S. Hartshorn,

Curtain Roller,

No. 64,101, Patented Apr. 23, 1867.

Fig: 1.

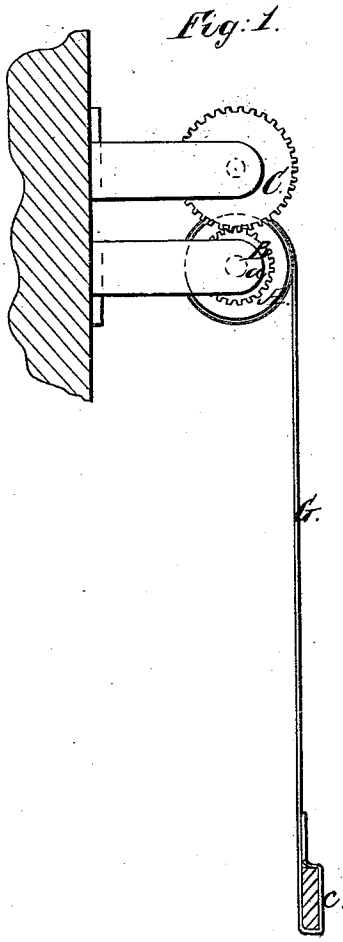
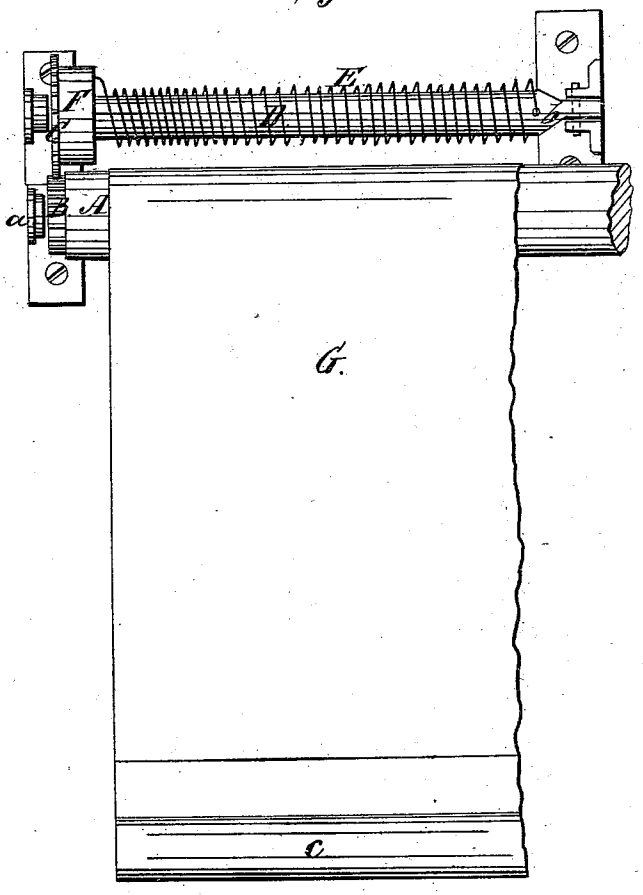


Fig: 2.



Witnesses:
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STEWART HARTSHORN, OF NEW YORK, N. Y.

Letters Patent No. 64,101, *dated April* 23, 1867.

IMPROVED WINDOW-SHADE ROLLER.

The Schedule referred to in these Letters Patent and making part of the same.

TO ALL WHOM IT MAY CONCERN:

Be it known that I, STEWART HARTSHORN, of the city, county, and State of New York, have invented a new and useful improvement in Spring-Shade Rollers; and I do hereby declare that the following is a full, clear, and exact description thereof, which will enable others skilled in the art to make and use the same, reference being had to the accompanying drawings, forming part of this specification.

This invention relates to a new and useful improvement in spring-shade rollers, those which have a spiral spring connected or applied to them in such a manner as to roll up the shade, and thereby dispense with the cord and pulley originally used for that purpose. Hitherto these rollers have been constructed of metal tubes with the spiral spring fitted within them—an expensive mode of manufacture. The present invention consists in employing an ordinary wooden roller, hung in suitable bearings, and connected by gears to a spiral spring on a short shaft above, all being arranged as hereinafter fully shown and described, whereby the same result is obtained as by the original expensive means. In the accompanying sheet of drawings—

Figure 1 is an end view of my invention.

Figure 2, a front view of the same.

Similar letters of reference indicate like parts.

A represents a wooden shade roller, which may be constructed in the same way as those now employed for being wound up with a cord and pulley. This roller is hung in proper bearings, *a*, attached to the window-frame, and on one end of this roller there is secured a toothed wheel, B, into which a wheel, C, of larger diameter gears. This wheel C is placed loosely on one end of a shaft, D, which has a spiral spring, E, one end of said spring being attached to the shaft D, as shown at *b*, and the other end attached to a hub, F, to which the wheel C is secured, and which, like said wheel, is placed loosely on the shaft D. The spring E is wound up, as the roller A is turned in pulling the shade G down, and hence it will be seen that if the spring E be strong enough it will wind up the shade when the same is released. In practice, I design to have the spring E of such a strength that it will counterpoise the shade, so that the same may be wound up by simply pressing upward against the rod, in a hem, *c*, at its lower end. The shaft D, it will of course be seen, is not allowed to turn. It is a fixture, and necessarily so, in order that the spring may be wound up when the shade is pulled down. I would remark that in lieu of the gears B C, pulleys and a belt may be used, the pulley on roller A, being secured to it, while the one on shaft D is placed loosely on it, and has one end of the spring E attached. This device, however, is equivalent to the gears. This arrangement of the spring and its shaft at the outer side of the shade roller, and the roller and spring connected by gears or their equivalent as described, may be manufactured at a very moderate cost, and will operate equally as well as the comparatively expensive tubular roller with the spiral spring placed within it.

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

The construction and arrangement of the short fixed shaft E, above the shade roller A, surrounded by the spiral spring D, one end of which is secured thereto at *b*, the other end attached to the loose hub F, of the gear-wheel C, meshing into the gear-wheel B upon the end of the shade roller, substantially as herein shown and described for the purpose specified.

STEWART HARTSHORN.

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