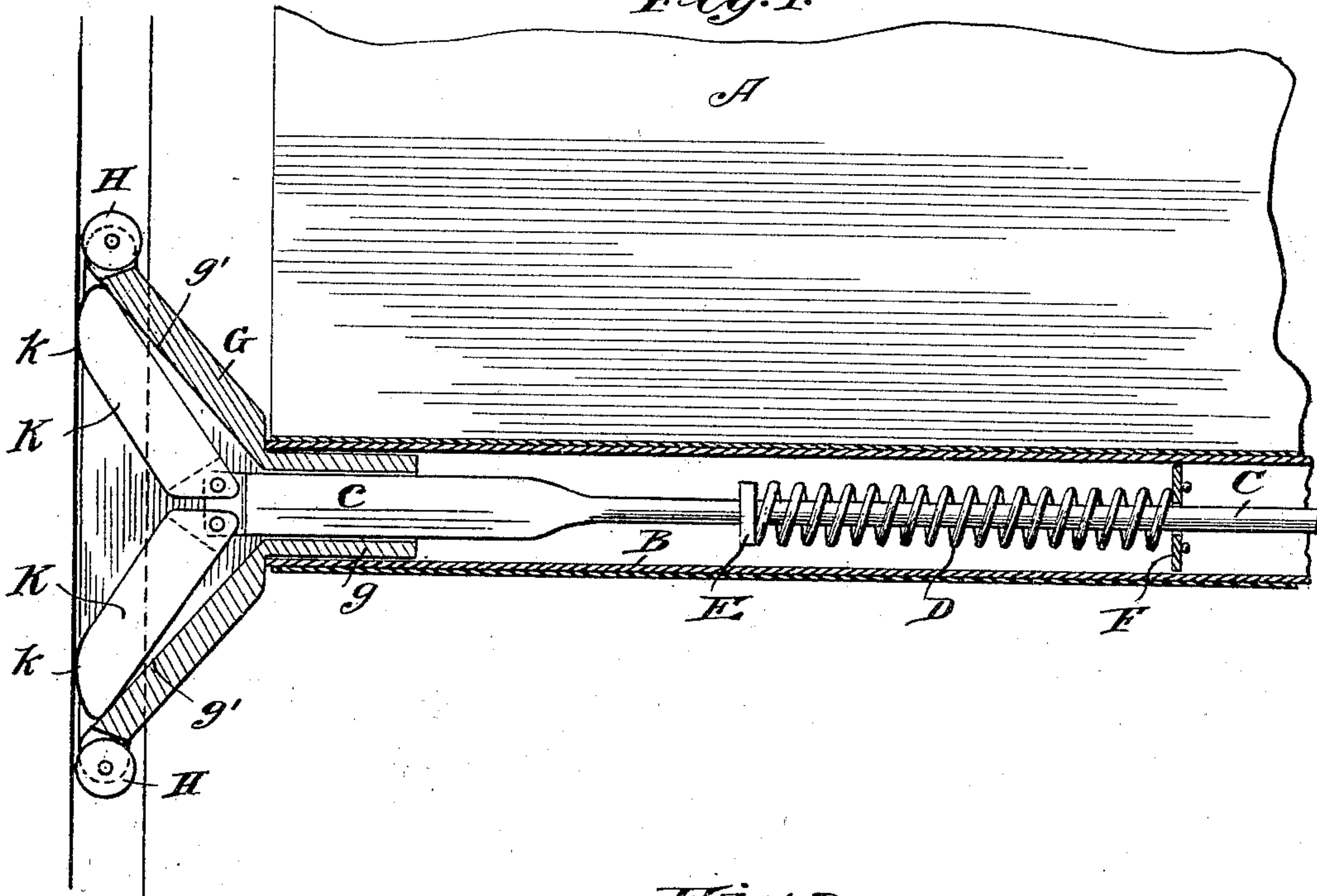


Fig. 2.

