

(Model.)

A. B. SHAW.

ROLLER FOR CURTAIN FIXTURES.

No. 283,737.

Patented Aug. 21, 1883.

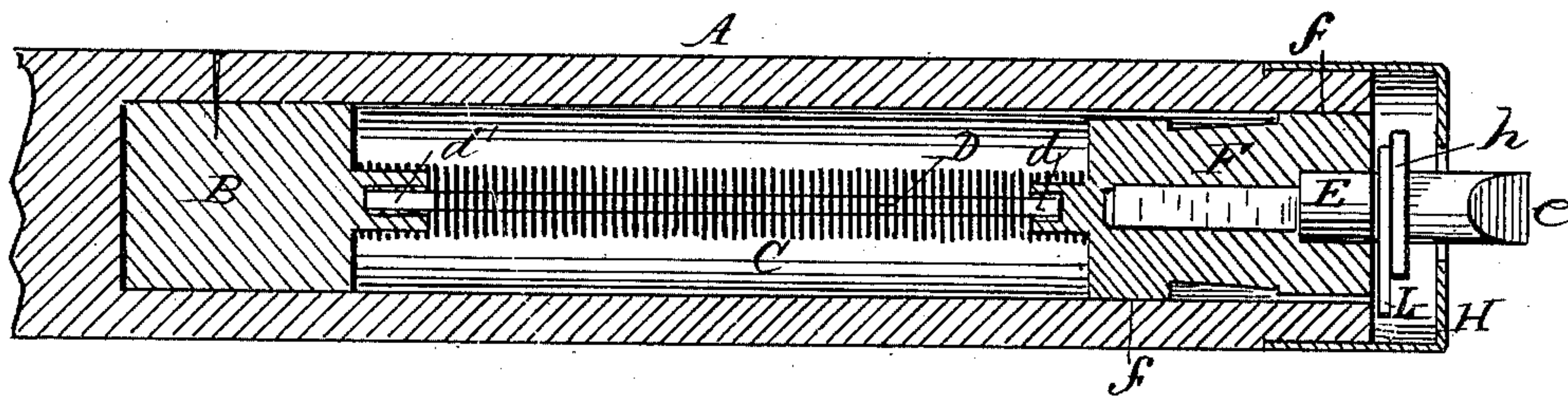


Fig. 1.

