

1,057,493.

A. OLSON.
SHADE ROLLER.
APPLICATION FILED JULY 18, 1912.

Patented Apr. 1, 1913.

2 SHEETS—SHEET 1.

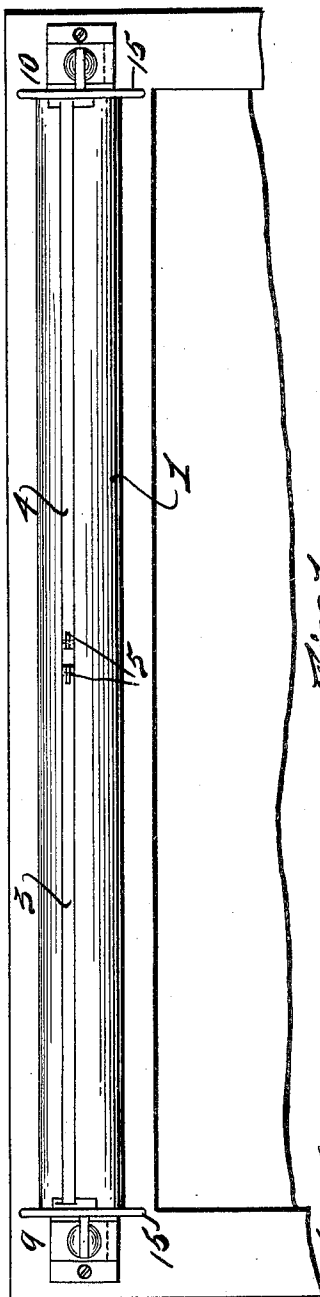


Fig. 1.

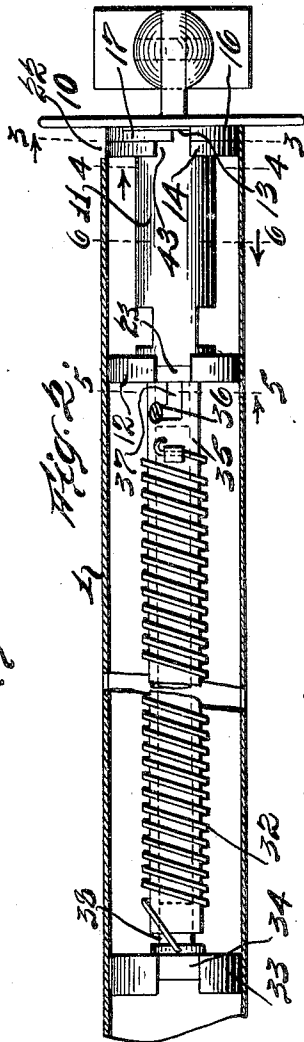


Fig. 2.

Fig. 3.

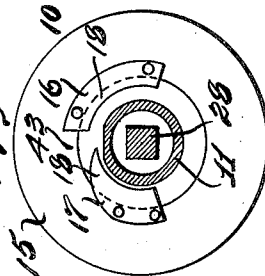


Fig. 4.

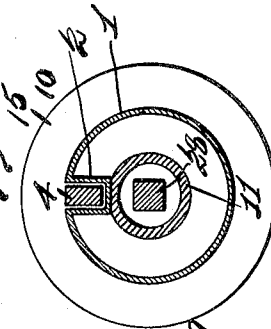


Fig. 5.

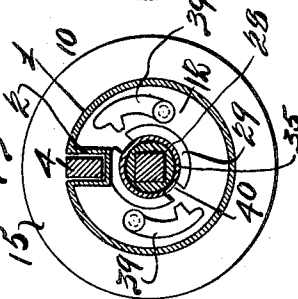


Fig. 6.

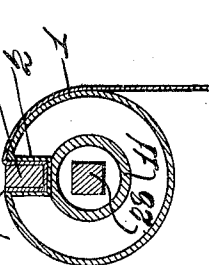
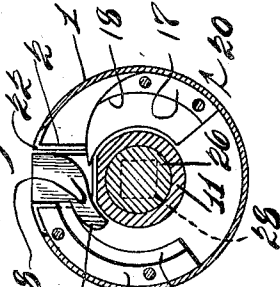


Fig. 7.