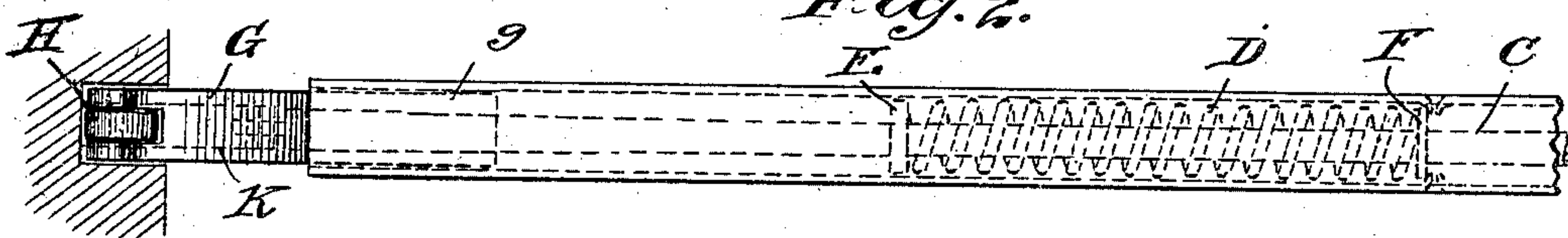
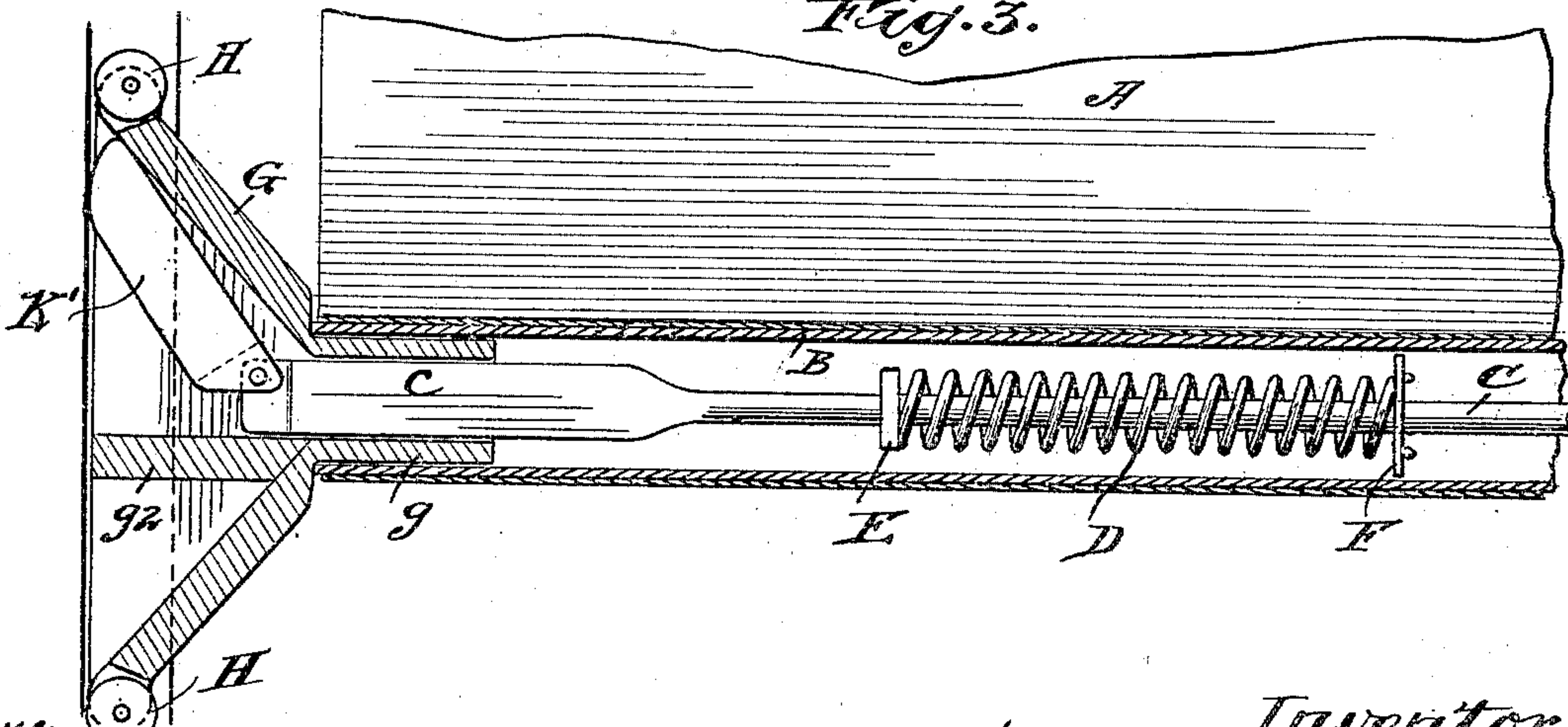


Fig. 3.



