(No Model.) 2 Sheets—Sheet 1.

C. J. PETERSEN.

SUSPENSION DEVICE.

No. 321,382. Patented June 30, 1885.

Fig. 1.

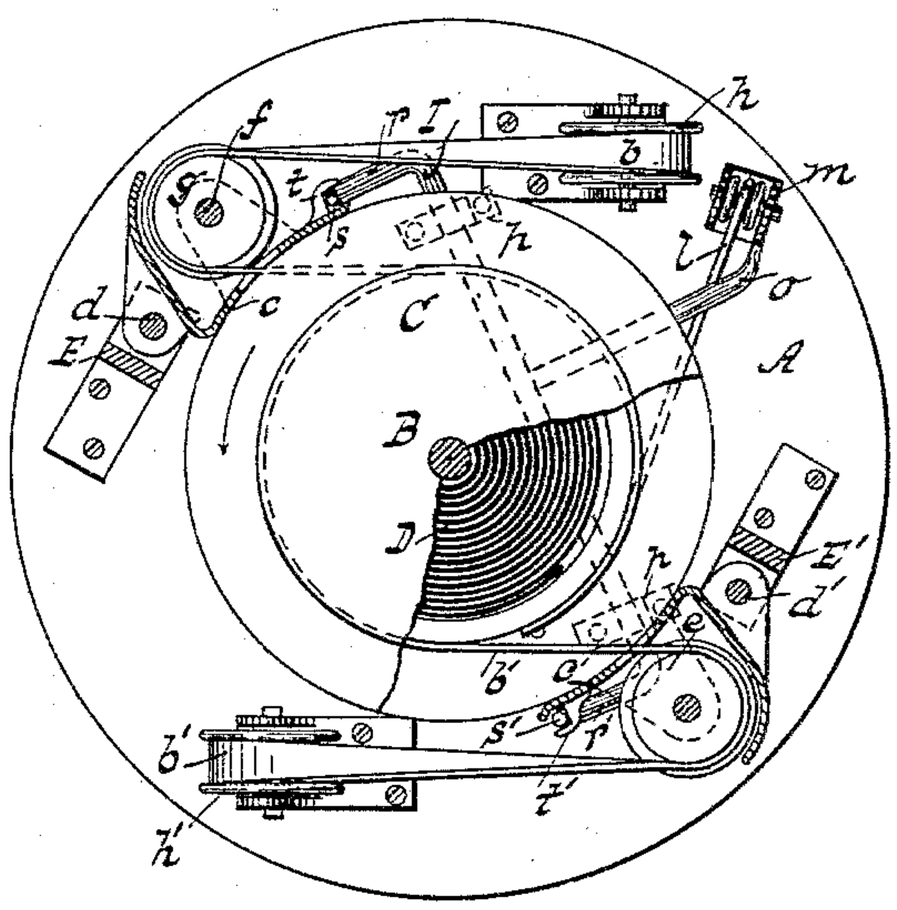
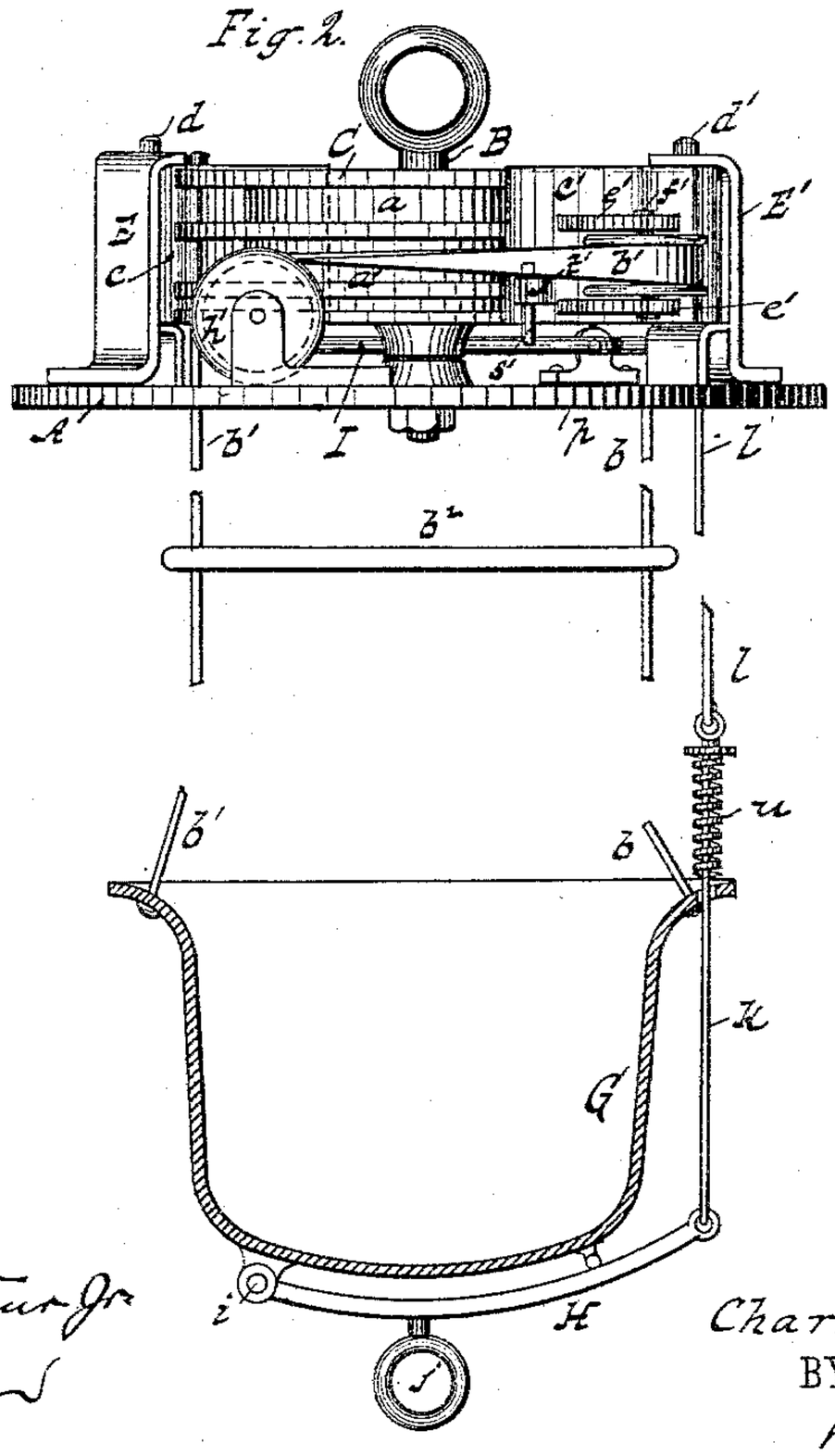


