(No Model.)

C. J. PETERSEN.

SUSPENSION DEVICE.

No. 324,724. Patented Aug. 18, 1885.

Fig. 4.

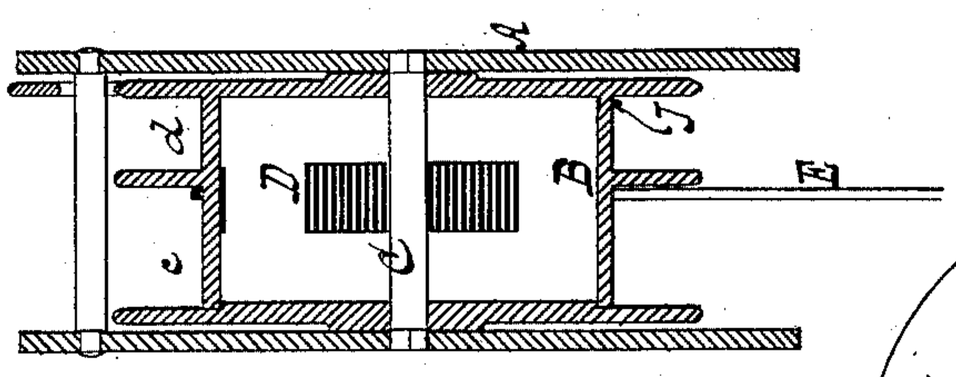


Fig. 3.

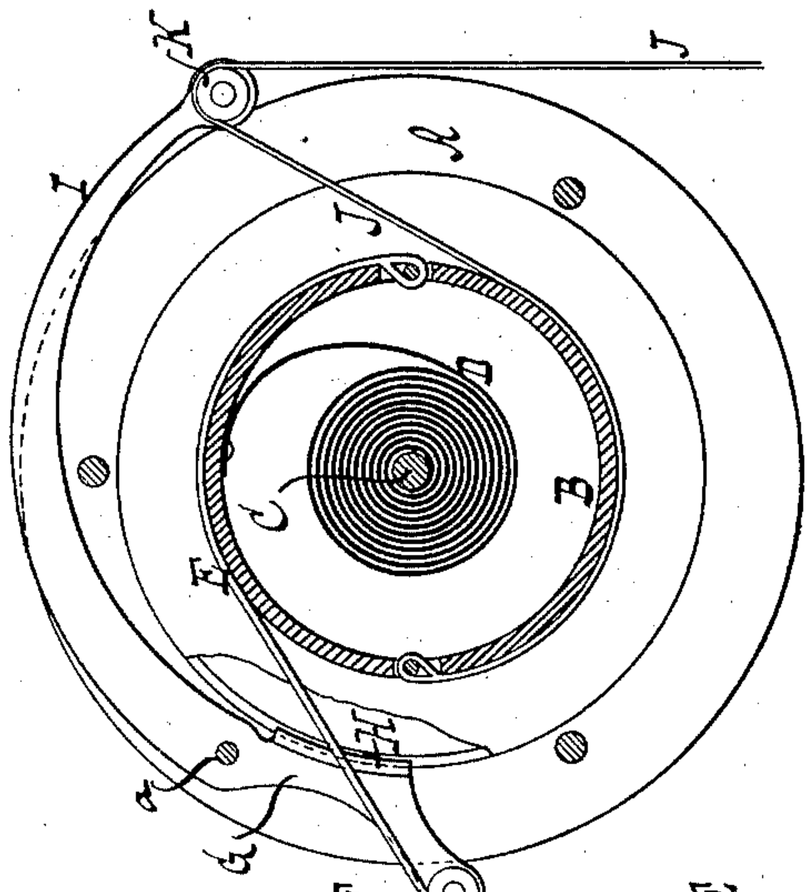


Fig. 2.

