(No Model.)

2 Sheets—Sheet 1.

C. J. PETERSEN.

SUSPENSION DEVICE.

No. 335,478. Patented Feb. 2, 1886.

Fig. 2.

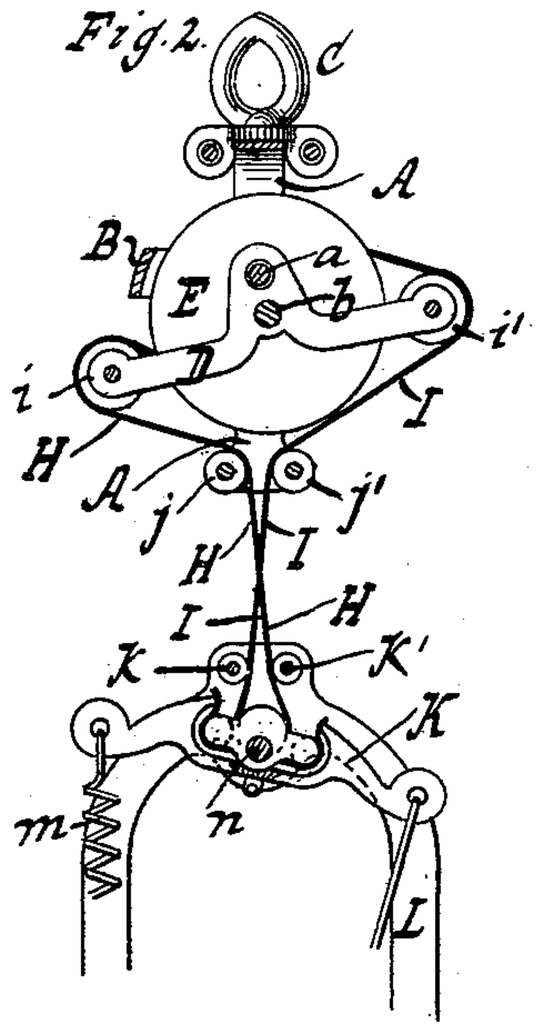


Fig. 1.

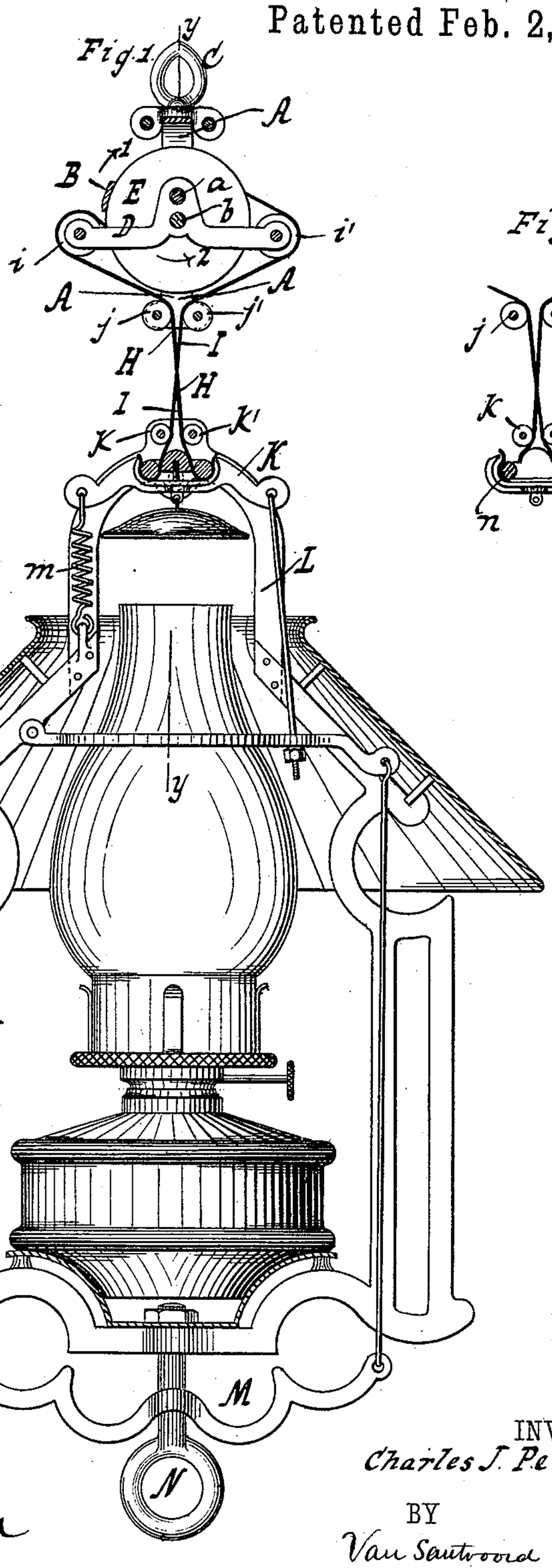
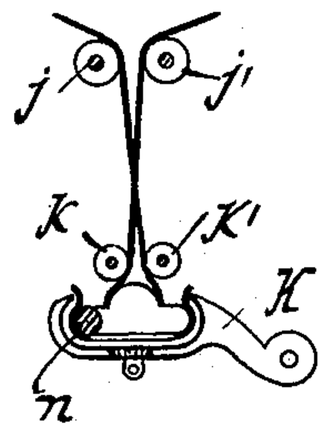