Fig. 2.



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(No Model.) 2 Sheets—Sheet 2.

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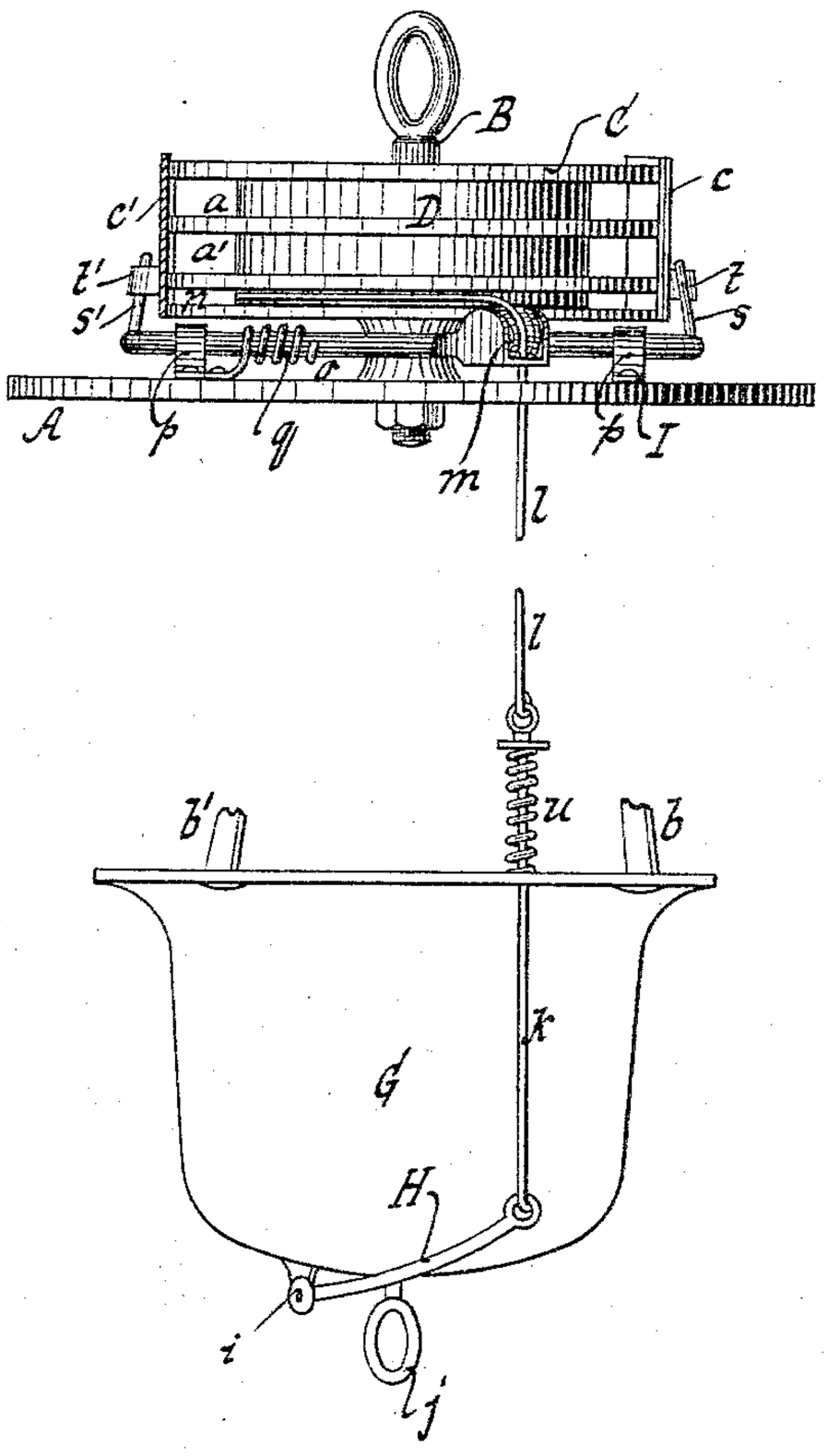
Fig. 3.