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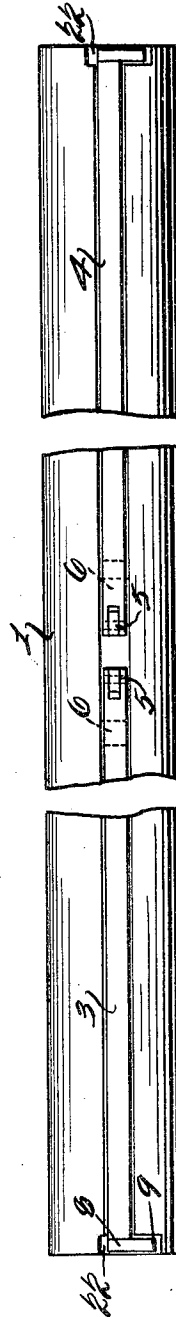
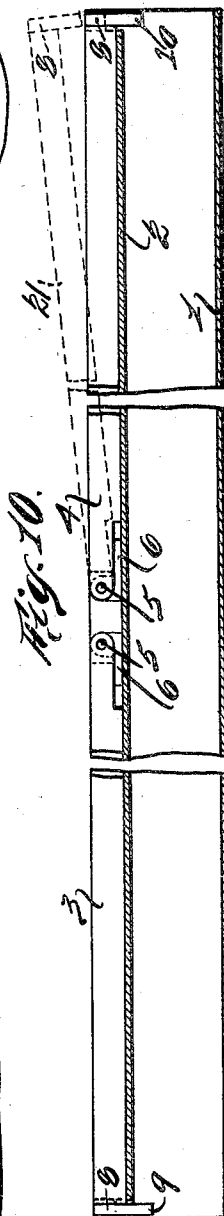
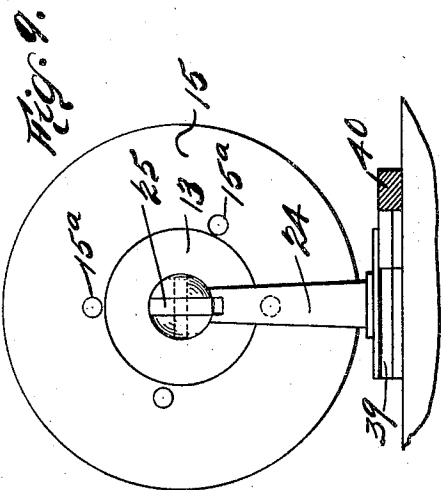
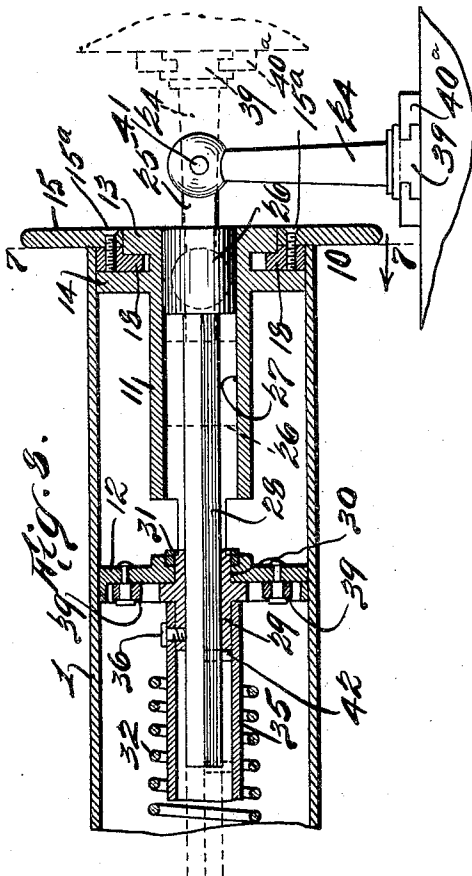
SHADE ROLLER.

APPLICATION FILED JULY 16, 1912.

Patented Apr. 1, 1913.

2 SHEETS—SHEET 2.

1,057,493.



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UNITED STATES PATENT OFFICE.

ALBIN OLSON, OF NEW YORK, N. Y.

SHADE-ROLLER.

1,057,493.

Specification of Letters Patent.

Patented Apr. 1, 1913.

Application filed July 16, 1912. Serial No. 709,624.

To all whom it may concern:

Be it known that I, ALBIN OLSON, a citizen of the United States, residing in the borough of Manhattan, city, county, and State of New York, have invented certain new and useful Improvements in Shade-Rollers, of which the following is a specification, reference being had to the accompanying drawings.

My invention relates to improvements in shade rollers and has for its object, among other things, the construction of a device that will combine within itself simplicity of parts, and will be positive in its operation, and will also be constructed of as few parts as possible, and so designed as to be readily assembled and manufactured easily and at slight cost.