Fig. 7.



WITNESSES:

William Miller
A Faber du Faur Jr

INVENTOR
Charles J. Petersen

BY
Van Santwood & Hauff
his ATTORNEYS

(No Model.) 2 Sheets—Sheet 2.

C. J. PETERSEN.

SUSPENSION DEVICE.

No. 335,478. Patented Feb. 2, 1886.

Fig. 5.

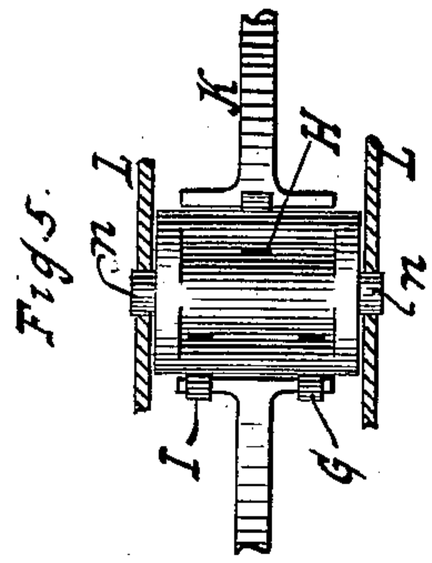


Fig. 6

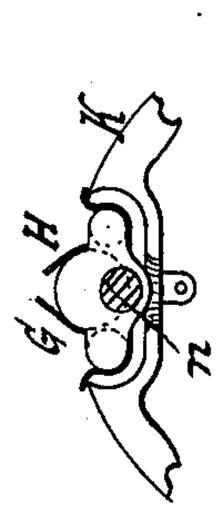


Fig. 3.