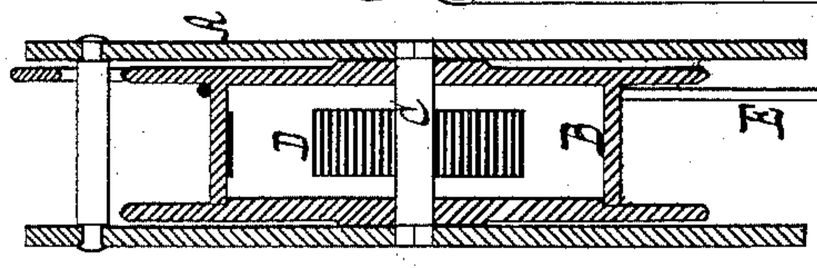
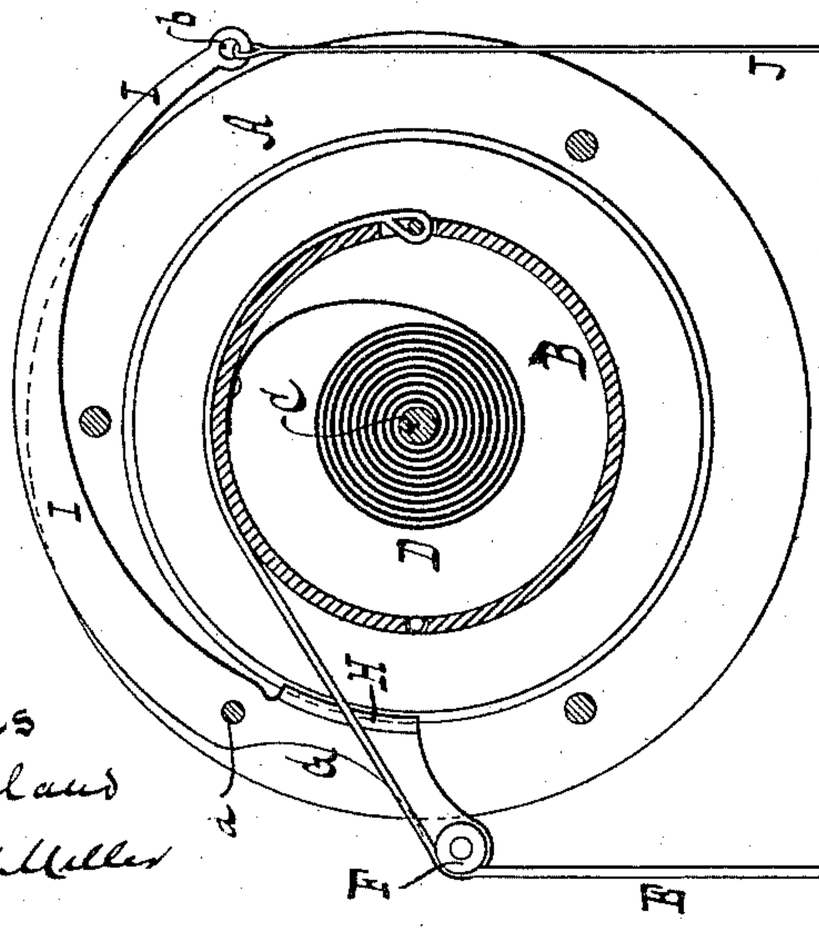


Fig. 1.



Witnesses
Otto Hupfel and
William Miller

Fig. 7.

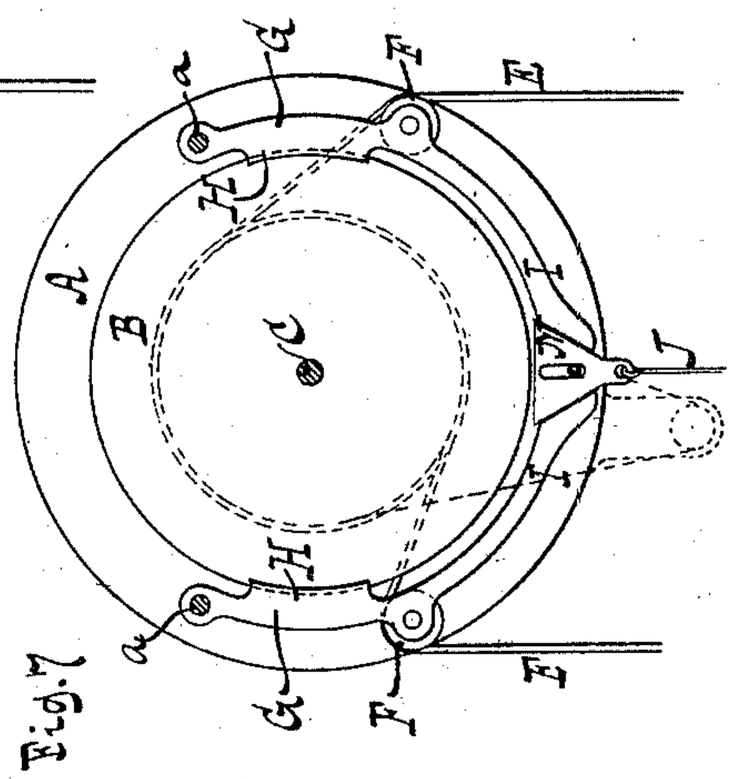


Fig. 6.