Referring now to the drawings, in which like numerals of reference designate similar parts throughout the several figures—Figure 1 is a front elevation of my improved shade roller with the shade itself omitted; Fig. 2 is an enlarged longitudinal sectional view of one end of my roller; Fig. 3 is a cross sectional detail view, the view being taken on the line 3—3 of Fig. 2 looking in the direction of the arrow and shows the locking and releasing cams, the roller tube being omitted from the figure; Fig. 4 is a similar view, the section being taken on the line 4—4 in Fig. 2, looking in the direction of the arrow; Fig. 5 is also a like view, the section being taken on the line 5—5 shown in Fig. 2 looking in the direction of the arrow and shows the usual latch mechanism; Fig. 6 is a similar view taken on the line 6—6 of Fig. 2, looking in the direction of the arrow, and shows the shade locking bar and a portion of the shade; Fig. 7 is a vertical sectional view taken on the line 7—7 in Fig. 8 and shows the manner of securing the shade locking bar in position; Fig. 8 is an enlarged longitudinal sectional view showing the location and construction of the parts making up one end of the shade roller; Fig. 9 is an end view looking from the right in Fig. 8, showing the removable shade standards, said standards being shown as about to be moved into their supports; Fig. 10 is an enlarged central sectional view of the roller tube, the shade locking bars being shown in elevation and said tube being broken away; Fig. 11 is a plan view of the parts shown in Fig. 10.

In carrying out my invention I provide

the usual roller tube 1 having therein a longitudinally disposed channel 2 which projects into the cylindrical surface of the tube and constitutes a key to hold securely the removable end members of the shade roller proper from rotating. It also serves to lock within the tube the shade itself. In the channel 2 are located two locking bars 3 and 4 which are pivotally secured to the brackets 6 at 5. The bars 3 and 4 serve to secure the shade to the tube as indicated at 7 in Fig. 6 in the channel 2 which constitutes a part of the tube. The free end of each of the bars 3 and 4 is provided with a nose-piece 8 which enables the bars to be locked down in horizontal position and also serves to hold in position the removable end members 9 and 10 located at the ends of the tube 1.

The end members 9 and 10 each consist of a tubular member 11, shown in Figs. 2 and 8, provided at one end thereof with a hub 12 constructed to fit slidably within the bore of the tube 1. The opposite end of the tubular member 11 is provided with a relatively smaller hub 13 and adjacent thereto is located a third hub 14 which also fits slidably the bore of the tube 1. Upon the hub 13 is rotatably mounted an end plate 15 to which are secured the cams 16 and 17 shown in Figs. 3 and 7. These cams 16 and 17 are constructed so as to provide a shoulder 18 upon each cam, which shoulders overlap the inside surface of the hub 13. The cams 16 and 17, when secured to the plate 15 by means of the screws 15^a, retain the said plate 15 upon the hub 13, but permit of the rotation thereof for the purpose of locking or unlocking the bars 3 and 4 as well as to secure the end members upon the respective ends of the tube 1. The bars 3 and 4 are locked down into horizontal position by means of the cam 16 and the tip 19 on the nose-piece 8. The cam 17 will force the bars 3 and 4 upwardly when the plates 15 are rotated in the direction of the arrow 20 shown in Fig. 7. To permit the bars 3 and 4 to be raised as shown by the dotted lines 21 in Fig. 10 the tube 1 is cut away at 22 shown in Fig. 11. By means of the channel 2 which passes through the slots 23 in the hubs 12 and 14, the tubular member 11 is held against rotating, but the plates 15 nevertheless can be rotated.

The shade roller proper is rotatably supported by two standards 24 located at either

end of the roller, to which are pivotally secured arms 25 carried by blocks 26, slidably fitted within the bore 27 of the tubular member 11. Each block 26 is provided with a square rod 28 which fits slidably within a square shaped opening in the block 29 which in turn is rotatably mounted at 30 in the hub 12 as shown in Fig. 8, the block 29 being retained in position in said hub 12 by a collar 31. Thus far the construction of both end members 9 and 10 upon the ends of the shade roller are similar. To cause the roller with its shade to re-wind, a usual coil-spring 32 is provided, which is secured at one end to a hub member 33 which slidably fits within the bore of the tube 1, said hub member 33 having a slot 34 to receive the channel 2. The other end of the spring 32 is secured to a sleeve 35 which in turn is rigidly secured at one end thereof to the block 29 by means of the set screw 36. A slot 37 is also provided so that the sleeve 35 and the block 29 may be separated without entirely removing the set screw 36. The opposite end of the sleeve 35 is rotatably supported on a projecting pin 38 carried by the hub 33 as shown in Fig. 2.