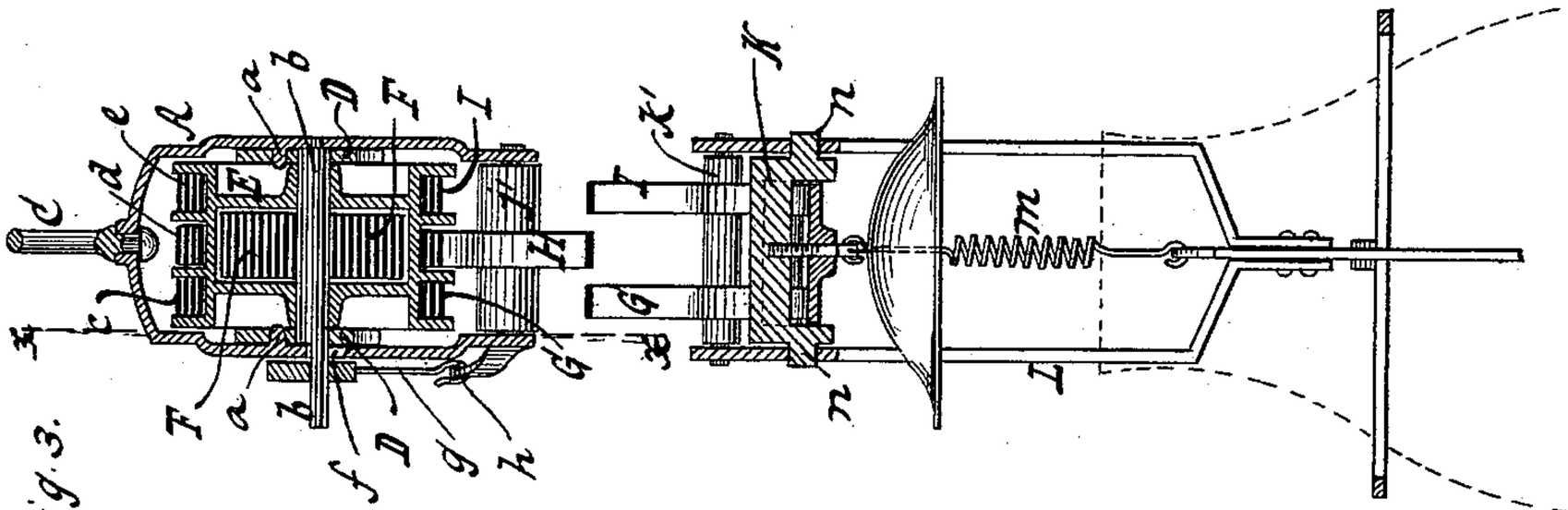
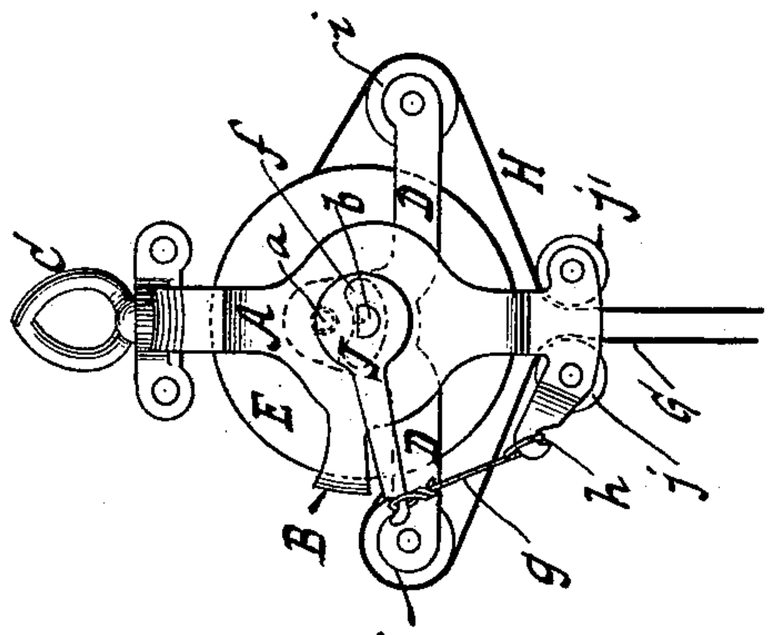


Fig. 4.



WITNESSES:

William Miller

A. Faber du Faur Jr.

INVENTOR

Charles J. Petersen.

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his ATTORNEYS

UNITED STATES PATENT OFFICE.

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

SUSPENSION DEVICE.

SPECIFICATION forming part of Letters Patent No. 335,478, dated February 2, 1886.

Application filed September 1[8], 1885. Serial No. 177,508. (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 means for suspending and raising and lowering a lamp or other article.

To such end my invention consists in the combination of devices hereinafter described and claimed, reference being made to the accompanying drawings, illustrating my invention, in which—

Figure 1 is a section of my device on the line *x x*, Fig. 3, carrying a lamp. Fig. 2 is a similar view showing the operation of the clearing-lever. Fig. 3 is a section on the line *y y*, Fig. 1. Fig. 4 is a side view. Figs. 5 and 6 are details of the clearing-lever; and Fig. 7 is a detail view of the lever, showing a modification, in which the lever is pivoted at or near one end.

Similar letters indicate corresponding parts.

In the drawings, the letter A designates the main frame, carrying the brake-shoe B, and provided with an eye, C, by which it may be attached to the ceiling.

D is the swinging frame, suspended from pivots *a*, projecting from the main frame, and carrying the spindle *b*. On this spindle revolves a drum, E, which contains a coiled spring, F, the inner end of which is secured to the spindle *b*, while the outer end is fastened to the drum E, so that when the latter 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 E in the example shown are three circular grooves, *c d e*, each of which is intended to receive one of the suspension-cords G H I, the inner ends of which are fastened to the drum E. To regulate the tension of the coiled spring F, a wrench, J, is secured to one end of the spindle *b*, which projects through an opening, *f*, in the main frame A. When the desired amount of tension has been attained, the wrench J is held in position by the link *g* and the hook *h*, or by any other suitable means.