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UNITED STATES PATENT OFFICE.

CHARLES J. PETERSEN, OF PORT CHESTER, NEW YORK.

SUSPENSION DEVICE.

SPECIFICATION forming part of Letters Patent No. 321,382, dated June 30, 1885.

Application filed May 28, 1885. (No model.)

To all whom it may concern:

Be it known that I, CHARLES J. PETERSEN, a citizen of the United States, residing at Port Chester, in the county of Westchester and State of New York, have invented new and useful Improvements in Suspension Devices, of which the following is a specification.

This invention has for its object to provide novel mechanism for suspending lamps and other articles; and it consists in the combination of devices hereinafter described and claimed, reference being made to the accompanying drawings, illustrating my invention, in which—

Figure 1 represents a plan or top view, partly in section. Fig. 2 is a side view. Fig. 3 is a side view of the brake-releasing mechanism.

Similar letters indicate corresponding parts.

In the drawings, the letter A designates a support or frame of any suitable form, and in this support is firmly mounted a spindle, B. On this spindle revolves a drum, C, which contains a coiled spring, D. The inner end of this spring is secured to the spindle B, and its outer end is fastened to the drum C, so that when the drum is turned in the direction of the arrow marked on it in Fig. 1 the spring is wound up. In the periphery of the drum C are two circular grooves, *a a'*, each of the grooves being intended to receive one of the suspension cords or chains *b b'*, the inner end of the cord *b* being fastened in the groove *a*, while the inner end of the cord *b'* is fastened in the groove *a'*. On the support A are firmly secured two standards, E E', which carry the brake-shoes *c c'*. These brake-shoes swing freely on pins *d d'*, secured in the standards E E', and on the back of the brake-shoes are firmly secured lugs *e e'* which form the bearings for pins *f f'*, on which are mounted the rollers *g g'*, the roller *g* being situated in line with the groove *a* in the drum C, while the roller *g'* is in line with the groove *a'*.

In the example shown in the drawings the drum C is intended to be placed in a horizontal position, the entire device being suspended from the ceiling by an eye in the upper end of the spindle B and a hook secured in the ceiling, and in this case guide-rollers *h h'* are mounted on the support A, so that the suspension-cord *b* runs from the groove *a* round the roller *g*, and thence over the guide-roller *h*, while the cord *b'* runs from the groove *a'* round the roller *g'* and over the roller *h'*. From the rollers *h h'* the cords *b b'* hang down in a vertical direction, ready to receive the frame or device G for supporting the lamp. The drum C may, however, be placed in a vertical position, and in this case the guide-rollers *h h'* can be dispensed with, since the suspension-cords will hang down from the rollers *g g'* in a vertical position ready to receive the device G for supporting the lamp. If desired, the lamp or other article may be suspended from a single suspension-cord wound upon the drum C. A suitable stop, b^2, serves to arrest the upward movement of the suspension cord or cords.