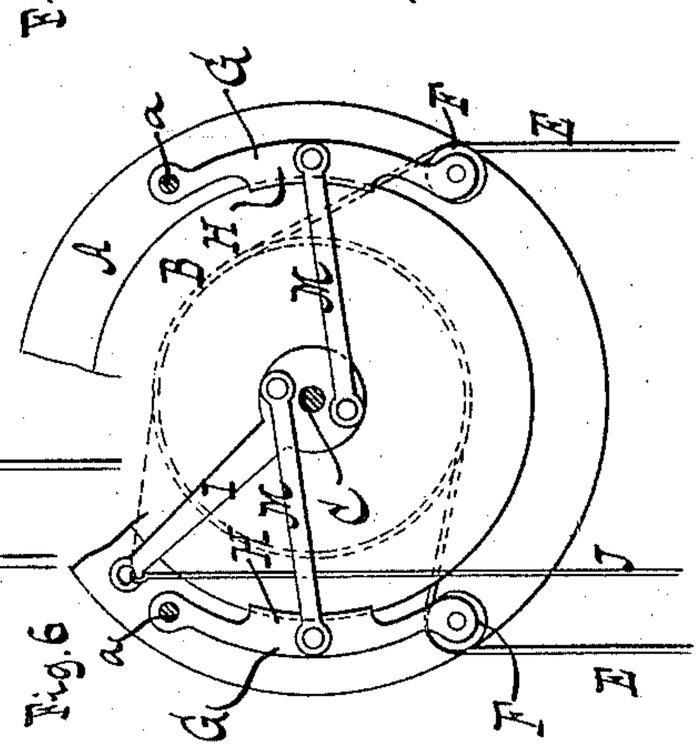
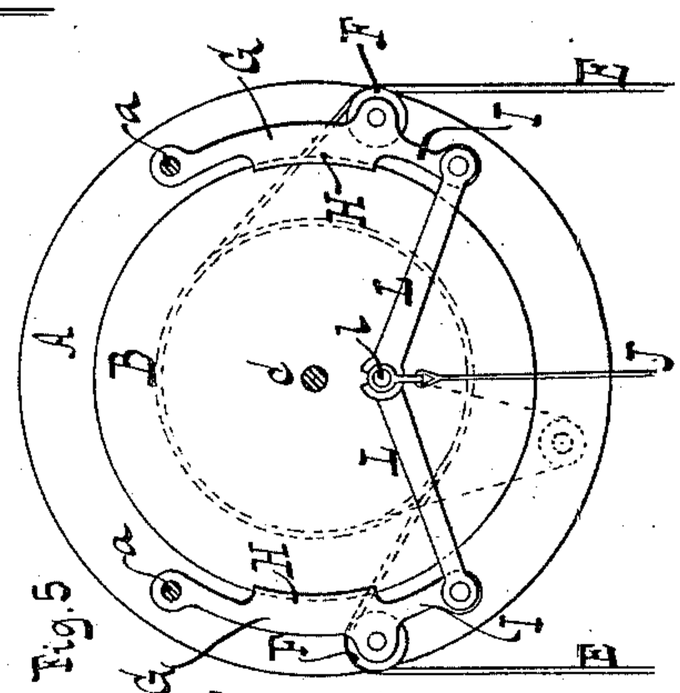


Fig. 5.



Inventor
Charles J. Petersen
by Van Santvoord & Lauffs
his attys

N. PETERS, Photo-Lithographer, Washington, D. C.

UNITED STATES PATENT OFFICE.

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

SUSPENSION DEVICE.

SPECIFICATION forming part of Letters Patent No. 324,724, dated August 18, 1885.

Application filed June 25, 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 relates to a suspension device in which the following elements are combined, viz: A frame or support, 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 brake-releasing lever having the parts on one side of its fulcrum connected with said brake, and a clearing-cord engaging said brake-releasing lever. The clearing-cord may also be wound upon the spring-drum, and the brake-releasing lever may be made to act upon two brakes bearing upon the drum from opposite sides.

In the accompanying drawings, Figure 1 represents a sectional face view of my suspension device. Fig. 2 is a transverse section of the same. Fig. 3 is a sectional face view when the clearing-cord is wound upon the spring-drum. Fig. 4 is a transverse section of the same. Figs. 5, 6, and 7 represent face views of various modifications which will be referred to as the description progresses.

Similar letters indicate corresponding parts.

