

(No Model.)

C. M. PITEL.
SUSPENDING DEVICE.

No. 511,967.

Patented Jan. 2, 1894.

Fig. 1.

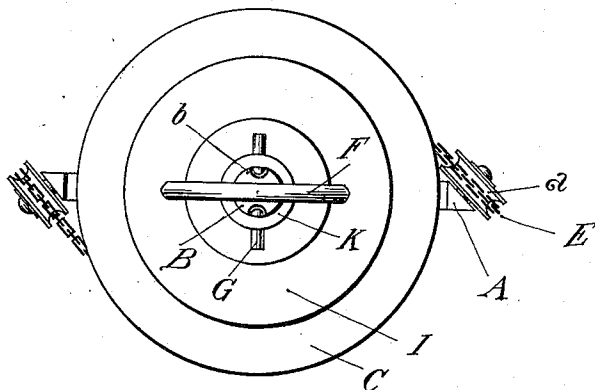


Fig. 2.

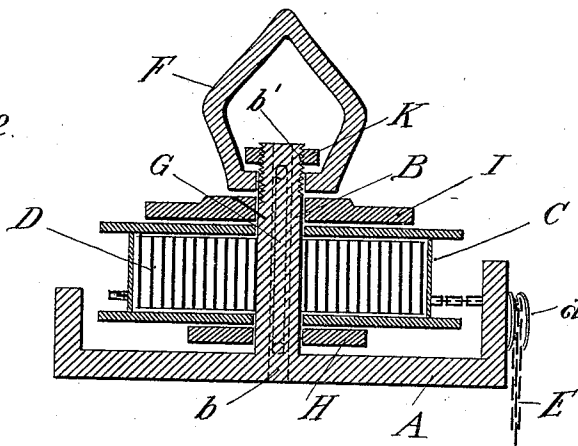
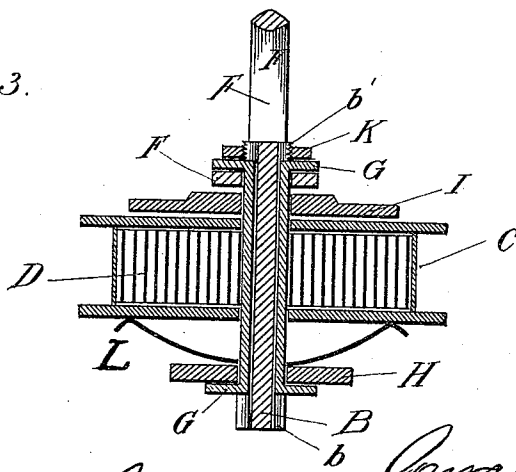


Fig. 3.



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CONRAD M. PITEL, OF MERIDEN, CONNECTICUT, ASSIGNOR TO THE EDWARD MILLER & COMPANY, OF SAME PLACE.

SUSPENDING DEVICE.

SPECIFICATION forming part of Letters Patent No. 511,967, dated January 2, 1894.

Application filed June 30, 1893. Serial No. 479,314. (No model.)

To all whom it may concern:

Be it known that I, CONRAD M. PITEL, a citizen of the United States, residing at Meriden, New Haven county, Connecticut, have invented a new and useful Improvement in Suspending Devices, of which the following is a specification.

My invention relates to that class of suspending devices in which suspending cords or chains are wound upon a spring inclosing drum provided with a friction brake. It is intended to provide a cheap, simple and positive brake or frictional control for the drum.

In the accompanying drawings Figure 1 is a top plan view of a suspending device embodying my improvement. Fig. 2 is a central vertical section of the same. Fig. 3, also in central vertical section, but at a right angle to the section shown in Fig. 2, shows a modification.

The same letters refer to like parts in the several views.

A designates a frame; *a*, a guide on the frame A; B, an arbor; *b*, a groove in the arbor B; *b'*, a screw-thread on the arbor B; C, a drum; D, a convolute spring; E, a chain or cord; F, a loop or hanger; G, a connecting rod; H, a lower, and I, an upper disk; K, a nut; L, Fig. 3, a spring.

