(No Model.)

O. D. WOODBURY.

STOP FOR SPRING ROLLERS.

No. 285,772. Patented Sept. 25, 1883.

Fig 3.

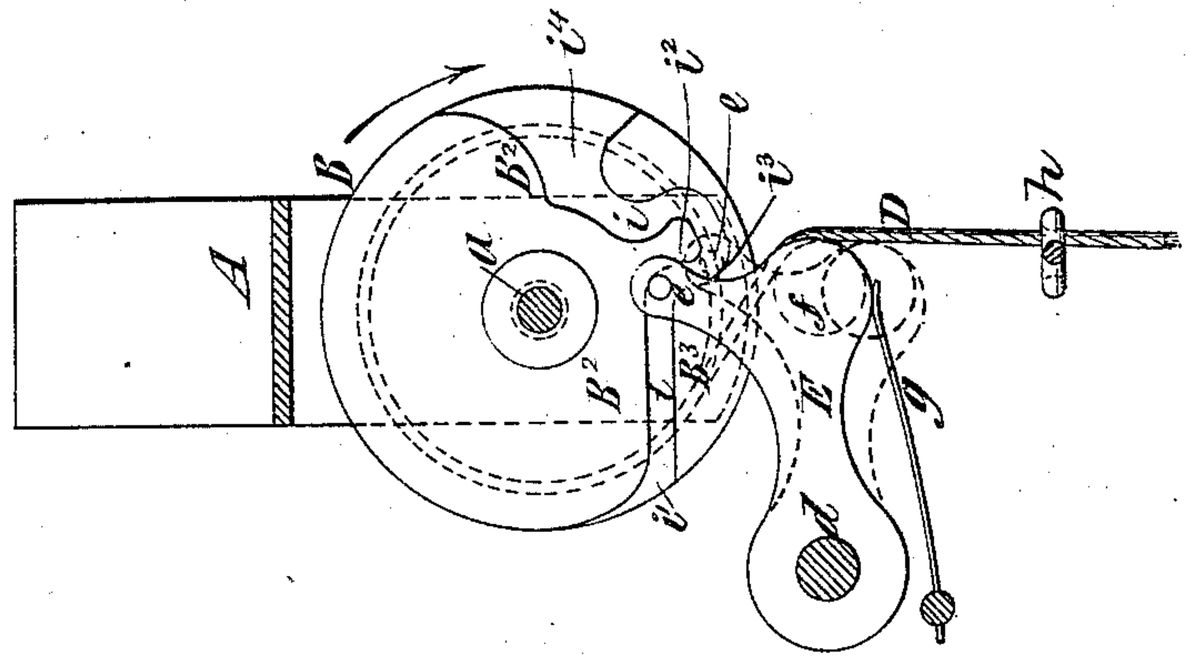


Fig 1.

