(No Model.)

# E. BLACKMAN.

## SUSPENDING DEVICE.

No. 384,187. Patented June 5, 1888.

*Fig. 1.*

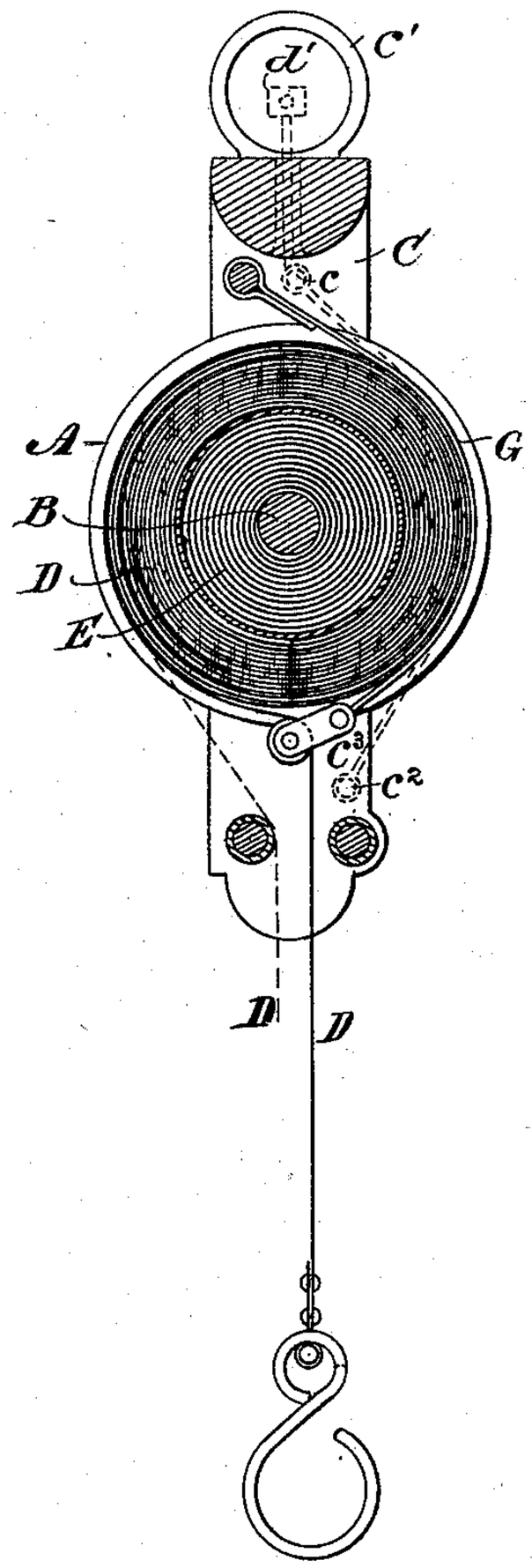
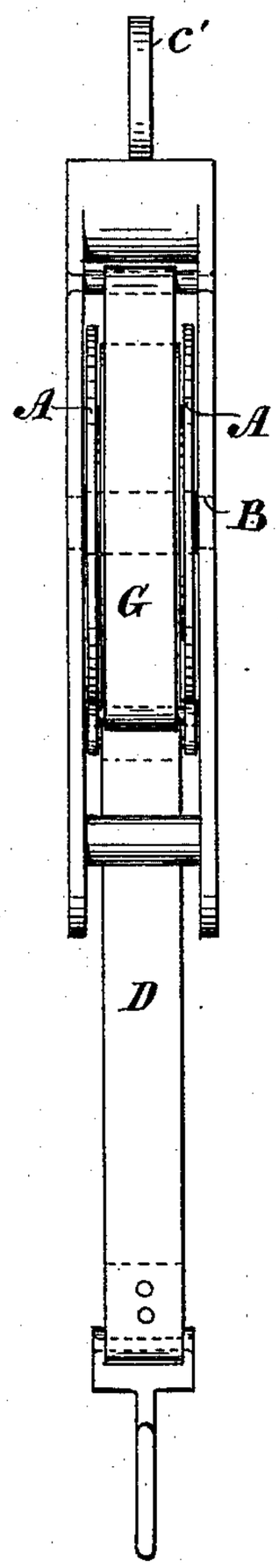



*Fig. 2.*




Witnesses.
Wm. G. Lipsey.
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Inventor
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# UNITED STATES PATENT OFFICE.

