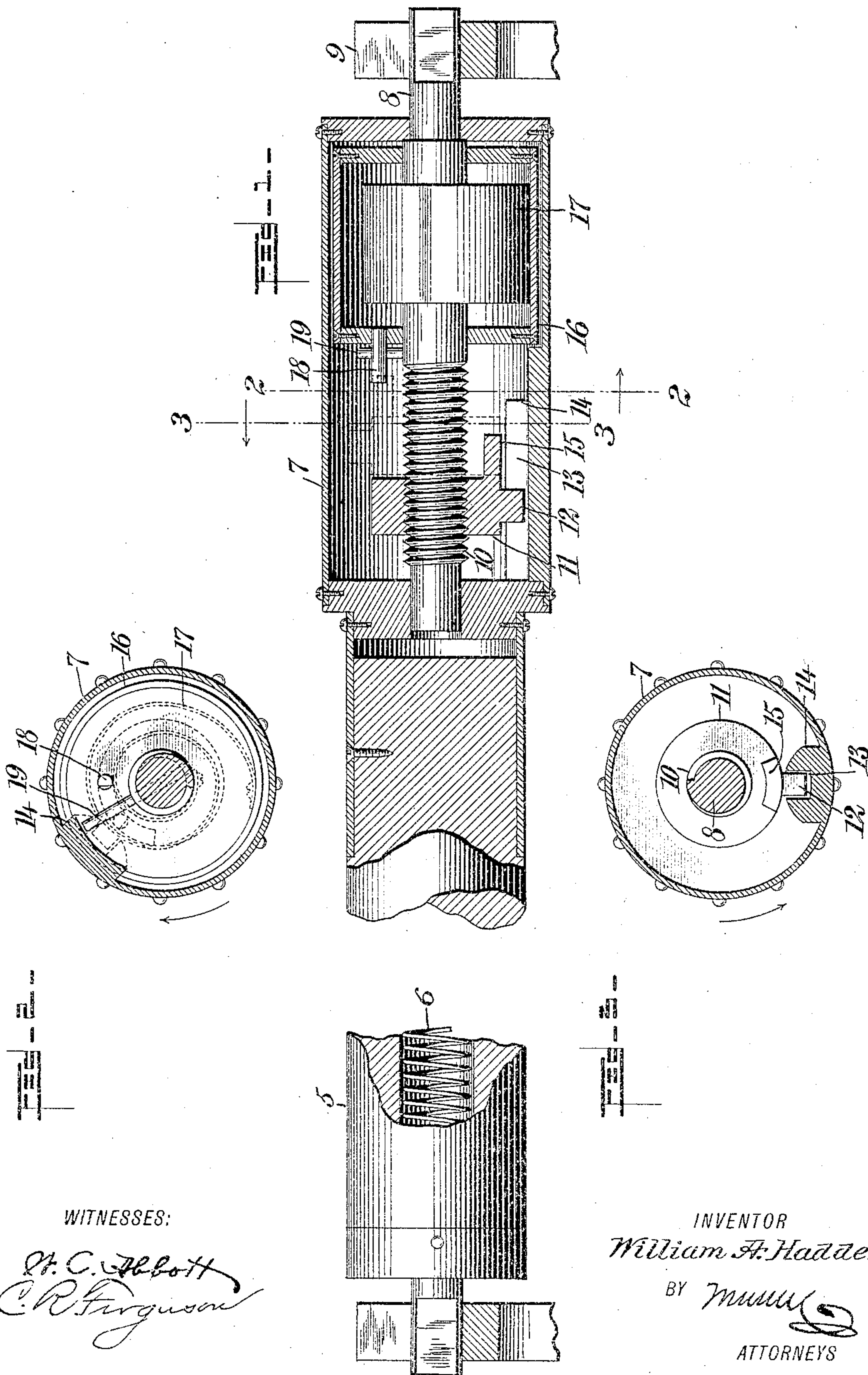


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W. A. HADDEN.
SPRING ROLLER.

APPLICATION FILED SEPT. 28, 1904.



WITNESSES:

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WILLIAM A. HADDEN, OF NEW YORK, N. Y.

SPRING-ROLLER.

SPECIFICATION forming part of Letters Patent No. 778,660, dated December 27, 1904.

Application filed September 28, 1904. Serial No. 226,329.

To all whom it may concern:

Be it known that I, WILLIAM A. HADDEN, a citizen of the United States, and a resident of the city of New York, borough of Manhattan, in the county and State of New York, have invented a new and Improved Spring-Roller, of which the following is a full, clear, and exact description.

This invention relates to improvements in spring-rollers particularly adapted for use with heavy shades, displaying fabrics, and the like. With a spring-roller as usually constructed it often happens that in rolling up, the end of the shade or other material will, through the spring force, pass over the roller several times, thus weakening the spring force and making it necessary to remove the roller to rewind the spring.

The object of my invention is to provide a simple means in connection with the roller to obviate the above-mentioned difficulty.

