(No Model.)

J. M. OSGOOD.

SPRING CURTAIN ROLLER.

No. 260,045. Patented June 27, 1882.

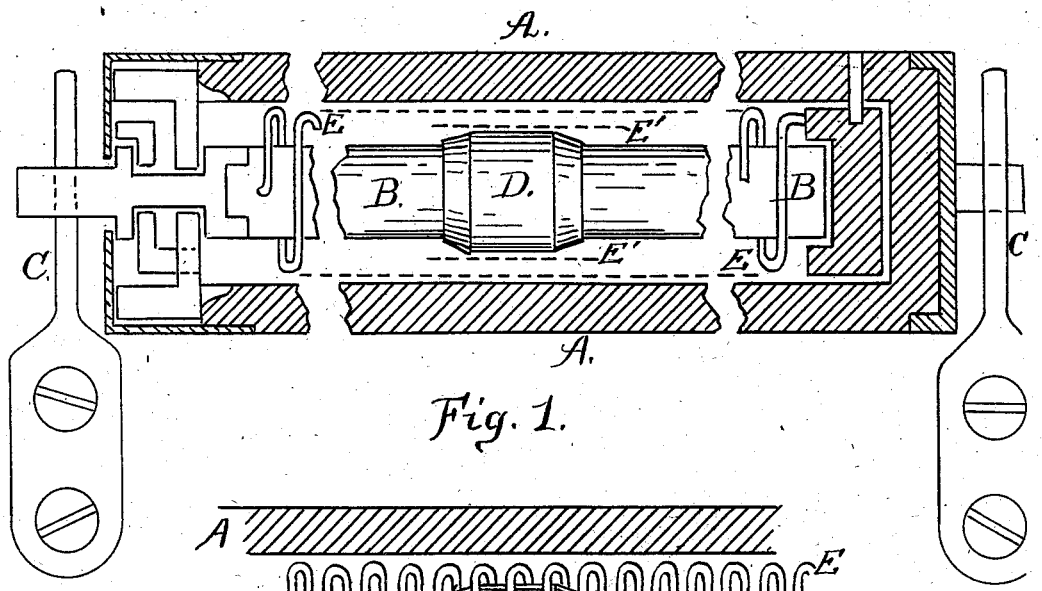

Fig. 1.

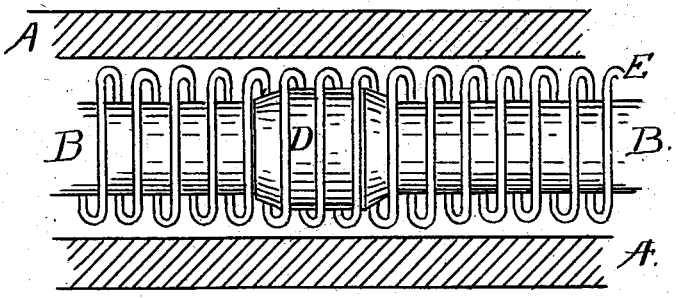

Fig. 2.

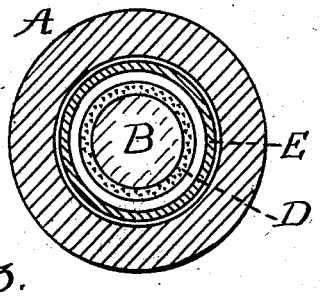

Fig. 3.

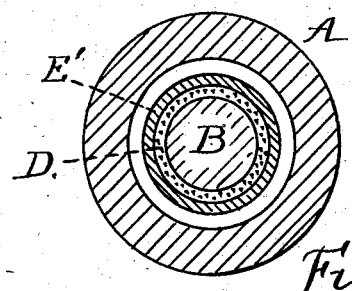

Fig. 4.

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JAMES M. OSGOOD, OF SOMERVILLE, MASSACHUSETTS.

SPRING CURTAIN-ROLLER.

SPECIFICATION forming part of Letters Patent No. 260,045, dated June 27, 1882.

Application filed November 25, 1881. (No model.)

To all whom it may concern:

Be it known that I, JAMES M. OSGOOD, a citizen of the United States, residing at Somerville, in the county of Middlesex and State of Massachusetts, have invented a new and useful Spring-Balance Curtain-Roller, and the following is a specifiation.

My invention relates to an improvement in the operation of the spring upon the spindle, whereby the whole or a part of the spring is used in the operation of the roller, as may be required in the use of a heavy or light shade. I attain these objects by the mechanism illustrated in the accompanying drawings, in which—

Figure 1 is a section of the roller, showing the invention and the manner of holding the roller in the brackets. Fig. 2 is also a section of the roller, showing the spring and the method of operating the invention. Figs. 3 and 4 are transverse sections, showing the spindle, the ring or collar base upon the spindle, the spring, and roller.

Similar letters refer to similar parts throughout the several views.

In Fig. 1, A is the roller. B is the spindle passing through the bore of the roller A. C are the brackets, showing the method of holding the roller when ready for use. D is a ring or collar base, beveled at both ends, and is firmly attached to the spindle; or a projection upon the spindle may answer the purpose of the ring or collar base, as is shown in the drawings.

In Fig. 2, A, B, and D show the relative position of each part when in a working condition. It will be seen that the ring D is covered by the spring. The object is to show the ring or collar base as it appears in the roller when ready for use and the method of winding the spring upon the ring or collar base when the roller is in motion.

Fig. 3 shows the spring E pressing against the walls of the bore of the roller and making a space between the spring and the ring or collar base D, allowing a free movement of the whole spring at the beginning of the winding of the spring in drawing down the shade.

Fig. 4 shows the spring after it has been wound down tightly upon the spindle and ring or collar base, which presses so firmly upon the ring or collar base that a portion of the spring becomes inoperative, leaving the inner part of the spring to do the remaining part of the work. This method of winding the spring upon the ring or collar base, so that a portion of the spring is prevented from working, has the effect of a short spring, which winds much faster as the roller revolves, giving additional power to the roller, so that a heavy shade, when drawn to or near its full length, may be operated with perfect freedom and without the use of friction.

Reference is made to my application for a patent for a balance curtain-roller filed August 8, 1881, where the same results are obtained, but by a different principle. A coupling is used, and by confining the coupling to the roller by means of a screw or by the use of a pawl a portion of the spring is rendered inoperative while the other part of the spring operates the roller.

The object of this invention is to simplify the method of operation, so that either a light or a heavy opaque shade can be used upon the same roller. The lighter shade requires a lesser power, which is obtained by the free use of the whole spring, as is shown in the drawings, Fig. 2, also in Fig. 3; but little, if any, resistance is offered to the spring by the ring or collar base at any point to which the shade may be drawn. When a heavy or opaque shade is used the spring is first wound down upon the spindle, as shown in drawings, Fig. 4, so that the tension is increased sufficiently to operate the shade freely at the start. Now by drawing down the shade the spring soon reaches the ring or collar base upon the spindle, which rapidly increases its force by shortening the spring, as herein described, so that a shade of almost any weight can be successfully used.

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

In combination with a spring-balance curtain-roller, a ring or collar firmly attached to the spindle for the purpose of shortening the spring, thereby making a portion of the spring inoperative while the roller is in motion, substantially as shown and described.

JAMES M. OSGOOD.

Witnesses:
ALFRED S. HILL,
WILLIAM A. MILLER.