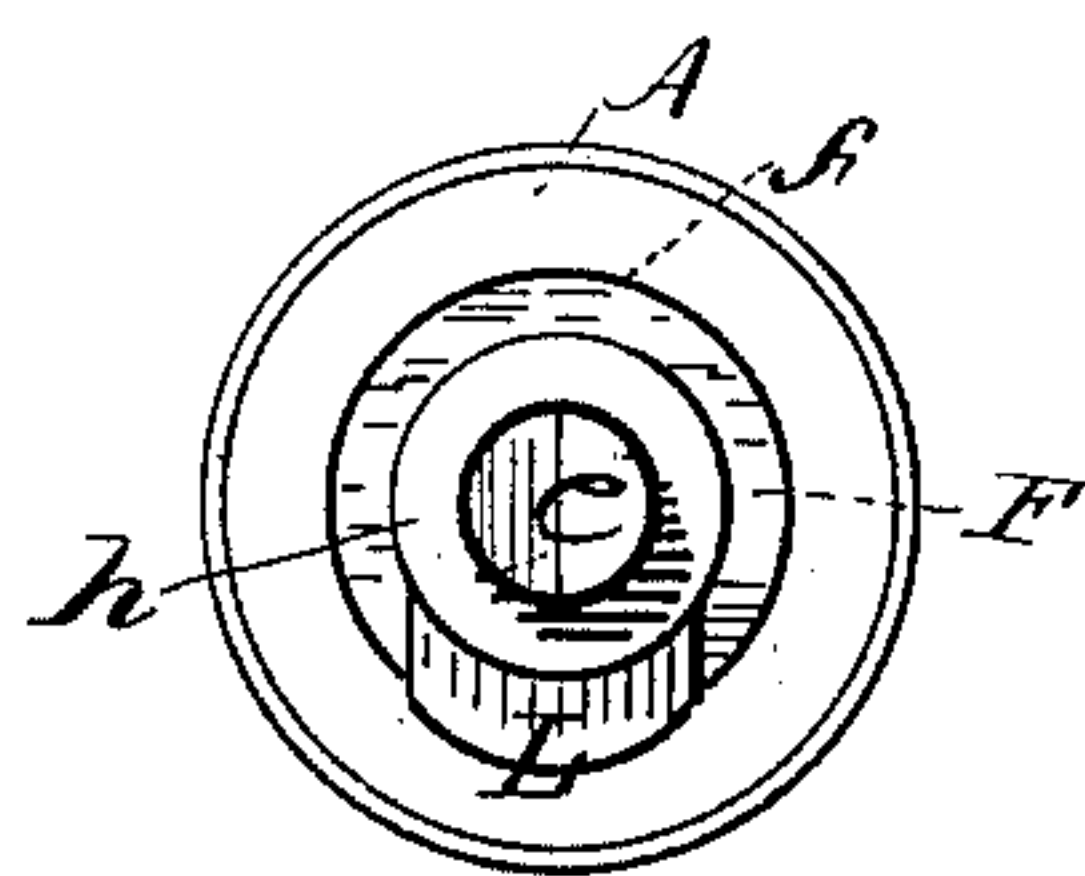


Fig. 2.

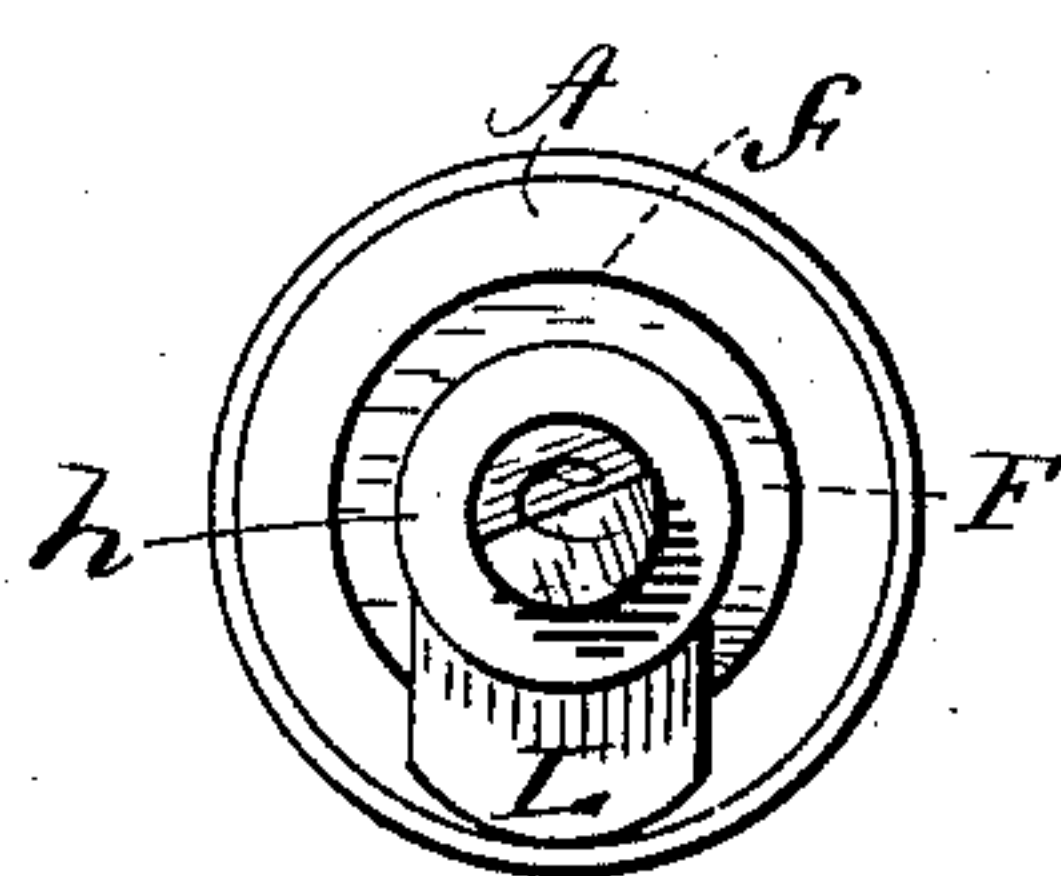


Fig. 3.