I will describe a spring-roller embodying my invention and then point out the novel features in the appended claims.

Reference is to be had to the accompanying drawings, forming a part of this specification, in which similar characters of reference indicate corresponding parts in all the figures.

Figure 1 is a longitudinal section of a spring-roller embodying my invention; and Figs. 2 and 3 are sections, respectively, on the lines 2 2 and 3 3 of Fig. 1.

Referring to the drawings, 5 designates a roller having within it the usual spiral spring 6 for rotating the roller in winding direction. Secured to one end of the roller 5 is a casing 7, the inner and outer end walls of which have a bearing on a shaft 8, the angular outer end of which engages in a bracket 9, which prevents rotary movement of said shaft. This shaft 8 has a threaded portion 10, on which a nut 11 is movable during the rotary movement of the casing 7 with the roller 5. To cause a longitudinal movement of the nut on the threaded portion of the shaft, the said nut is provided with a lug 12, engaging in a channel 13, formed longitudinally in a block 14, attached to the inner side of the casing 7, and this nut on its outer side and near its periph-

ery is provided with a tappet-finger 15, the object of which will hereinafter appear.

Arranged within the casing 7 and loosely mounted on the shaft 8 is a spring-barrel 16, within which a coiled spring 17 is arranged. This spring 17 is coiled in a reverse direction to the spirals of the spring 6, and it has one end attached to the shaft 8 and the outer end attached to the barrel.

Extended inward from the inner wall of the barrel 16 is a stop-pin 18, and extended radially from the shaft 8 inward of the inner end of the said barrel is a stop-pin 19.

In the operation when drawing a shade or other article to be displayed on the roller downward the spring 6 will be wound in the usual manner in order upon unwinding to wind up the shade or other article. During the unwinding of the shade the casing 7 of course will rotate with the shade-roller; but the spring-barrel and the spring therein will remain stationary and the nut 11 will be moved outward or from the spring-barrel. Upon the rotary motion of the roller for winding the shade or other article thereon the nut 11 will be moved toward the spring-barrel until the tappet-finger 15 engages with the pin 18. At this time the spring 17 will be wound until the barrel shall have completed one rotation. It will be stopped upon the single rotation by the continued movement of the tappet 15 moving into line and into engagement with the stop-pin 18.

By means of my attachment it is obvious that the stopping of the winding movement will be gradually done or without shock, thus preventing the possibility of the end of the goods or shade displayed from passing over the top of the roller.

Having thus described my invention, I claim as new and desire to secure by Letters Patent—

1. A roller, an actuating-spring for the roller, and a spring operated in winding direction by the actuating-spring to retard movement thereof.

2. A spring-actuated roller for a shade or the like, a casing extended from one end of the roller, a fixed shaft on which said casing is mounted to rotate with the roller, the said

shaft having a threaded portion, a spring-barrel loosely engaging around the shaft within the casing, a spring arranged in the barrel and having one end attached thereto and the other end to the shaft, the said spring being wound in reverse direction to that of the spring in the roller, and means operated by the threaded portion of the shaft for causing a rotary movement of the spring-barrel with the casing.

3. A roller for a shade or the like, an actuating-spring therein, a casing extended from one end of the roller, a fixed shaft on which the casing is mounted to rotate, the said shaft having a threaded portion, a nut engaging with said thread and having sliding connection with the casing but rotating therewith, a spring-barrel around the shaft within the casing, a spring in the barrel connected with the casing and to the shaft, the said spring being wound in reverse direction to the spring in the roller, a tappet-finger extended from said nut, a pin extended from the inner end of the spring-barrel for engagement with said tappet, and means for limiting the rotary movement of the barrel with the casing.

4. A roller for a shade or the like, an actuating spiral spring therein, a casing extended from one end of the roller, a fixed shaft on which said casing is mounted to rotate, the said shaft having a threaded portion, a nut

engaging with said threaded portion, a block in the casing having a channel, a lug on said nut for engaging in said channel, a tappet-finger extended from the nut, a spring-barrel surrounding the shaft within the casing, a coiled spring in the barrel secured at one end to said barrel and at the other end to the shaft, the said spring being coiled in reverse direction to that of the first-named spring, a pin extended from the inner end of the barrel for engaging with said tappet-finger, and a stop-pin on the shaft also for engaging with said tappet-finger.

5. A roller for a shade or the like, a spiral actuating-spring within the roller, a casing extended from one end of the roller, a fixed shaft, the end walls of the casing having bearings on said shaft, a spring-drum around the shaft within the casing, a spring in said drum wound in reverse direction to that of the first-named spring, and means operated through the medium of said shaft and a rotary movement of the casing for imparting a winding motion to the spring within the drum.

In testimony whereof I have signed my name to this specification in the presence of two subscribing witnesses.

WILLIAM A. HADDEN.

Witnesses:

JNO. M. RITTER,

C. R. FERGUSON.