In the outer ends of the swinging frame D are mounted two guide-rollers, *i i'*, one on each side of the drum E. The suspension-cords pass from the drum E over these guide-rollers to guide-rollers *j j'*, mounted close together at the lower end of the main frame A, from these to guide-rollers *k k'*, mounted in the upper end of the carrying-frame L, and are then securely fastened to the clearing-lever K, which is pivoted at *n* in the carrying-frame L. One side of this lever is connected by a link or other device with the auxiliary lever M, pivoted to the lower end of the carrying-frame at *l*, while the other end of the clearing-lever is subject to the action of the spring *m*, secured to the said frame.

The drawings show the suspension-cords coiled up, and the carrying-frame in its upper position near the suspension device proper. To draw it down, the auxiliary lever M is first drawn downward, acting on the clearing-lever and turning the same on its pivots *n*, (see Fig. 2,) which in the example shown are near its center, and causing said clearing-lever to pull the suspension-cord H, which passes over the guide-roller *i* in the swinging frame D, thereby turning the latter on its pivots *a* in the direction of arrow 2, Fig. 1, and disengaging the drum E from the brake-shoe B. When the above operation has been effected, the lever M will rest against the ring N in the bottom of the carrying-frame, and by continuing the downward pressure the carrying-frame may be drawn down until the lever M is released, when the swinging frame will swing back to its normal position, and the drum will again engage the brake-shoe, which will prevent the further unwinding of the suspension-cords and stop the downward motion of the carrying-frame.

When it is desired to raise the carrying-frame, the drum is disengaged from the brake-shoe in the manner above described, and while the carrying-frame is slightly lifted the action of the coiled spring in the drum will cause the same to rotate and wind up the suspension-cords until the lever M is released, when the brake-shoe will again act and hold the whole apparatus stationary.

In the modification shown in Fig. 7 the pivot *n* of the clearing-lever K is placed at or near one end thereof, and one of the suspen-

sion-cords is connected with the lever near its pivot or fulcrum, while the other cord is connected with the lever farther from the pivot or fulcrum, in such manner that the strain on one suspension-cord will be greater than the strain on the other when the free end of the lever is drawn downward.

By the construction shown in Fig. 7 I may dispense with the use of the spring *m*. It will be evident that only two suspension-cords are necessary to permit the operation of the devices.

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

1. The combination of the main frame provided with guides and an attached brake-shoe, a swinging-frame pivoted to the main frame and provided with guides, a rotating spring-drum carried by said swinging frame, a frame for carrying the object to be suspended, a lever, K, pivoted to said carrying-frame, and suspension-cords passing around said drum and connected to the lever K at different points, substantially as described.

2. The combination of the main frame provided with guides and an attached brake-shoe, a swinging frame pivoted to the main frame and provided with guides, a spindle located below the pivoted attachment of the swinging frame, a spring-drum mounted on said spindle, a frame for carrying the object to be suspended, a lever pivoted to the carrying-frame, suspension-cords passing around the drum and connected to the pivoted lever at different points, and an auxiliary-lever mounted on the carrying-frame and connected with the pivoted lever on the latter, substantially as described.

3. The combination of a main frame provided with guides and an attached brake-shoe, a swinging frame pivoted to the main frame and provided with guides, a spindle located in said swinging frame, a carrying-frame, a clearing-lever pivoted to the carrying-frame, and suspension-cords passing around said drum and connected to said clearing-lever at different points, substantially as described.

4. The combination of a main frame having an attached brake-shoe, a swinging pivoted frame, a spring-drum journaled in the swinging frame, a carrying-frame, guides for the suspension-cords, suspension-cords passing around the drum and engaging said guides, and a clearing-lever mounted on the carrying-frame and connected at different points with the suspension-cords, substantially as described.

5. The combination of a main frame provided with guides and an attached brake-shoe, a swinging pivoted frame provided with guides, a spring-drum journaled in the swinging frame, a carrying-frame, a lever pivoted at or adjacent to its center, a spring connecting one end of said lever with the carrying-frame, an auxiliary lever on the carrying-frame connected with the other end of the pivoted lever, and suspension-cords passing around the drum and connected with the pivoted lever at different points, substantially as described.

6. The combination of the main frame provided with guides and an attached brake-shoe, a swinging frame pivoted to said main frame and provided with guides and a spindle, a drum journaled on the spindle of the swinging frame and containing a spring, an adjustable wrench engaging the spindle to adjust the tension of the spring, a carrying-frame, a lever pivoted thereon, and suspension-cords passing around the drum and connected with said pivoted lever at different points, substantially as described.

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

CHARLES J. PETERSEN. [L. S.]

Witnesses:
A. FABER DU FAUR, Jr.,
E. F. KASTENHUBER.