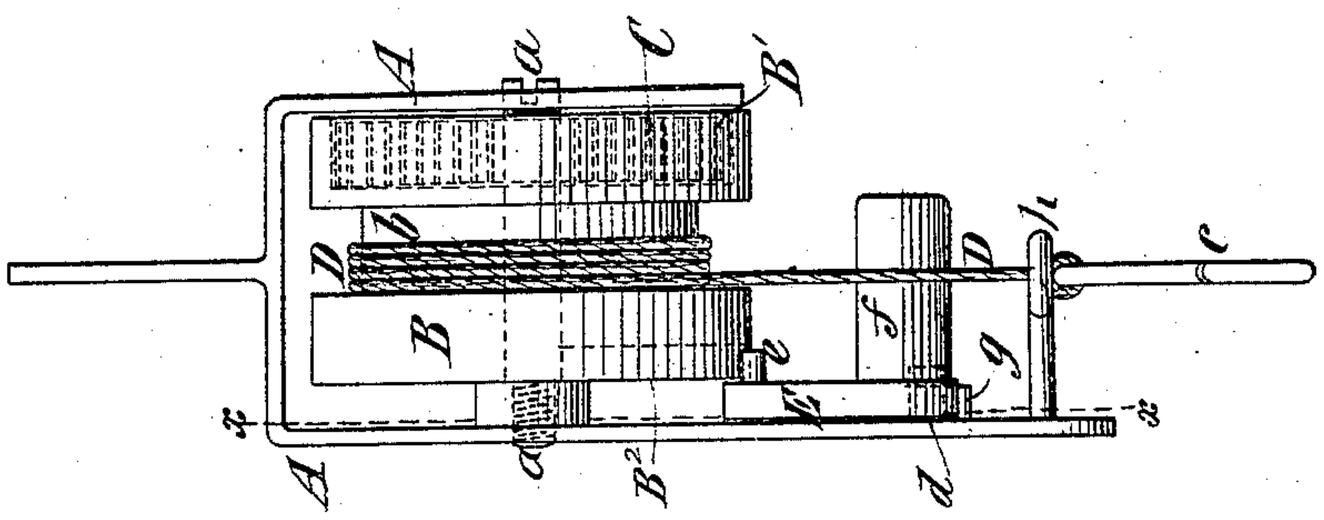
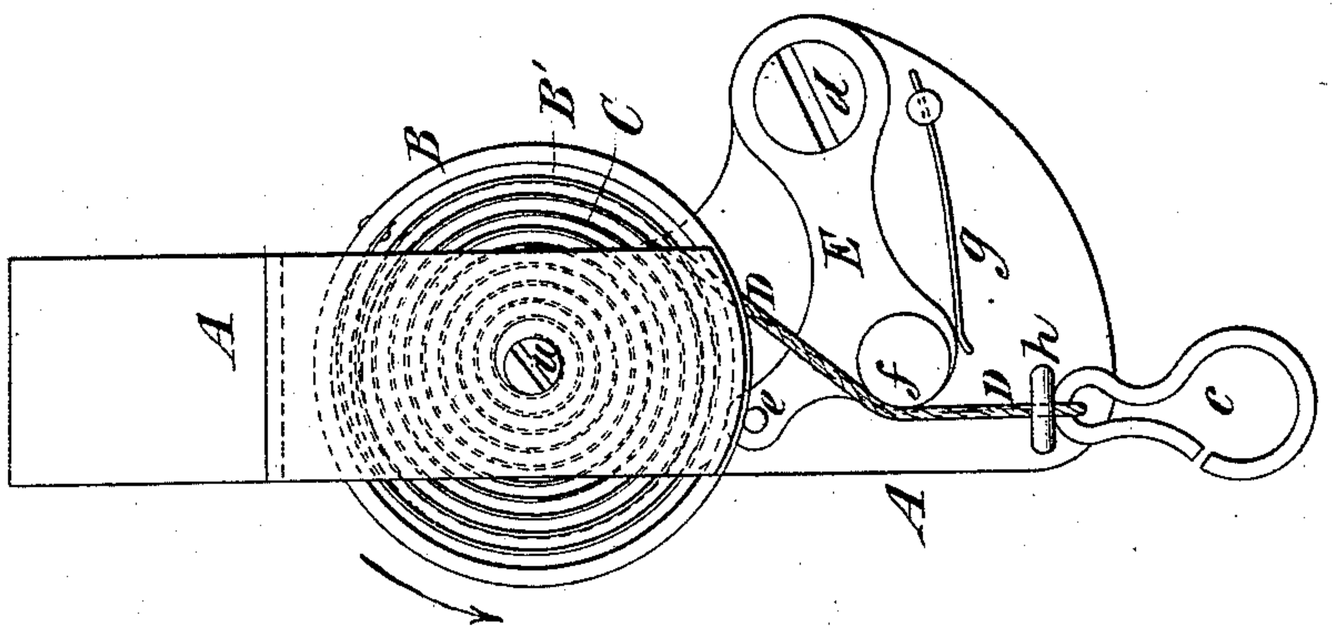


Fig 2.



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UNITED STATES PATENT OFFICE.

OSCAR D. WOODBURY, OF NEW YORK, N. Y.

STOP FOR SPRING-ROLLERS.

SPECIFICATION forming part of Letters Patent No. 285,772, dated September 25, 1883.

Application filed April 7, 1883. (No model.)

To all whom it may concern:

Be it known that I, OSCAR D. WOODBURY, of the city and county of New York, in the State of New York, have invented a new and useful Improvement in Stops for Spring-Rollers, of which the following is a specification.

My invention may be employed in connection with spring-rollers for heavy curtains or blinds, or with spring-roller devices for suspending bird-cages, lamps, or other articles.

The principal object of my invention is to provide mechanism whereby the roller will be stopped periodically once in each revolution or less when turning by the action of the spring, and whereby the roller may be released and allowed to continue its revolution until again stopped; also, to provide means which will form a positive stop or lock to the roller to prevent its rotating against the action of the spring when any device is suspended from it, whereby the article, even if it be of considerable weight, is held fast and prevented from falling.

The invention consists, essentially, in the combination of a spring-roller, a cam of novel form carried by said roller, a spring-actuated stop or dog, which engages with the cam and forms a stop for the roller, as more fully hereinafter described, and as pointed out in the claims, and a novel means for releasing the roller from the aforesaid stop or dog.

