

(No Model.)

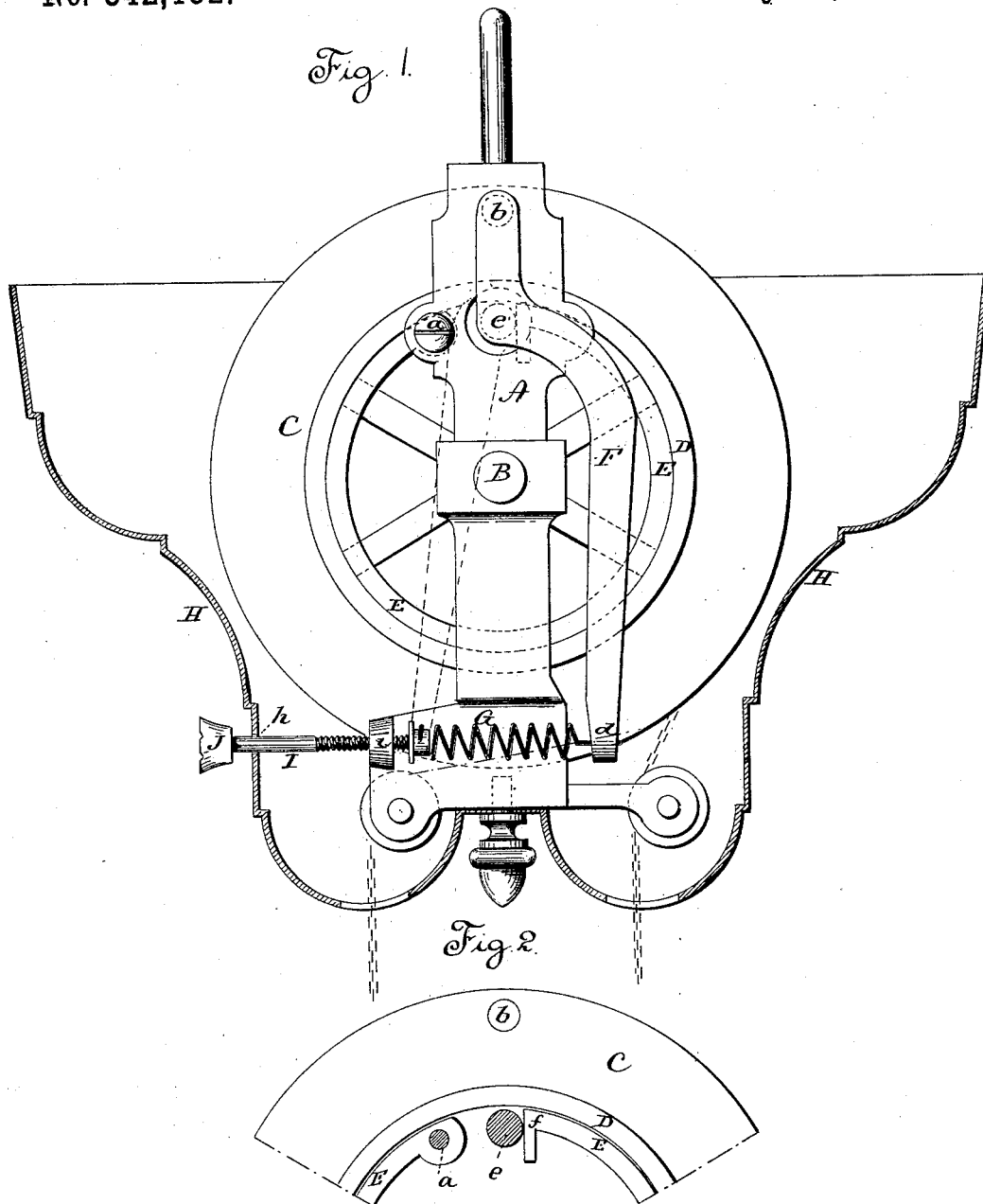
2 Sheets—Sheet 1.

R. B. PERKINS.

SUSPENSION DEVICE FOR LAMPS.

No. 342,132.

Patented May 18, 1886.



Witnesses.

J. A. Shumway.
Fred C. Earle

Russell B. Perkins.

Inventor.

By *Atty.*

Wm. C. Earle.