Witnesses,  
J. J. Mann  
S. H. Pond.

Inventor  
Henry H. Forsyth  
By *Offield Todd & Luthien*



# UNITED STATES PATENT OFFICE.

HENRY H. FORSYTH, OF CHICAGO, ILLINOIS.

## SHADE-HOLDING MECHANISM.

SPECIFICATION forming part of Letters Patent No. 725,062, dated April 14, 1903.

Application filed August 29, 1902. Serial No. 121,421. (No model.)

*To all whom it may concern:*

Be it known that I, HENRY H. FORSYTH, a citizen of the United States, residing at Chicago, in the county of Cook and State of Illinois, have invented certain new and useful Improvements in Shade-Holding Mechanism, of which the following is a specification.

My invention relates to a device for frictionally retaining a shade or curtain in any desired position against the tendency of its actuating means to withdraw the same by rolling it up on the usual roller or otherwise.

More particularly the invention relates to that class of shade-holding devices in which the shade is mounted upon a spring-actuated retracting device, such as a roller, at one end and is provided with friction devices at its other end normally held in contact with the bottoms of the grooves of the window-frame by outwardly-forcing springs.

My invention has for its object to improve and advance the art of shade-holding mechanism of this type through the production of a shade-holding device characterized by increased simplicity of parts, ease of manipulation, and a quicker acting and more effective normal frictional hold upon the base of the grooves of the frame.

The novel principle of my invention resides in the employment of a spring-actuated sliding wedge which when in action is bodily advanced and crowded between a fixed point or surface, preferably an inclined plane, on the usual friction-shoe head or housing and the bottom of the groove of the window-frame or other shade-holder in which the friction devices act, and this bodily-sliding wedge in the preferred embodiment of my invention is duplicated on each side of the curtain or shade in the form of a pair of toggle-links, which are pivoted at the knuckle of the toggle to the outer end of the usual spring-impelled actuating-rod, which operates longitudinally in a direction at right angles to the curtain-grooves of the frame.

My invention in the best mechanical embodiment thereof which I have hitherto devised is illustrated in the accompanying drawings, wherein—

Figure 1 is a broken elevation of the left-hand end of the lower margin of a shade or curtain with the holding device applied thereto, a part of the holding device being shown in longitudinal section. Fig. 2 is a bottom

edge view of the same; and Fig. 3 is a view similar to Fig. 1, illustrating a slightly-modified form of the embodiment of the invention illustrated in Fig. 1.

Referring to the drawings, A designates the shade; B, the usual transverse hollow shade-stick, secured to and carried by the lower end of the shade; C, one of the endwise-sliding brake-actuating rods, housed within the casing B, and D the impelling-spring therefor, abutting at its opposite ends fixed collars or stops E and F, fast on the rod C and in the casing B, respectively.

In the outer end of the tube B is secured the tubular stem *g* of a hollow head or housing, (designated as an entirety by G.) This head consists, preferably, of a flat metal casing of a thickness to slide freely in the groove of the window or other frame, as shown in Fig. 2, and containing a generally triangular-shaped chamber, the upper and lower walls of which are obliquely disposed and outwardly divergent from the adjacent edge of the curtain and constitute, in effect, inclined planes *g'*, which serve as abutments for the rear edges of the sliding wedge-blocks, hereinafter described. The upper and lower extremities of the housing G are preferably provided with rollers H, though these may be omitted without departure from the principle of the invention.

The outer end portion of the actuating-rod C is preferably flattened throughout the extent of its reciprocation through the stem *g* of the brake-housing, as shown at *c*, and to the outer end of this flattened extremity of the rod is pivoted a pair of wedge-blocks K, which in the retracted position of the rod C lie with their rear edges against and in contact with the inclined planes *g'* of the housing. The outer or divergent ends of the blocks K are tapered off and preferably slightly rounded where they contact the base of the groove.

From the described relative arrangement of the wedge-blocks K and their spring-impelled actuating-rod C it will be observed that the said links form, in effect, a toggle-joint, which the force of the spring D, acting through the rod C *c*, constantly tends to straighten, as a result of which action the outer divergent ends of the blocks are slidingly forced and crowded wedge fashion between the inclined planes *g'* of the housing and the opposite base



of the groove of the framework, this producing such a degree of friction between the blocks and the groove as to hold the shade stationary and prevent its movement under the action of the shade-roller spring except when the rod or rods C are withdrawn.