The invention also consists in combinations of parts hereinafter described and claimed.

In the accompanying drawings, Figure 1 represents a side view of a spring-roller and suspension device embodying my invention. Fig. 2 is a front view thereof; and Fig. 3 is a sectional elevation on the dotted line *x x*, Fig. 1.

Similar letters of reference designate corresponding parts in the several figures.

A designates a hanger or frame, which may be of metal, and which may be suspended from or secured to any suitable support.

B designates the roller, which is journaled on an axle or pin, *a*. The roller has in one end or side a cylindric cavity, B′, wherein is arranged a coiled spring, C, the inner end of which is made fast to the axle or pin *a*, while the outer end is secured to the roller. The spring C tends constantly to turn the roller B in the direction of the arrows, Figs. 2 and 3. The roller B is grooved circumferentially at *b*, and has wound around it a cord, D, or, in lieu thereof, a chain or analogous device, which may be provided at the end with a suspension-hook, *c*.

E designates a lever or arm, pivoted at *d* to the hanger or frame A, and carrying a pin, *e*, which bears against the periphery or face of the roller B, as shown in Fig. 1. This lever or arm has projecting from it a pin or stud, *f*, over which the cord D passes, and the lever is impelled upward by a spring, *g*, so as to hold the pin *e* against the periphery of the roller B. Below the stud or pin *f* the cord D passes through a guide or eye, *h*, and it will be seen that by reason of its bearing on the said pin or stud the cord is deflected in passing from the guide-eye *h* to the periphery of the roller B, as shown best in Fig. 3, so that any pull upon the cord will have a tendency to draw down the lever or arm E. In the back or side of the roller B are two cams, B^2 B^3, which may be formed by cutting a groove or channel, *i*, of peculiar shape, in the roller, or by attaching two plates to the back of the roller. When the roller B is relieved of any weight or pull on the cord D, it is turned by the spring C in the direction of the arrow, Fig. 3, and as the lever or arm E is pressed upward constantly by the spring *g*, the end *i′* of the groove or channel *i* catches the pin *e*. This offers no impediment to the turning of the roller, however, until the projection or portion i^2 of the cam B^2 strikes the pin *e*, as shown in Fig. 3, whereupon the pin *e* forms a stop or dog to prevent the turning of the roller. In order to release the roller, the cord D must be pulled to draw down the lever E and move the pin *e* out of the way of the projection i^2, whereupon the roller continues its rotation until it is again checked. Therefore it will be seen that when turned by the force of the spring C the roller will be checked automatically at each revolution and cannot fly up or turn unrestrained, as spring-rollers commonly do.

In lieu of having the cord D passed over the stud *f* in order to pull down the lever-arm E, I may attach a separate cord thereto.

On the cam B^3, at a point just behind the projection i^2, is a projection or shoulder, i^3, and when the lever E is pulled down to move

the pin *e* out of engagement with the projection i^2 the said pin is carried in front of or into engagement with the shoulder i^3, as shown dotted in Fig. 3, and forms a positive stop, which prevents the roller from turning in a contrary direction to that indicated by the arrow. Consequently, if a bird-cage or other article be suspended by the cord D, the roller will be held against turning under the influence of the weight of the suspended article by the stop-pin *e*, and the article on the cord D will be rigidly suspended. If the cord D be released after pulling down the lever or arm E to carry the pin *e* out of engagement with the projection i^2, the roller will continue its rotation, the pin *e* following the groove *i* and leaving the groove at the end i^4. The pin *e* constitutes a dog or stop, and the lever or arm E a carrier therefor. Instead of being pivoted, the said carrier may be made in the form of a sliding bar, or otherwise constructed.

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

1. The combination, with a roller, its actuating-spring, and a cord or analogous device wound on the roller, of a cam carried by the roller, a dog or stop, with which said cam may engage to stop the roller, and a carrier for said dog or stop, over which the said cord or device passes, and which is capable of being moved by a pull upon the cord or device to withdraw the dog or stop from the said cam and allow the said roller to turn, substantially as and for the purpose described.

2. The combination, with the roller B and its spring C, of the cams B^2 B^3, provided with the projections or shoulders i^2 i^3, the dog or stop *e*, and a carrier therefor, all arranged and adapted to operate substantially as described.

3. The combination, with the roller B, spring C, and cord D, of the cams B^2 B^3, having projections i^2 i^3, the pivoted carrier E, provided with the stop or dog *e*, and the stud or pin *f*, over which the cord D passes, all substantially as and for the purpose described.

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