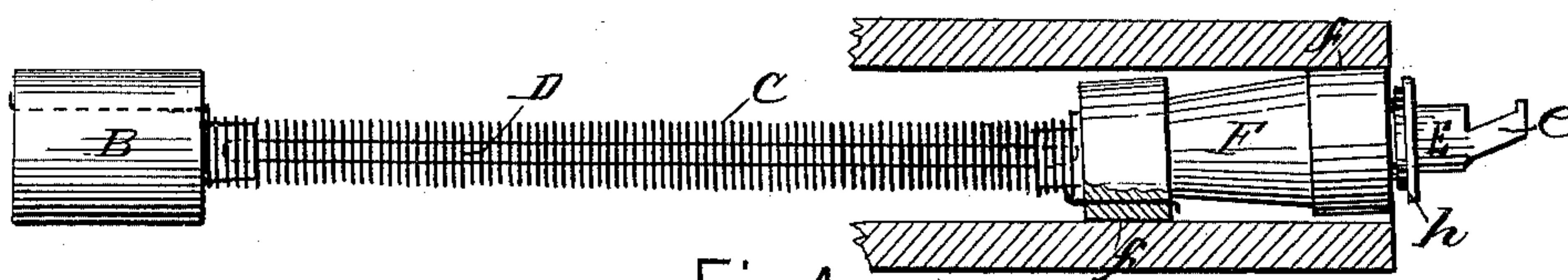


Fig. 4.