In the example of my invention illustrated in Figs. 1 and 2 of the drawings the frame A, guides *a*, drum C, spring D and chains or cords E may be of any desired form or dimensions. The arbor B, here shown as vertical and integral with the frame A, is provided with two longitudinal grooves or recesses *b* and at its upper end with an external screw thread *b'*, the function of which will hereinafter appear. The loop or hanger F surrounds the upper end of the arbor B and is free as to vertical motion thereon. Through the grooves *b* in the arbor B pass connecting rods G, the upper ends of which are bent over to engage with the loop F, their lower ends being similarly bent to engage with the lower side of the disk H which surrounds the arbor B below the drum C. These connecting rods are most clearly shown in Fig. 3 of the drawings. Above the drum C and on the arbor B is the disk I firmly secured to the arbor. A nut K running on the screw-threaded portion *b'* of

the arbor B serves to limit the upward motion of the loop F.

The operation of my device will be readily understood from an inspection of the drawings. It will of course be understood that the arrangement of parts is such that the lowering of the article suspended from the chains acts to wind the spring D and that the reaction of this spring assists in raising the suspended article. It is also clear that the weight of the device and of the suspended article depends from the loop F which is intended to engage with a ceiling hook or the like. The loop F is connected by means of the rods G with the lower disk H, all of these parts together with the drum C being capable of limited vertical motion on the arbor B. The upper disk I is rigidly secured to the arbor B as against both rotation and vertical motion.

It is evident then that the weight of the suspended article will act to press the upper and lower surfaces of the drum C against the disks I and H respectively and that the frictional resistance so produced will act against the lowering of the article. It is equally plain that when the article is raised by the operator the friction on the drum C will be reduced so that comparatively little resistance will be offered to the rewinding of the chains E. By means of the nut K the amount of vertical movement of the loop and connected parts and consequently the amount of friction may be regulated.

In Fig. 3 of the drawings I have shown a modification of my device. A spring L here shown as semi-elliptical is inserted between the disk H and the lower side of the drum C. This spring L acts to press the drum C against the upper disk I. The effect of this is somewhat to decrease the resistance to downward motion and to increase the resistance to upward motion of the article suspended. In other words the amount of constant friction is greater and the increment of resistance less than in the first described construction. The operation of the device is not otherwise altered.

I am aware of the existence of United States Patent No. 481,157 in which a loop is vertically movable upon an arbor and in which through such movement frictional resistance

to the rotation of the drum is increased or diminished. My device differs from that shown in said patent in that it requires no levers or yoke and especially in that in my device the drum is connected by rods with the loop and shares its vertical motion.

What I claim as my invention, and desire to secure by Letters Patent of the United States, is as follows:

1. In a suspending device in combination, an arbor, a spring actuated drum on said arbor, a chain on said drum, a disk secured to said arbor above said drum and a loop on said arbor, said loop and said drum being connected together and capable of limited vertical motion on said arbor, substantially as described.

2. In a suspending device in combination, an arbor, a spring actuated drum on said arbor, a chain on said drum, a disk secured to said arbor above said drum, a loop on said arbor and a rod connecting said loop and said drum, said loop, rod and drum being capable of limited vertical motion on said arbor substantially as described.

3. In a suspending device in combination, an arbor, a spring actuated drum on said arbor, a chain on said drum, a disk secured to

said arbor above said drum, a loop on said arbor, a connecting rod and a spring on said arbor below said drum, said loop, rod, drum and lower spring being capable of limited vertical motion on said arbor, substantially as described.

4. In a suspending device in combination, an arbor, a longitudinal groove in said arbor, a spring actuated drum on said arbor, a chain on said drum, a disk secured to said arbor above said drum, a loop on said arbor and a rod in said groove connecting said loop and said drum, said loop, rod and drum being capable of limited vertical motion on said arbor, substantially as described.

5. In a suspending device in combination, an arbor, a spring actuated drum on said arbor, a chain on said drum, a disk secured to said arbor above said drum, a loop on said arbor, a connecting rod, a spring and a disk on said arbor below said drum, said loop, rod, drum, lower spring and lower disk being capable of limited vertical motion on said arbor, substantially as described.

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