(No Model.)

J. ALLEN.

CURTAIN OR SHADE ROLLER.

No 302,372. Patented July 22, 1884.

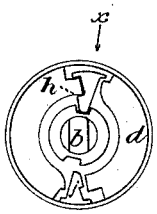

Fig. 1

Fig. 2.

Fig. 4.

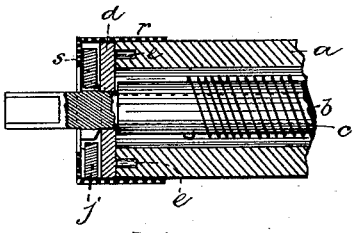

Fig. 3.

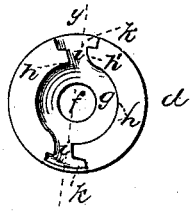

Fig. 5.

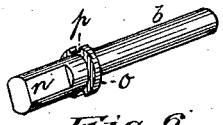

Fig. 6.

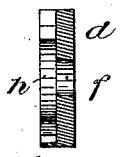

Fig. 7.

Attest:

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UNITED STATES PATENT OFFICE.

JOSIAH ALLEN, OF NEWARK, NEW JERSEY.

CURTAIN OR SHADE ROLLER.

SPECIFICATION forming part of Letters Patent No. 302,372, dated July 22, 1884.

Application filed May 17, 1884. (No model.)

To all whom it may concern:

Be it known that I, JOSIAH ALLEN, a citizen of the United States, residing at Newark, in the county of Essex and State of New Jersey, have invented certain new and useful Improvements in Curtain or Shade Rollers; 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, reference being had to the accompanying drawings, and to letters of reference marked thereon, which form a part of this specification.

This invention relates to that class of spring-actuated curtain or shade rollers known as "slow catch" rollers, or those in which the roller is caught when moving at a slow rate of speed, the object of the invention being to reduce the cost of construction, lessen the noise produced by the revolving roller, increase the strength and durability of the device, and to provide a more secure catch.

The invention consists in the arrangements and combinations of parts, substantially as will be hereinafter set forth, and finally embodied in the clauses of the claim.

Referring to the accompanying drawings, in which similar letters of reference indicate like parts in each of the several figures, Figure 1 is an end view of a shade-roller detached from its bracket and having a certain ferrule removed therefrom. Fig. 2 is a similar view showing the pawls in a changed relation to the spindle. Fig. 3 is a section through line *x*, Fig. 1, the said ferrule being in place. Fig. 4 is a perspective view of the pawl. Fig. 5 is a detail view of an end piece to be attached to the roller. Fig. 6 is a perspective view of the spindle; and Fig. 7 is a sectional view taken through line *y*, Fig. 5.

In said drawings, *a* indicates the roller; *b*, the spindle arranged therein, and *c* the spring connecting said roller and spindle in the usual way. Upon the end of said roller is secured an end piece or casting, *d*, having lugs *e*, which cause said casting or piece to revolve with said roller. The said end piece is centrally perforated, as at *f*, to receive the spindle *b*, and the outer face of said piece *d* is recessed and grooved, first by forming an annular recess, *g*, adapted to receive a collar on the spindle, and to form a space between the said collar and the wall *h* of said recess to allow an entrance to a certain safety projection on the pawl. The face of said end piece is also recessed or slotted radially, as at *i i*, to receive sliding pawls or detents *j j*, of peculiar construction and action. The ends of the said slots *i i* toward the periphery of the end piece are enlarged, as at *k*, to receive cross-heads *l* of the said pawls, and to furnish bearings for one of the lateral projections of the same when the said pawl is being drawn from holding contact with the spindle. Said pawls *j j* are provided with the before-mentioned cross-heads *l l*, which lie in the broadened or enlarged portions *k k*; and safety projections *m*, which are formed at the side of each of said pawls near the inner end thereof, and are adapted to enter the recess *g* between the spindle and wall *h*, and thereby act as preventives against accidental disengagement, it being understood that ordinarily the power of the spring is sufficient to hold the spindle, pawl, and roller stationary in their relations to one another.

The spindle *b* is made with the usual flattened or angular outer extremity, *n*, and back of this is formed a collar or annular flange, *o*, provided with notches *p*, to receive the inner ends of the pawls or detents. Said collar works in the recess *g*, and brings the holding-notches nearer the periphery of the roller, so that a shorter pawl may be used with advantage. The end piece and pawls are held in position on the roller by the ferrule *r*, having a turned outer edge, *s*, which covers the face of the recessed end piece and holds all the parts intact.

The operation of the device is substantially as follows: The pawl being in holding engagement with the notched collar, as shown in Fig. 1, the roller and end piece, *d*, are revolved by drawing down the window-shade, causing the pawl to be drawn laterally in its relation to the radial slots, as shown in Fig. 2, and out of the notch in the spindle, one of the projections of the cross-head catching or bearing on the bottom of the enlargement *k*, and the wall *h* being cut away, as at *h'*, to cause and allow such lateral action. A quick movement of the curtain-roll causes the pawls to remain by centrifugal force free of the spindle, so that a smooth and comparatively noiseless movement is obtained.

By the construction described the sliding pawl is drawn by positive mechanical means from holding engagement with the notched hub or spindle. In this my improved device is distinguished from other devices in this class of rollers, the pawls of which depend on gravity alone to draw them from the engaging line of the spindle.

Having thus described the invention, what I claim as new is—

1. In a shade-roller, the end piece having the wall *h*, the sliding pawl having the lateral projections *m*, and the notched spindle, a recess, *g*, being formed between said spindle and wall, all said parts being arranged and operating substantially as set forth.

2. In combination, in a shade-roller, the end piece having the central perforation, *f*, annular recess *g*, radial recesses *i*, and enlargements *k*, the sliding pawls working in said recesses *i*, having heads lying in said enlargements, and safety projections adapted to enter the recess *g*, and a spindle, all said parts being arranged and operating substantially as and for the purposes set forth.

3. In combination, in a curtain-roller, a perforated end piece having the wall *h* and radial recess or slot *i*, a notched spindle arranged in said end piece, a space or opening, *g*, being between said wall and spindle, and a pawl operating in said slot engaging the notch in the spindle, and having a lateral projection adapted to enter said opening *g*, all substantially as herein set forth and shown.

4. In a curtain-roller, the combination of the end piece having a radial slot or recess enlarged toward the periphery thereof, and a recess, *g*, near the spindle to allow a lateral movement of the pawl, a notched spindle and a pawl working in said radial slot, having a head working in the enlarged portion thereof, the end of said pawl opposite said head engaging said spindle and allowed a lateral movement as respects the end piece by said recess or opening *g*, substantially as and for the purposes set forth.

In testimony that I claim the foregoing I have hereunto set my hand this 15th day of May, 1884.

JOSIAH ALLEN.

Witnesses:
CHARLES H. PELL,
F. F. CAMPBELL.