Before suspending the lamp from the cords *b b'* the spring D is wound up sufficiently to enable the same to overcome the weight of the lamp, and each of the cords *b b'* is wound once or twice round the drum C before it passes to the roller *g* or *g'*. When the lamp is suspended from the cords *b b'*, the brake-shoes *c c'* are drawn up tight against the circumference of the drum, so that the lamp will be sustained at any height to which it may be brought. If the lamp is to be raised, it is only necessary to push it upward, whereby the friction of the brakes against the circumference of the drum C is reduced to such an extent that the spring D is enabled to carry the lamp upward. In pulling the lamp downward the pressure exerted by the brakes upon the periphery of the drum is increased, and consequently considerable power must be applied in order to move the lamp down.

In order to facilitate the operation of drawing the lamp down, I have applied mechanism for relieving the drum from the action of the brake or brakes during the time the lamp is being drawn down. The brake-releasing mechanism consists of a clearing-cord, *l*, which is wound in the groove *n* of the drum C, and which connects with a lever, H, that swings on a pivot, *i*, secured to the lamp-support G. On this lever is secured a ring or finger-button, *j*, which serves to pull the lamp down. The free end of the lever H connects by a rod, *k*, with the clearing-cord *l*, which extends over a pulley, *m*, to the groove *n*, in which its end is fastened. The pulley *m* is mounted in the

end of an arm, *o*, which extends from a rock-shaft, I, that is mounted in bearings *p p*, secured to the support A, and a spring, *q*, which acts upon the arm *o*, has a tendency to throw the pulley *m* upward. From the ends of the rock-shaft I extend arms *r r'*, which carry oblique fingers *s s'*, and these fingers act upon lugs *t t'*, secured to the backs of the brake-shoes *c c'*. The rod *k*, Figs. 2 and 3, is subjected to the action of a spring, *u*, which has a tendency to throw the same together with the lever H upward. When the lever H is drawn down, the strain exerted by the cord *l* upon the roller *m* causes the rock-shaft I to turn in its bearings, so that the oblique fingers *s s'* are moved upward, and by this upward movement said fingers act upon the lugs *t t'* on the brake-shoes in such a manner that the brakes are thrown back out of contact with the drum C. As the strain upon the lever H continues the drum C is caused to revolve against the action of its spring D, but free from contact with the brakes, and the lamp is moved down with comparative ease. When the lamp has reached the required position and the lever H is released, the weight of the lamp and of the parts connected to the same causes the brake-shoes to close up and to retain the drum in position.

I do not claim in this application the combination of a frame, a drum adapted to rotate upon a vertical support in said frame, a spring within the drum to rotate the same in one direction, cords or chains wound upon the drum, levers fulcrumed upon said frame and movable toward and from the periphery of the drum, brakes upon said levers, and guides or rollers upon said levers, for receiving said cords or chains, and from which the cords or chains pass to the lamp or other article to be suspended, such being embraced in application No. 155,713, filed by me February 12, 1885.

What I claim as new, and desire to secure by Letters Patent, is—

1. In a suspension device, the combination of a support or frame, a rotating spring-drum mounted thereon, a brake on the frame movable to and from the drum, a suspension cord or chain wound on the drum and passing outward therefrom over a guide on the brake and thence at an angle to the article to be supported, a lever having the parts on one side of its fulcrum connected with the brake, a clearing-cord wound upon the drum and engaging the brake-lever, and a lever mounted on the article to be supported and connected with the clearing-cord, substantially as described.

2. In a suspension device, the combination of a support or frame, a rotating spring-drum mounted thereon, a brake on the frame movable to and from the drum, a suspension cord or chain wound on the drum and passing outward therefrom over a guide on the brake and thence at an angle to the article to be supported, a rock-shaft having an arm connected with the brake, a clearing-cord engaging an opposing arm on the rock-shaft, and a lever mounted on the article to be supported and connected with the clearing-cord, substantially as described.

In testimony whereof I have hereunto set my hand and seal in the presence of two subscribing witnesses.

CHAS. J. PETERSEN. [L. S.]

Witnesses:
W. HAUFF,
E. F. KASTENHUBER.