J. A. EVARTS.

Suspension Spring for Lamp.

No. 76,317. Patented April 7, 1868.

Fig. 1

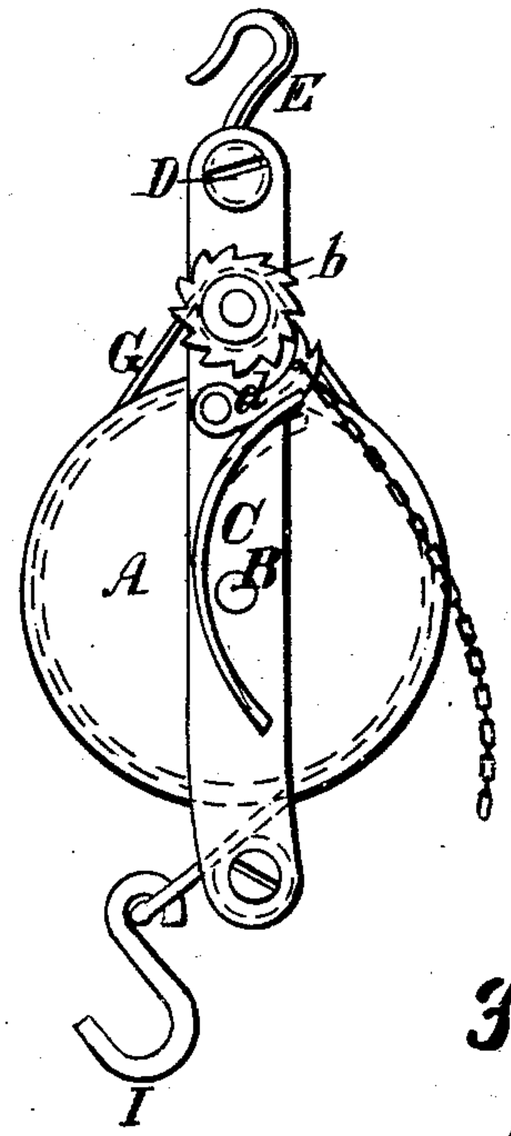


Fig. 2

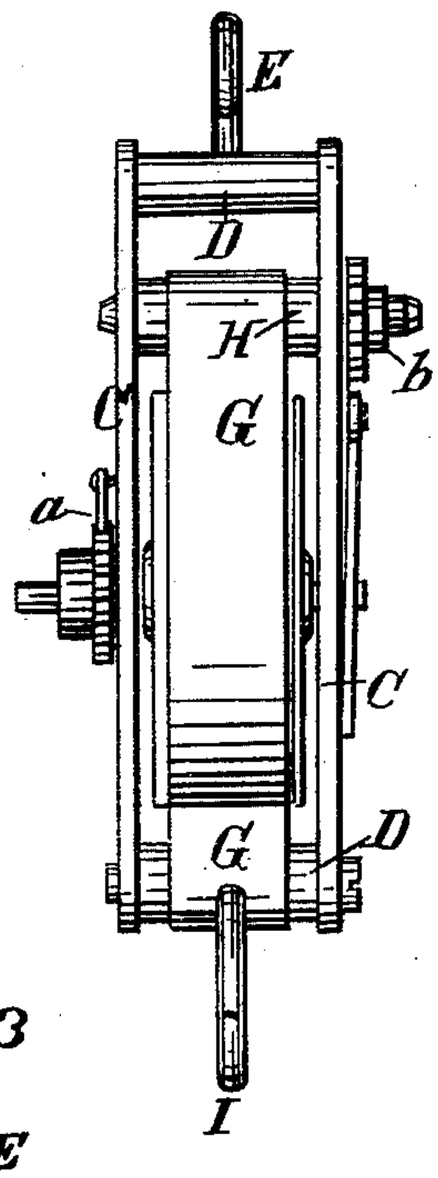
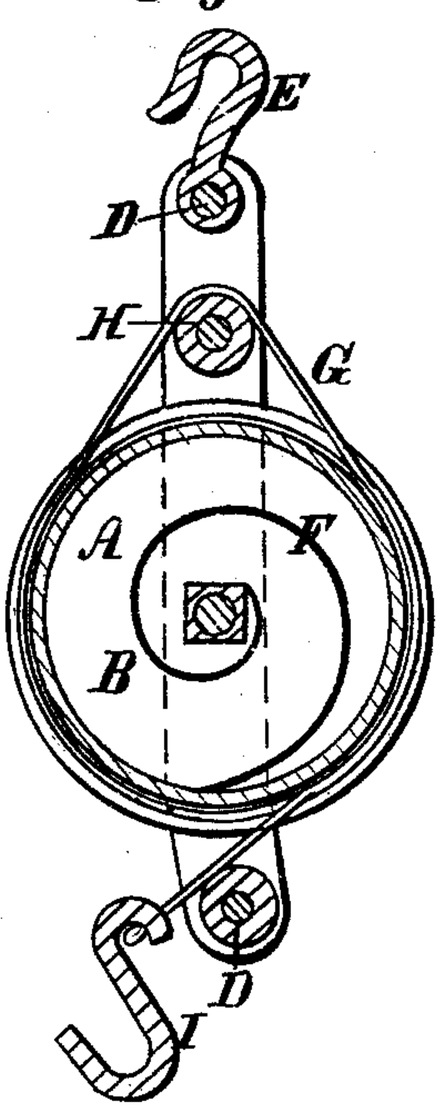


Fig. 3



WITNESSES.