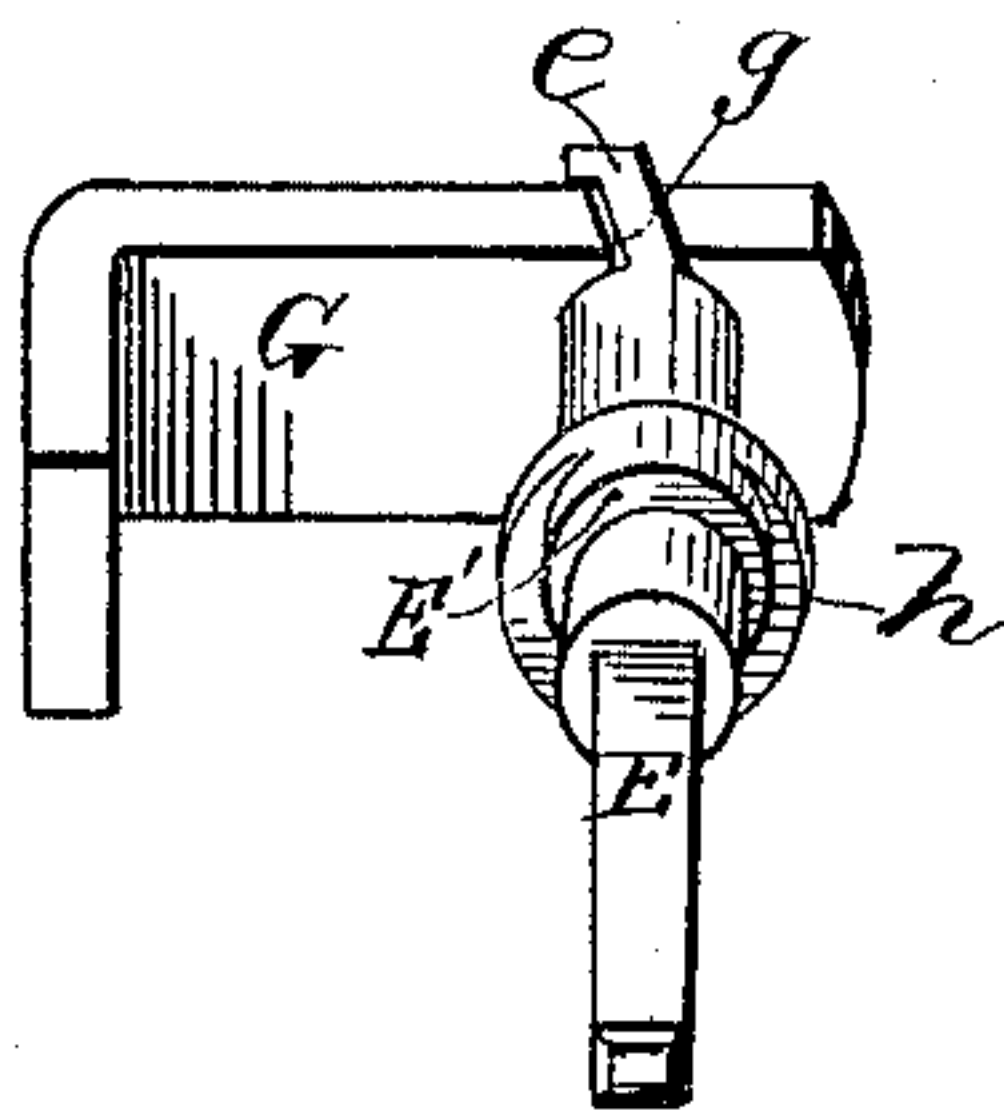


Fig. 5.

Witnesses.

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ROLLER FOR CURTAIN-FIXTURES.

SPECIFICATION forming part of Letters Patent No. 283,737, dated August 21, 1883.

Application filed June 11, 1883. (Model.)

To all whom it may concern:

Be it known that I, AI B. SHAW, a citizen of the United States, residing at Medford, in the county of Middlesex and State of Massachusetts, have invented certain new and useful Improvements in Rollers for Curtain-Fixtures; and I do hereby declare that the same are fully described in the following specification and illustrated in the accompanying drawings.

This invention relates to that class of spring curtain-rollers termed "balance-fixtures," in which the shade is adjusted and held at any desired height by means of friction, as distinguished from a positive lock at specified points.

My invention consists, primarily, in a jointed spindle and a friction-block mounted thereon within the cavity of the roller, for which it forms a double bearing, one above and one below the block, by reason of the joint in the spindle.

My invention also consists in an obliquely-slotted bracket and an obliquely-formed spindle end to enter it.

My invention also consists in a combination and arrangement of parts by which a locking-piece eccentrically mounted on the spindle prevents (by its movement into contact with the peripheral walls of the ferrule) the uncoiling of the spring when the spindle is removed from the bracket. This first feature is operative to balance the shade while the roller is mounted in position for use. The second insures the correct position of the spindle in the bracket while so mounted, and the third lies dormant at such times, only coming into use when the spindle is removed from the brackets, and is particularly useful with rollers of small diameter where the internal space is limited.

In the drawings, Figure 1 is a longitudinal vertical section of my improved fixture, showing the parts in position for use. Figs. 2 and 3 are end views of the roller with the ferrule removed, showing the changed positions of the locking-piece. Fig. 4 shows the connected parts withdrawn from the cavity of the roller, and Fig. 5 shows the peculiar bracket and spindle.

A is the tubular end of the roller; B, the plug fixed securely in the bottom of the spring-

chamber, and having the inner end of the spring C made fast to it, as is customary.

D is a rod which forms that part of the spindle usually inclosed by the spring.

