

No. 640,291.

Patented Jan. 2, 1900.

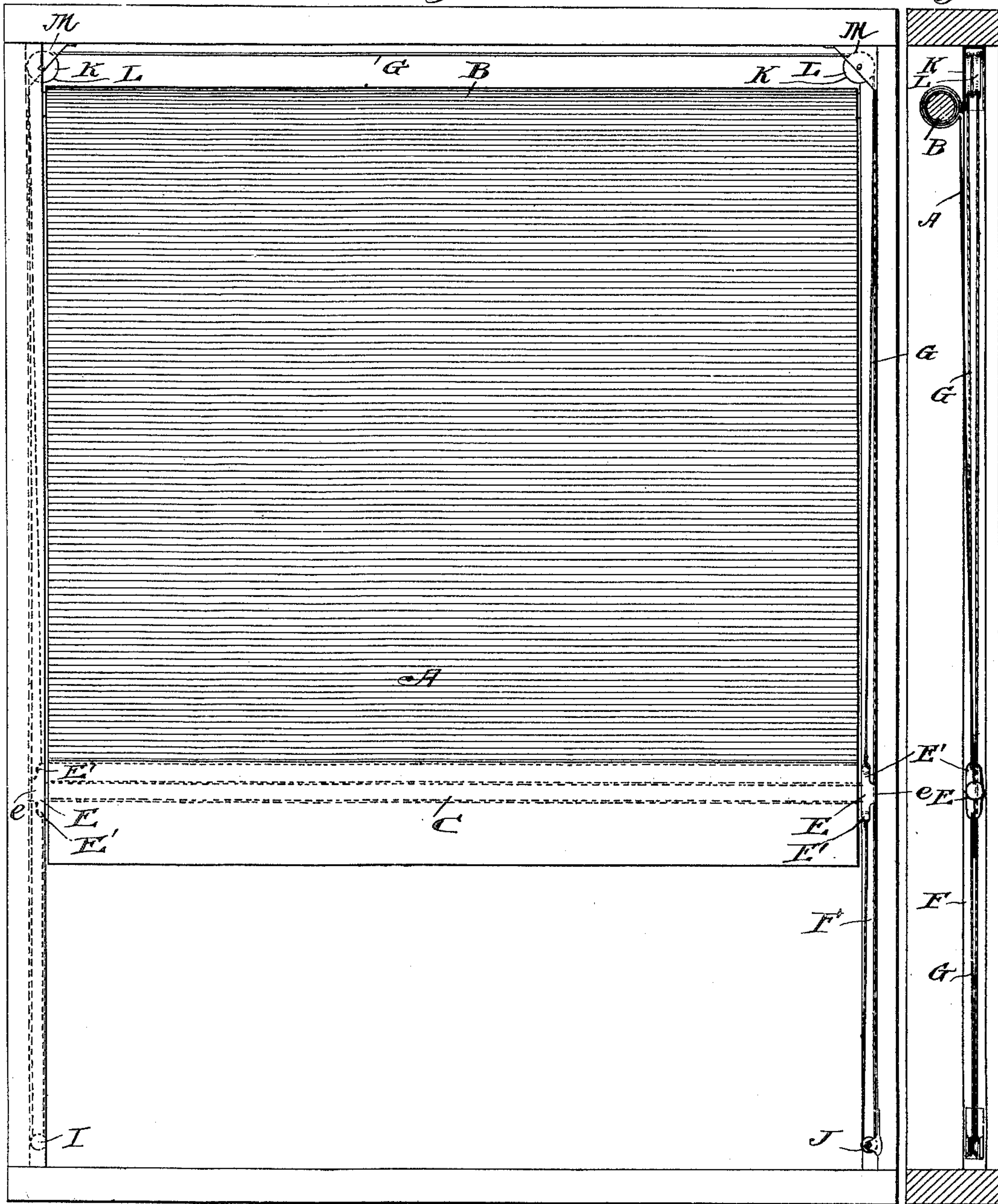
H. H. FORSYTH.  
SHADE ADJUSTING AND HOLDING MECHANISM.

(Application filed Nov. 5, 1896.)

(No Model.)

Fig. 1.

Fig. 2.



Witnesses,

J. D. Mann,  
Frederick Goodwin

Inventor,

Henry H. Forsyth  
By *Ly. Offield, Towle & Luthicus*  
Attys.



# UNITED STATES PATENT OFFICE.

HENRY H. FORSYTH, OF CHICAGO, ILLINOIS, ASSIGNOR, BY MESNE ASSIGNMENTS, TO THE CURTAIN SUPPLY COMPANY, OF SAME PLACE AND JERSEY CITY, NEW JERSEY.

## SHADE ADJUSTING AND HOLDING MECHANISM.

SPECIFICATION forming part of Letters Patent No. 640,291, dated January 2, 1900.

Application filed November 5, 1896. Serial No. 611,113. (No model.)

*To all whom it may concern:*

Be it known that I, HENRY H. FORSYTH, of Chicago, Illinois, have invented certain new and useful Improvements in Shade Adjusting and Holding Mechanism, of which the following is a specification.