John H Thomas

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INVENTOR

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JOHN A. EVARTS, OF WEST MERIDEN, CONNECTICUT, ASSIGNOR TO BRADLEY AND HUBBARD, OF SAME PLACE.

Letters Patent No. 76,317, *dated April* 7, 1868.

IMPROVEMENT IN SUSPENSION-SPRINGS FOR LAMPS.

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, JOHN A. EVARTS, of West Meriden, in the county of New Haven, and State of Connecticut, have invented a new Improvement in Suspension-Spring; and I do hereby declare the following, when taken in connection with the accompanying drawings, and the letters of reference marked thereon, to be a full, clear, and exact description of the same, and which said drawings constitute part of this specification, and represent, in—

Figure 1, a side view,

Figure 2 an edge view, and in

Figure 3 a vertical central section.

This invention relates to an improvement in suspending chandeliers, or other things which it is desired to adjust to different elevations, and consists in the peculiar arrangement of a spring, whereby the thing suspended is held at any desired point of suspension.

In order to the better understanding of my invention, as well as to enable others to construct the same, I will proceed to a description thereof as illustrated in the accompanying drawings.

A is a cylinder, arranged upon a bearing, B, between two supports C, the said two supports joined at their two ends by a connection, D, to the upper one, D, of which a hook, E, is fixed, and to the lower one, D, is fixed a friction-roll, as seen in fig. 3. Within the cylinder A is arranged a coil spring, F, (see fig. 3,) attached to the bearing B and to the cylinder A, so that the spring reacts to revolve the cylinder in like manner as clock or watch-springs, and is wound up to the necessary tension as ordinary clock-springs, and then held by a pawl and ratchet, *a*. To the cylinder A is attached a metallic or other ribbon or band, G, or may be a cord or chain which passes up over a friction-roll, H, thence down over the friction-roll upon the lower connection D, as seen in fig. 3, and to the lower end is attached a hook, I, or other contrivance for attaching the thing to be suspended.

The friction-roll H is provided with a ratchet, *b*, and a pawl, *d*, arranged so that when held into the ratchet, as seen in fig. 1, the roll H cannot move, but when the pawl *d* is drawn away, as denoted in red, then the roll H will revolve.

The spring being attached to that position from which the thing is to be suspended, the said thing is attached to the lower end of the ribbon G, (the tension of the spring being sufficient to nearly retain the thing at any point of suspension,) and the thing may be drawn down to any point of suspension within the range of the spring.

Passing, as the band does, over the roll H, and down over the lower roll, the upper roll H is prevented from turning by the pawl and ratchet upon its end. A sufficient friction is created to prevent the descent of the thing suspended, and this materially aids the spring in so suspending, but when the thing suspended is raised, then the roll H revolves, and the full force of the spring recoils to draw up the thing suspended, and when so raised, the pawl *d* stops the return of the roll H, and prevents the descent.

If (as in many cases it would be) the friction of the roll H should be too great, a cord or chain, as denoted in blue, fig. 1, may be attached to the pawl *d*, so that when desirable to lower the thing suspended, draw the pawl away, as denoted in red, fig. 1, and the friction is removed, and, when lowered to the desired point, permits the pawl *d* to fall into the ratchet *b*, and the friction is again applied and the descent stopped.

If for heavy weights, it is better that the pawl should operate in a ratchet formed upon or attached directly to the cylinder A, so as to positively arrest the movement of the spring. In this case it is necessary that the pawl be raised from the ratchet in order to draw down the thing suspended, and in such case the upper friction-roll H may be dispensed with, retaining only the lower roll.

And again, for light weights, or when the springs may be prepared for certain specified purposes, the spring may be made sufficiently strong to dispense with both ratchet and upper roll, retaining only the lower roll upon the connection D, the lower roll affording all the friction that is necessary, the spring being graduated to the weight of the thing suspended.

The ribbon G may, if preferred, be attached to the end of the spring, and wind up upon the spring without

the intervention of the cylinder, but such an arrangement has no advantages, but many disadvantages, over the cylinder.

I do not wish to be understood as broadly claiming suspending lamps or other articles, so as to be drawn up or held in any given position by means of a coil spring, as this is common and well known, but in such common and well-known devices the spring is attached to a cone, and a cord, or similar device, caused to be wound on to the said cone by the reaction of the spring.

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

1. The combination of the coil spring F with the band G and lower friction-roll D, substantially as specified.

2. The combination of the coil spring F, the band G, and the ratchet, whether the ratchet be applied directly to the cylinder A or to the friction-roll, substantially as described.

3. The combination of the coil spring F, the band G, and the upper and lower friction-rolls H and D, substantially as described.

4. The combination of the coil spring F, the band G, the two rolls H and D, with the ratchet and pawl, constructed and arranged substantially as set forth.

JOHN A. EVARTS.

Witnesses:

JOHN E. EARLE,

A. J. TIBBITS.