E is the spindle proper, the outer end of which, *e*, enters an oblique recess, *g*, in the bracket G, and is thereby held stationary, a given side uppermost, that the locking device may be dormant and the roller free to rotate in either direction. The spindle cannot enter the bracket-recess wrong side up, since in such position its oblique end stands crosswise of the bracket-recess. This bracket is adapted, without change, for use as a left-hand bracket at the bottom of the window, still receiving the spindle right side up, the roller being merely turned end for end. The spindle E is driven firmly into a wooden or other suitable friction-block, F, made considerably less in diameter than the bore of the roller, and tapering toward each end, permitting the outer end of the block to press upwardly and the inner end downwardly in the spring-chamber, and causing the bearing-faces to be parallel and in contact with the inner wall of the roll across the entire width of both bearing-faces of the block, and forming a loose double bearing, *f f*, for the tubular end of the roller. This bearing-block becomes practically a part of the spindle, and at its inner end is jointed or loosely connected at *d* to the rod D, which in turn is loosely united to the plug B. This rod D serves, mainly, to hold the plug B at the proper distance from the block F when inserted in the spring-chamber, and to keep the spring C distended longitudinally, so that its coils will not crowd upon each other when their number is increased by drawing down the shade. At one or both of its ends this rod must be free, so that if stationary with the block F the plug B may revolve freely, or, if turning with the plug B, it will not bind on the block F at *d'*. The cheap and simple construction indicated in Fig. 1 is well adapted for this purpose, the rod D resting loosely in sockets formed in tubular extensions of said block and plug, which are connected and drawn toward each other by the spring C, secured to both. The peripheral recess shown about midway of the block F permits the end of the spring C (passed thus far through the

block) to be bent aside and kept from withdrawing. When the roller is in use, its weight, with that of the shade and counter-balance at the bottom, causes the jointed spindle D E F to sag or be depressed at the joint *d*, and the tapering ends of the block F to bear frictionally upon the interior of the roller A at the points *f f* above and below the axis. The resistance to rotation increases with increasing weight of shade, &c., and serves admirably to balance the shade at any desired point. The part E of the spindle bears an eccentric, E', (see Fig. 5,) and on this eccentric is hung loosely a locking-piece, L, which lies dormant during rotation of the roller, since the bracket holds the spindle E with the eccentric above the axis. The end of the roller is inclosed by the ferrule H, which is made fast to it by slight indentations, and turns without contact with the dormant locking-piece. A collar, *h*, integral with the spindle, keeps the locking-piece on the eccentric. When the spindle is removed from the bracket, the spring C gives it a quick rotary impulse, turning the eccentric E' within the opening in the locking-piece and bringing the bottom of said piece into contact with the cylindrical wall of the ferrule. Such contact stops the rotation of the spindle, locks it to the roller, and retains the tension of the spring. The ferrule is required as a finish for the roller, and, being at the periphery thereof, constitutes without expense a stop for the locking-piece at the farthest remove from the axis, giving abundant space even in inch rollers. The present locking device is therefore an improvement on that set forth in my Patent No. 280,249, dated June 26, 1883, where the eccentric forced the locking-piece against the flange of a disk inclosed within the ferrule. The rod D, forming the inner prolongation of the spindle from the joint *d* to the step or plug B, is made very light or of small diameter, and the spring surrounding it of unusually light spring-wire, coiled of a much smaller diameter than is customary in curtain-

rollers—say from one-fourth to three-eighths of an inch—for I have discovered that as great power in the spring is obtained from a light wire coiled small as from a heavier wire wound in larger coils. I therefore effect a material saving in cost of wire and spindle and adapt my fixtures for use freely in the smallest-size rollers, giving at the same time abundant thickness to the wooden walls of the spring-chamber.

I claim as my invention—

1. In a spring curtain-fixture, a loosely-jointed spindle having a double friction-bearing within the tubular end of the roller, substantially as and for the purpose set forth.

2. A locking device for spring curtain-rollers, consisting of a locking-piece suspended on the spindle eccentrically to the axis, between the end of the roller and the end flange of the ferrule, so as to lock against the inner cylindrical wall of the ferrule, in combination with a loose joint in the spindle and a double friction-bearing within the roller end, substantially as set forth.

3. The bracket having an oblique spindle-recess with parallel walls, in combination with the spindle having a flattened end with parallel walls standing obliquely to its axis to coincide with the bracket-recess, substantially as and for the purpose set forth.

4. In a spring-actuated curtain-fixture, the roller A and its end cap or ferrule, H, in combination with the spindle E, eccentric E', and locking-piece L, hung thereon, all arranged, as described, so that the piece L will lock against the inner cylindrical wall of the ferrule, in contradistinction to the inner wall of the roll, for the purpose set forth.

In testimony whereof I hereto affix my signature in presence of two witnesses:

AI B. SHAW.

Witnesses:

A. H. SPENCER,
E. A. PHELPS.