This invention relates to that class of devices which are used to hold spring-actuated window shades or curtains in any position to which they may be adjusted, and more particularly to that class of shade-holding devices in which cords are employed as the means for guiding and holding the shade.

The object of the invention is to provide means of this kind which shall be very simple in construction and operation, and therefore economical, readily applied, and easily removed or repaired.

The essential feature of the invention consists in an endless flexible connection made fast at two points to the shade and preferably at the opposite ends of the shade-stick carried by the lower edge of the shade.

In the accompanying drawings, Figure 1 is an elevation, partly in section, through one side of the window-casing. Fig. 2 is a transverse sectional view.

In the drawings let A represent the curtain, which is mounted on the usual spring-actuated shade-roller B and is provided in its lower edge with a shade-stick C. Said shade-stick at its outer ends carries tips or heads E, having a shouldered part e, which slides upon one strand of the operating-cord and within the groove F. The tip or head has also perforated lugs E'. To these lugs is connected an endless cord G, which cord is doubled upon itself and passes over pulleys, by which it is guided and controlled. In the illustration shown in the drawings, and which is the preferred form, the pulleys are located near the four corners of the frame, the pulleys I J at the lower corners being single and set with their axes at right angles to the plane of the shade, while the upper pulleys (marked K L) are arranged in pairs—a pair at each corner—and mounted, for example, in brackets M. While the cord is designated as “endless,” it may be separated at the points where it is attached to the lugs of the tip or head;

but the cord may be made, in fact, endless by passing it through the apertures of said lugs, or it may be secured directly to the shade-stick without the tips or heads or connected in any convenient way to the shade or some part thereof, but preferably near the lower margin of the shade.

To explain the operation of the fixture, it will be necessary to trace the cord. The strand of the cord which is attached to the upper of the perforated lugs on the tip or head at the right-hand end of the shade-stick passes up over the rear member of the pair of pulleys K L at the upper right-hand corner of the frame, thence over the rear member of the pair of pulleys at the upper left-hand corner of the frame, thence downwardly over the pulley I from the rear side thereof, and thence upwardly and is connected to the lower of the apertured lugs of the tip or head at the left-hand end of the fixture. The other strand of the cord, connected to said fixture at the left-hand end, passes upwardly over the front member of the pair of pulleys at the upper left-hand end corner of the frame, thence across and over the front member of the pair of pulleys in the upper right-hand corner of the frame, thence downwardly and around the pulley J from the rear side thereof, and thence up and is connected to the lower apertured lug at the right-hand end of the shade-stick. Now obviously when the shade is moved up or down the pull is equal on both ends no matter where the force be applied, and it is thus made impossible to move the curtain out of its horizontal position, while the heads or tips riding in the grooves prevent its being moved out of its normal plane, although the shade is also maintained in vertical plane by the operating-cords, supposing them to be stretched taut. There is thus provided on each side of the shade an ascending and a descending strand of the cord, and all of the strands move simultaneously and in unison, two of the strands ascending while the others are descending. The inside strands move in one direction, and the outside strands move in the opposite direction, the inside strands being attached to the shade-stick.



While the arrangement shown is preferred, obviously it may be changed within the scope of the invention. For example, the strands which are shown as passing across the top of the window may be arranged to cross at the bottom instead, and instead of running around three sides of the window the cords may be extended entirely around the window. These and other similar variations in the arrangement of the parts may be made while preserving the essential feature of this invention. The manner of connecting the cord to the curtain may also be varied.

The invention is adapted for general use, but especially adapted for use in street-railway cars, where economy and simplicity in construction and ease of working are much desired. It is also an important item in the equipment of street-cars, and particularly open street-cars with curtains, to provide a fixture which will absolutely maintain the lower margin of the shade in a horizontal position, and this without reference to the fact that it may be operated by taking hold of the lower margin of the curtain toward its ends instead of at its middle. These fixtures must also be of such character as to hold the curtain or shade against strong gusts of wind, and the cord is depended upon to furnish sufficient friction to hold the shade to any adjusted position against the pull of the spring of the shade-roller. The slack is distributed throughout the length of the cord, and there is no unequal strain or wear upon any particular part thereof. While I prefer to use guide-pulleys, still any suitable form of guide

may be employed around which the cord may be turned at the angles of the frame. The amount of friction exerted by the cords and which serves as a means for holding the curtain in the adjusted position will vary with the character of guide used.

I do not claim as of my invention the specific construction of the tips or heads to which the cords are attached, nor do I claim the particular construction of triangular bracket for supporting the pulleys; but

What I claim, and desire to secure by Letters Patent, is—

1. A shade-holding mechanism comprising in combination a spring-actuated roller, to which one end of the shade is attached and an endless cord doubled upon itself and having two of its strands adapted to be attached to the other end of the shade, and suitable guides over which the strands are turned, substantially as described.

2. A shade-holding mechanism comprising in combination a spring-actuated shade-roller, to which one end of the shade is attached and an endless cord doubled upon itself and having two of its strands adapted to be made fast to the other end of the shade at opposite sides thereof, the attached strands moving during operation in one direction, while the unattached strands move simultaneously in the opposite direction, substantially as described.

HENRY H. FORSYTH.

Witnesses:

C. C. LINTHICUM,  
FREDERICK C. GOODWIN.