Fig. 3 illustrates a somewhat simplified modification of the construction already described in connection with Figs. 1 and 2, wherein one of the links (as herein shown, the lower) is omitted, and the housing G is provided with a transverse partition  $g^2$ , the upper margin of which is in line with the lower wall of the stem  $g$  and constitutes a continuation of the horizontal support of the extremity  $c$  of the engaging rod C. To the end of the latter is pivoted a single wedge-block  $K'$ , the action of which in connection with the actuating and confining members with which it is associated is identical with the action of either of the links K already described in connection with Fig. 1. The modified form illustrated in this figure is shown only to present a very simple form of the invention, but one which notwithstanding the employment of a single wedge-block is, owing to the peculiar jointed relation and toggle-joint action between the wedge-block and its actuating-rod, effective for all practical purposes, although I prefer the double construction illustrated in Fig. 1.

I am aware that prior to my invention friction brake-shoes have been employed in shade-holding devices of this character wherein the brake-shoe is in the nature of a cam directly pivoted in and to its housing and having only a partial rotating movement upon its pivot when serving as a brake, but no bodily-sliding movement, and consequently no wedge-like action, between its housing and the base or side walls of the groove in which it operates. My invention is therefore radically distinguished in principle from all such devices, and believing myself to be the first to employ a bodily-sliding wedge whose efficiency results from its confinement between a fixed abutment in or on its housing and the wall of the groove I do not limit myself to any particular form of sliding wedge-block, although I believe the form herein shown and described to be the best form that can be employed for this purpose.

I prefer to make use of the inclined planes  $g'$  constituting the top and bottom inner walls of the housing as the abutments for the wedge-blocks, since the latter also constitute convenient guides and rests for the latter when the wedge-blocks are retracted in order to raise or lower the shade; but it will be evident that any fixed point or surface within the housing which will permit the wedge-blocks to slidingly abut the same will answer the purposes of and be within the spirit of my invention.

I claim—

1. In a shade-holding mechanism, the com-

bination with a head adapted to be carried by the shade, of a bodily-slidable wedge-block carried by the head and spring-impelled actuating means therefor normally tending to crowd the wedge-block between an abutment of the head and the wall of the adjacent frame, substantially as described.

2. In a shade-holding mechanism, the combination with a chambered head adapted to be mounted in the side of the shade and to reciprocate in a groove of the adjacent frame, said head having one of its inner walls formed as an inclined plane, of a bodily-slidable wedge-block housed therein, and a spring-impelled actuating-rod pivoted to the inner end of said wedge-block, and normally tending to crowd the outer end thereof between the inclined plane of the head and a wall of the groove, substantially as described.

3. In a shade-holding mechanism, the combination with a chambered head adapted to be mounted in the side of the shade and to reciprocate in a groove of the adjacent frame, the chamber of said head being triangular in form and having a wall which is oblique relatively to the direction of movement of the shade, of a bodily-slidable wedge-block housed in said head, and a spring-impelled actuating-rod pivoted to the inner end of said wedge-block and normally tending to crowd the outer end thereof between the oblique wall of the casing and the bottom wall of the groove, substantially as described.

4. In a shade-holding mechanism, the combination with the hollow shade-stick, of a chambered head mounted in the end thereof, the chamber of said head having its end walls formed oblique relatively to the direction of movement of the shade, a pair of outwardly-divergent wedge-blocks housed in said head, and a spring-impelled rod housed in said shade-stick and at its outer end hinged to the inner convergent ends of said wedge-blocks and normally pressing upon the knuckle of the toggle formed thereby to crowd the outer ends of said blocks between the oblique end walls of the head and the bottom of the groove, substantially as described.

5. In a shade-holding mechanism, the combination with the hollow shade-stick, of a chambered head mounted in the end thereof, the chamber of said casing having its end walls formed oblique relatively to the direction of movement of the shade, a pair of outwardly-divergent wedge-blocks housed in said head, a spring-impelled rod housed in said stick and at its outer end hinged to the inner convergent ends of said wedge-blocks and normally pressing upon the knuckle of the toggle formed thereby, and rollers on the ends of said head, substantially as described.

HENRY H. FORSYTH.

Witnesses:

SAMUEL N. POND,  
FREDERICK C. GOODWIN.