EBENEZER BLACKMAN, OF BROOKLYN, ASSIGNOR, BY MESNE ASSIGNMENTS, TO THE ANSONIA BRASS AND COPPER COMPANY, AND WOLCOTT A. HULL, BOTH OF NEW YORK, N. Y.

## SUSPENDING DEVICE.

SPECIFICATION forming part of Letters Patent No. 384,187, dated June 5, 1888.

Application filed May 12, 1885. Serial No. 165,269. (No model.)

*To all whom it may concern:*

Be it known that I, EBENEZER BLACKMAN, of Brooklyn, in Kings county, and State of New York, have invented a certain new and useful Improvement in Suspending Devices, of which the following is a specification.

I will describe a suspending device embodying my improvement, and then point out the various features in the claims.

In the accompanying drawings, Figure 1 is a section of a suspending device embodying my improvement, taken in a plane transverse to the axis of a drum which is comprised in it. Fig. 2 is a side view taken in a plane parallel with the axis of said drum.

Similar letters of reference designate corresponding parts in both figures.

A designates a rotary drum made of metal or other suitable material. It is mounted on a shaft or arbor, B, preferably made of iron or steel. The ends of the shaft or arbor B extend into a frame, C, that may be advantageously made of cast metal. This frame extends down on opposite sides of the drum. The shaft or arbor is connected to the frame so as not to rotate. The drum rotates on the shaft or arbor.

D designates a band attached at one end to the drum and wound around the periphery of the drum between flanges with which it is provided. The free end of the drum is intended to have attached to it, by means of a hook or otherwise, any article which is to be suspended from the drum.

E designates a counter-balance for counterbalancing more or less the tendency produced by the weight of an article suspended by the band D to rotate the drum and unwind the band. This counter-balance is shown as consisting of a convolute steel spring coiled within the drum, fastened at one end to the arbor and at the other end to the drum.

G designates a brake, consisting, as here shown, of a flexible strap of leather or other suitable material. It passes around a portion of the band D. It may be fastened to the frame C or to a cross-pin, $c$, thereof at the upper end, and provided at the lower end with a loop, eye, or running hole, $c^3$, through which the band D passes. An anti-friction roller may be combined with this loop, eye, or running hole to lessen the friction produced by the passage of the band through the latter. When the brake is thus used, the suspending device will have the frame C provided with a loop, $c'$, whereby the suspending device may be conveniently connected to a support. The weight of an article suspended by the band D will then cause the brake to exert force upon the coiled portion of the band D and retard the rotation of the drum in the direction which it has to rotate when the band is drawn down. The brake thus aids in resisting the lowering of the article suspended by the band.

If desirable, the brake-strap may be fastened at the lower end to a cross-pin, $c^2$, of the frame and passed around the pin $c$ of the frame and up through the frame. Then the brake-strap will have attached to its upper end a loop, $d'$, as shown by dotted lines in Fig. 1, and this loop will serve as a means of connecting the suspending device to a support, the loop $c'$ being omitted. The weight of the article suspended by the band D will then cause the brake-strap to act on the coiled portion of the band, so that it will resist or retard the rotation of the drum in the direction to unwind the band.

Of course my brake could act on a cord or chain as well as on the band shown. I therefore regard a cord or chain as the equivalent of the band in my suspending device.

It is advantageous to have a brake operate on the band, cord, or chain of a suspending device, because then it acts over the same part of the drum and does not entail the necessity for widening the drum to accommodate the brake or for stiffening the flanges of the drum to adapt them to have the brake act on them. It is further advantageous, because when the brake acts directly upon the band it tends to prevent slack-coiling of the band upon the drum, which is apt to occur when the band is being unwound and is running fast. There is always a slight pressure of the brake upon the band, even when the band is being unwound, which tends to cause it to coil tightly. This advantage does not ensue from the brake when the brake is applied directly to the drum—a form of construction which is old.

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

1. In a suspending device, the combination of a rotary drum, a band or like device wound upon the same and passing to the lamp or other article to be suspended, a counterbalance-spring connected to and acting in conjunction with the drum, a brake extending partly around the drum and acting on said band or like device, and a guide upon said brake, over which said band or like device passes, substantially as specified.

2. The combination of a rotary drum, a band or like device wound upon the same and passing to the lamp or other article to be suspended, a counterbalance-spring connected to and acting in conjunction with the drum, a brake-strap of flexible material, as G, extending partly around the drum and acting on said band or like device, and a guide upon said brake, over which said band or like device passes, substantially as specified.

EBENEZER BLACKMAN.

Witnesses:
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