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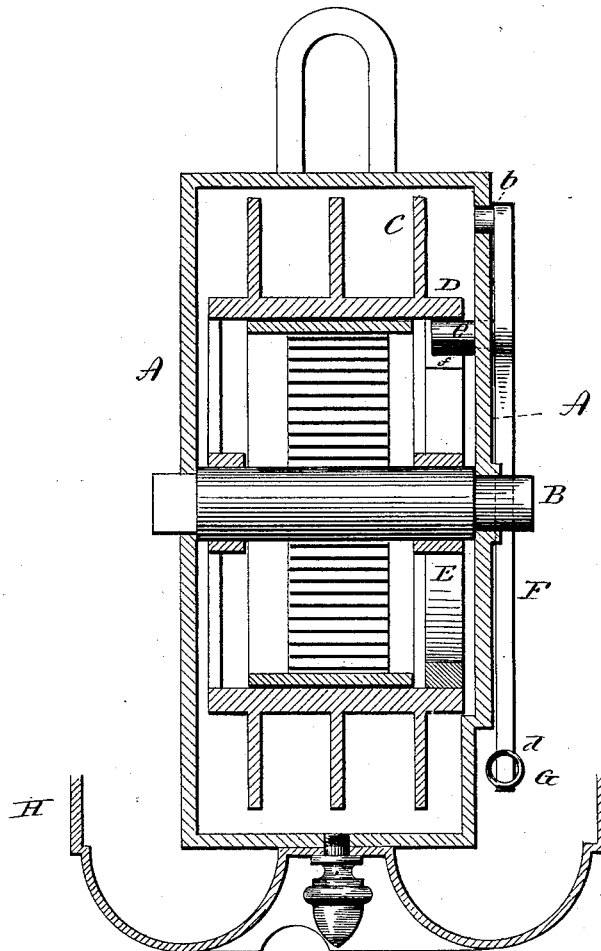
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Fig. 3.



Witnesses.

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Russell B. Perkins.
Inventor.

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UNITED STATES PATENT OFFICE.

RUSSELL B. PERKINS, OF MERIDEN, CONNECTICUT, ASSIGNOR TO EDWARD MILLER & COMPANY, OF SAME PLACE.

SUSPENSION DEVICE FOR LAMPS.

SPECIFICATION forming part of Letters Patent No. 342,132, dated May 18, 1886.

Application filed September 7, 1885. Serial No. 176,385. (No model.)

To all whom it may concern:

Be it known that I, RUSSELL B. PERKINS, of Meriden, in the county of New Haven and State of Connecticut, have invented new Improvements in Suspension Devices for Lamps, &c.; and I do hereby declare the following, when taken in connection with 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 vertical central section of the canopy, showing side view of the lifting device; Fig. 2, a side view of a portion of the drum, showing the two ends of the divided ring and section of the stud which projects inward from the lever to act upon the divided ring; Fig. 3, a vertical central section through the drum.

This invention relates to an improvement in the lifting device employed in hanging lamps and for other purposes, to adjustably suspend the lamp so that the lamp may be set at different elevations, the lifting device being a spring arranged to act upon a drum, so that the drum being turned in one direction winds the spring, then reaction of the spring turns the drum in the opposite direction, and in which one or more chains extend from the drum to the thing to be suspended and so that pulling down the thing suspended, the drum will be rotated to wind the spring, and then the reaction of the spring will tend to turn the drum in the opposite direction and rewind the chains to aid in lifting the device.

As lamps to be suspended vary considerably in weight, owing to the construction of the lamp-supporting device, the lamp fount, or shade, or all of them, and as the spring is set at the manufactory to a given weight, it follows that variation in the weight of the thing suspended will affect the adjustment of the weight—that is to say, if the lamp be so heavy as to overcome the power of the spring, then it will descend of its own gravity and remain only at the lowest point, but if the weight of the lamp be less than the power of the spring then the spring will lift the lamp and hold it only at its extreme position. To

overcome this variation in the weight of the lamp or thing suspended, frictional devices have been applied to the drum or at other points which must be overcome either in lifting or drawing down the fixture, and this friction being greater than the possible difference between the power of the spring and the thing to be suspended permits the suspended thing to stand at any point to which it may be adjusted between its two extremes.

The lifting device is usually inclosed by what is called a "canopy," and is supported at the ceiling. The frictional device should be adjustable in order that it may be set so as to very little more than overcome the difference between the thing suspended and the power of the spring, and so that should the thing suspended become lighter or heavier, because of some change therein, as in change of shade or change of fount, it is necessary to change the friction accordingly—that is, to apply greater friction as the weight is increased or reduce it as the weight is decreased. Such adjustment has heretofore been arranged within the canopy, and so unexposed that a person under ordinary circumstances cannot conveniently adjust the friction.