In order that the spring may act, the usual gravity pawls 39 are provided to co-operate with the spring, which pawls fit into recesses 40 cut in the block 29. The pawls 39 are carried by the hub 12 as shown in Fig. 8. The blocks 26 act as a trunnion around which the tube 1 can rotate while the square rod 28 in turn keeps the block 29 from rotating while it likewise holds the sleeve 35. Therefore, according to my device, when the roller is rotated all the elements combined therewith, excepting the sleeve 35, rod 28 and block 26, will rotate, at which time the spring 32 will be tightened or wound up. Each standard 24 is provided with a slotted base-block 39 which is removably retained by a bracket 40* adapted to fit the slots on the block 39. Hence it will be seen that the standards may be slid onto the brackets, thereby eliminating the use of screws for the purpose of securing the standards in position upon the window-frame or other support. As the standards are pivotally secured to the arms 25 as at 41, as shown in Fig. 8, such standards may be positioned as shown by the full lines in Fig. 8 or as shown by the dotted lines, as convenience may require, since the block 26 and the rod 28 may be moved longitudinally within the tubular member 11. A pin 42 is provided to prevent the block 26 and the rod 28 from passing entirely from within the tubular member 11. It will be seen therefore that the standard 24 may be moved inwardly or outwardly to accommodate window frames of different widths.

To remove the ends 9 and 10 the plates 15 will be rotated toward the left as shown

in Fig. 7, at which time the cam 17 will force the end of the rods 3 and 4 upwardly and out through the openings or recesses 22. To connect the ends 9 and 10 the said plates 15 are rotated until the space 43 shown in Fig. 3 aligns with the opening 22, at which time the ends of the rods 3 and 4 can be depressed, causing the nose-piece 8 to enter into the space 43. Now when the plates are rotated toward the left, the cam 16 will engage the projecting point 19 on the nose-piece 8 as shown in Fig. 7 and hold rigidly in position the locking bars 3 and 4.

There are many minor changes and alterations that may be made within my invention, aside from those herein shown and described and I do not wish to limit myself to the exact construction, but claim all that falls fairly within the spirit and scope of my invention.

What I claim as new and desire to secure by Letters Patent is the following, viz:—

1. A shade roller comprising a tubular body portion, a series of non-rotatable hubs within the tubular body portion, shade-locking plates at either end of the tubular body portion, a winding control mechanism inclosed within said end plates and the tubular body portion, blocks slidably mounted within the winding control mechanism, a sleeve rigidly secured to a block rotatably mounted within one of said hubs, supporting arms the inner end of one of said arms being connected, and rotatable in unison with the block secured to said sleeve, and a coil spring having one end secured to the inner non-rotatable hub and the other end to said sleeve, substantially as described.

2. A shade roller comprising a tubular body portion, tubular winding control members comprising a series of non-rotatable hubs slidably mounted within the tubular body portion, shade-locking plates at either end of the tubular body portion and containing within themselves a series of blocks slidably mounted within the inner tubular members and provided with a winding control mechanism, a sleeve rigidly secured to a block rotatably mounted within one of said hubs, supporting arms the inner ends of one of said arms being connected, and rotatable in unison with the block secured to said sleeve, and a coil spring having one end secured to the inner non-rotatable hub and the other end to said sleeve, substantially as described.

3. A shade roller comprising a tubular body portion, a series of non-rotatable hubs within the tubular body portion, shade-locking plates at either end of the tubular body portion, a winding control mechanism inclosed within said end plates and the tubular body portion, blocks slidably mounted within the winding control mechanism, a sleeve rigidly secured to a block rotatably

mounted within one of said hubs, supporting arms the inner end of one of said arms being a square shaped rod inclosed within and connected, and rotatable in unison with
5 the block secured to said sleeve, and a coil spring having one end secured to the inner non-rotatable hub and the other end to said sleeve, substantially as described.

4. A shade roller comprising a tubular
10 body portion, tubular winding control members comprising a series of non-rotatable hubs slidably mounted within the tubular body portion, shade-locking plates at either
15 end of the tubular body portion and containing within themselves a series of blocks slidably mounted within the inner tubular

members and provided with a winding control mechanism, a sleeve rigidly secured to a block rotatably mounted within one of
said hubs, supporting arms the inner end of
20 one of said arms being a square shaped rod inclosed within and connected, and rotatable in unison with the block secured to said sleeve, and a coil spring having one end
25 secured to the inner non-rotatable hub and the other end to said sleeve, substantially as described.

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Witnesses:

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Copies of this patent may be obtained for five cents each, by addressing the "Commissioner of Patents, Washington, D. C."