A. B. SHAW.

CURTAIN FIXTURES.

No. 189,660. Patented April 17, 1877.

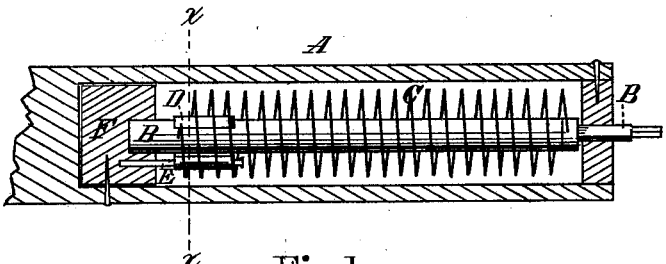

Fig. 1.

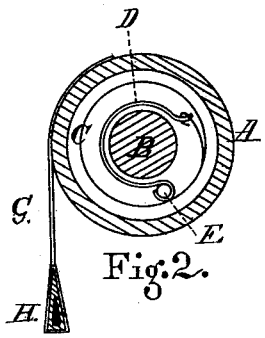

Fig. 2.

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UNITED STATES PATENT OFFICE

AI B. SHAW, OF MEDFORD, MASSACHUSETTS.

IMPROVEMENT IN CURTAIN-FIXTURES.

Specification forming part of Letters Patent No. **189,660**, dated April 17, 1877; application filed February 5, 1877.

To all whom it may concern:

Be it known that I, AI B. SHAW, of Medford, Massachusetts, have invented an Improvement in Curtain-Fixtures, of which the folllowing is a specification:

This invention relates to that class of shade-rollers known as balance-fixtures, which are operated by a coiled spring surrounding the spindle, and placed within the roller-tube.

Such fixtures are commonly arranged with a weighted stick at the bottom to check the tendency of the spring to roll up the curtain, or with a friction device for the same purpose, or with both; both these methods are defective, in that the weight and the friction are practically unvarying in the resistance which they offer to the spring, while the tension of the spring is largely increased with each successive revolution of the roller in drawing down the shade. Hence it follows that at the first the weight overpowers the spring, and when fully unrolled the spring has an excess of power—the friction being uniform. To more nearly equalize these forces a very heavy weight is generally employed in connection with a stiff and long spiral spring. This necessitates a very deep recess in the end of the roller, and in many ways increases the cost.

The object of my improvement is to apply to the roller or its spindle a degree of friction which shall increase or diminish as the tension of the spring is increased or diminished, so that a short spring and a light weight may be used with better effect than the common and more expensive ones.

My invention, therefore, consists in a roller, spring, and spindle, provided with an automatically graduated frictional device, increasing or diminishing in force as the tension of the spring increases or diminishes.

In the drawing, Figure 1 is a longitudinal section of a roller embodying my invention. Fig. 2 is a transverse section of the same, on the line *x x*, Fig. 1.

A is the roller, B the spindle, C the operating spring, and D the friction-brake. The spindle is kept from turning by the bracket, and the roller revolves thereon in the usual manner. The outer end of the spring is secured to the spindle, and its inner end is made fast to one end of a band of sheet metal, D, bent so as to partially surround the spindle, and located just within the last coils of the spring. The other end of the band D is fastened to the roller by means of a pin, E, projecting from the plug F, secured within the roller, and forming a step for the spindle B. Thus when the roller is revolved about the fixed spindle, the spring causes the brake D to bear with more or less force upon the spindle, according to the degree of power applied to the spring. The flexible band D is thus interposed between the spring and the roller, to which its power is applied, and whatever degree of tension the spring may bear, a corresponding amount of friction is exerted by the brake upon the spindle. Hence the friction is graduated and proportioned to the recoil of the spring, so that a much lighter weight is required to balance the curtain G. In my device, as in other balance-fixtures, a counterpoise, H, is necessary to overcome the excess of power which the spring has over the friction, which excess is required in order to roll up the curtain when the counterpoise is lifted.

I do not confine myself to the specific device herein described, for it is obvious that the arrangement of the parts may be considerably varied without departing from the spirit of my invention; but

I claim as my invention—

1. A friction-brake for balance shade-rollers, operated by the spring C, and acting continuously upon the roller or spindle with a force proportioned to the tension of the spring, substantially as and for the purpose set forth.

2. The combination of the curtain, roller, spring, spindle, and counterpoise, with a friction-brake, bearing continually upon the roller or spindle, and operated automatically by the direct action of the spring C, substantially as and for the purpose set forth.

AI B. SHAW.

Witnesses:
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