The object of my invention is to arrange the device through which the friction is adjusted at a point outside the canopy, and so exposed that an inexperienced person may readily adjust the friction; and it consists in extending the adjusting-screw through the wall of the canopy, so as to bring its head upon the outside of the canopy, and so that turning the screw by the head so exposed the friction may be adjusted, and as more fully hereinafter described.

In illustrating my invention, I show it in connection with my invention for which Letters Patent No. 285,668 were granted to the assignees in this application September 25, 1883, and in which A represents one side of the frame, carrying a fixed axle, B, in which a drum, C, freely rotates, the spring (not shown) being a coiled spring, one end attached to the fixed axle and the other to the drum in the usual manner, too well known to require particular description or illustration. On one head of the drum is a concentric flange, D,

within which is a divided frictional ring, E, one end of which is hung to the frame at *a*.

F is a lever hung to the frame, as at *b*, and extending downward. Its lower end, *d*, rests against a spring, G. Below its pivot a stud, *e*, extends inward through an opening in the frame and rests against the other end, *f*, of the divided ring E, as seen in Fig. 2, and so that if the lever be turned in one direction—say to the right—it will force the end *f* of the ring away from the opposite fixed end of the ring, thereby expanding the ring and causing it to bear against the inner surface of the flange D, and the greater the power applied to the lever the greater the friction between the ring E and the flange D. The ring being stationary, the flange works upon the outer surface of the ring to create the friction for the purpose of counterbalancing variations in the weight of the thing suspended.

The suspending device is arranged within a canopy, H, of usual construction, and so as to be hidden from view, the canopy being of an ornamental character.

I is an adjusting-screw extending through an opening, *h*, in the canopy, and in line with the adjusting-spring G, which works through a fixed nut, *i*, on the frame, and so as to bear against the end of the spring. Outside the canopy the screw is provided with a head, J, by which it may be conveniently turned.

As the screw is turned inward to compress the spring G, it increases the pressure upon the lever F, and consequently the pressure between the ring E and the drum, and if the screw be withdrawn the friction is reduced accordingly.

The suspending device being properly hung, and the thing to be suspended attached to the cords or chains in the usual manner, if the power of the spring is found to be too great the screw I is turned inward to increase the friction. If, on the contrary, the power of the spring is found to be too light, then the screw is turned in the opposite direction to reduce the friction. The screw-head, being exposed outside the canopy, is readily accessible and indicates its purpose to a person of ordinary skill and capacity, so that as variations occur in the weight of the thing suspended, the person readily adapts the fixture to such variations through the adjusting-screw I, whereas were the screw entirely inclosed within the canopy, and with the lifting apparatus, as in the more general construction, the means of adjustment are not apparent, and a person

skilled with the fixture is required to make the adjustment.

While I prefer to interpose a spring between the end of the screw and the lever to make the frictional bearing of a yielding character, the screw may bear directly upon the lever, as indicated in broken lines, Fig. 1.

The divided ring itself possesses a considerable degree of elasticity, and is constructed of a diameter differing from the surface on which it bears, and so that the turning of the lever will bring the surface of the ring into frictional contact with the corresponding surface of the drum, and will therefore react as the screw is turned to relieve the pressure of the lever upon the ring.

I am aware that an adjustable constantly-applied friction has been employed in suspension devices for lamps, and do not wish to be understood as claiming, broadly, such a device; but what I do claim as my invention is as an improvement upon the invention described in Letters Patent of the United States No. 285,668.

I claim—

1. In a suspension device for lamps, &c., the combination of the supporting-frame, a spring-drum arranged therein and constructed with a concentric flange, D, cord or chain on the said drum, the divided ring E, hung by one end to the said frame, a lever also hung to the said frame, the said lever constructed with a bearing against which the other or free end of the said ring bears, and an adjustable spring at the free end of said lever, substantially as and for the purpose described.

2. The combination of the frame, the spring-drum arranged in said frame, cord or chain on said drum, the said drum constructed with a concentric bearing-surface, the divided ring fixed to prevent its rotation and constructed to bear upon said concentric surface, a lever hung in the said frame, the said lever constructed with a bearing to engage said divided ring, a spring, and its adjusting-screw at the free end of said lever, with a canopy inclosing the said suspension device, the said canopy constructed with an opening through its side, and the adjusting-screw extended outward through said opening, substantially as and for the purpose specified.

RUSSELL B. PERKINS.

Witnesses:

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