In the drawings, the letter A designates the frame, in which is mounted the rotating spring-drum B, said frame being so constructed that it can be conveniently suspended from or attached to the ceiling of a room, or otherwise secured in the required position. For this purpose a suitable bracket may be fastened to the frame, which, however, is not shown in the drawings. The drum B rotates freely upon the axis C, which is firmly mounted in the frame, the inner end of the spring D being secured to said axis, while its outer end is attached to the inner surface of the drum. Upon the drum is wound the suspension cord or chain E, and this cord passes outward from the drum over a guide, F, and thence at an angle to the article to be supported. The guide F is by preference made in the form of a roller, which is loosely mounted upon a pin secured in an arm, G, which carries the brake H, said arm being mounted upon a pivot, *a*, so that the brake is movable toward and from the drum.

It will be seen from this description that the weight of the article to be supported keeps the brake in contact with the drum, and if said article is drawn down it retains its position until the same is raised, so that its strain upon the brake is limited to a sufficient extent to permit the spring to rotate the drum. In drawing down the article, however, the brake is drawn up against the drum very tight, and considerable power is required to overcome the friction of the brake, and it is therefore very desirable to apply some means for releasing the brake. For this purpose I have combined with the brake H a brake-releasing lever, I, the parts on one side of whose fulcrum connect with the brake and a clearing-cord, J, which engages with said brake-releasing lever.

It is obvious that this mechanism may be modified in a great many different ways, and I have illustrated in the drawings various modifications, all of which can be used for the purpose above stated.

In the example shown in Figs. 1 and 2 the brake-releasing lever I forms a continuation of the arm G which carries the brake H. In the outer end of this lever is formed an eye, *b*, in which is secured the clearing-cord J. By pulling the clearing-cord the brake is released and the drum B is permitted to follow the action of its spring, and the article suspended from the cord or chain E is raised. In order to manipulate this apparatus, however, both hands must be used, one to pull the clearing-cord and the other to hold the article secured to the suspension-cord, otherwise when the clearing-cord is pulled the suspension-cord will be wound up on the drum very rapidly, and the article supported by the same is liable to become smashed or otherwise injured.

In order to effect the operation of raising and lowering the article supported by the suspension-cord with one hand, I provide the drum B with two grooves, *c d*, (see Figs. 3 and 4,) the suspension-cord being wound in the groove *c*, and the clearing-cord in the groove *d*. In this case the suspension-cord passes from the

drum B over a guide, K, secured to the brake-releasing lever I, and thence down so that it can be conveniently reached from the ground. By pulling the clearing-cord the brake is released; but by the strain on the clearing-cord the drum is prevented from following the action of its spring, and by properly manipulating the clearing-cord the article supported by the suspension-cord can be raised gradually without using both hands.

When two brakes are used which act from opposite sides upon the drum, various devices can be used for releasing both brakes at the same time by pulling the clearing-cord. In Fig. 5 the brakes H are held up against the drum by the strain produced by the weight of the article supported by the suspension-cords E E. To the ends of the brake arms or heads G G are pivoted toggle-levers L L, the inner ends of which are connected by a pivot, *l*, and to this pivot is secured the clearing-cord J. In the example shown in Fig. 6 the brake releasing lever I turns on the axis C of the drum B, and from the hub of this lever extend in opposite directions the links M M, the outer ends of which are pivoted to the brake-heads G G. By pulling the clearing-cord J both brakes are released at the same time. The same effect can be produced by a wedge, N, Fig. 7, which acts upon the brake-releasing levers in opposite directions, and to which the clearing-cord J is connected.

From these few examples it will be seen that a large number of different devices can be applied to produce the effect hereinbefore described.

In the examples shown in Figs. 5, 6, and 7 a clearing-cord can be used which winds upon the drum B, as shown by dotted lines.

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 brake-releasing lever having the parts on one side of its fulcrum connected with said brake, and a clearing-cord engaging said brake-releasing lever, 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 brake-releasing lever having the parts on one side of its fulcrum connected with said brake, and a clearing-cord wound upon the drum and passing outward therefrom over a guide on the brake-releasing lever, substantially as described.

3. In a suspension device, the combination of a support or frame, a rotating spring-drum mounted thereon, two brakes on the frame on opposite sides of the drum and movable toward and from said drum, two suspension-cords wound upon the drum and passing outward therefrom over guides on the brakes and thence at an angle to the article to be supported, brake-releasing levers connected to said brakes, and a clearing-cord engaging said brake-releasing levers, 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:
W. HAUFF,
A. FABER DU FAUR, Jr.