

(No Model.)

S. B. SUTTON.  
SASH BALANCE.

No. 525,237.

Patented Aug. 28, 1894.

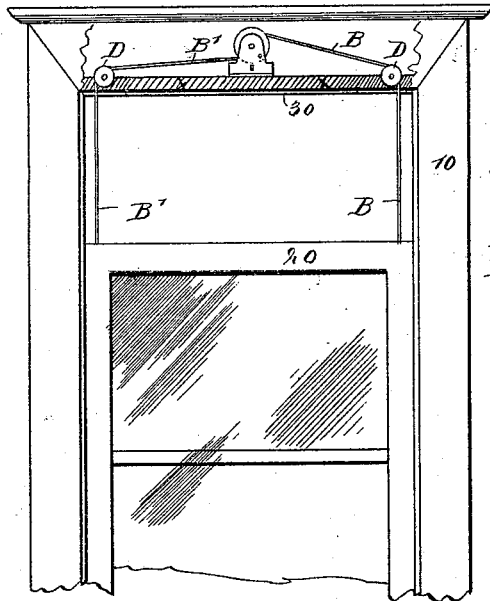


Fig. 1

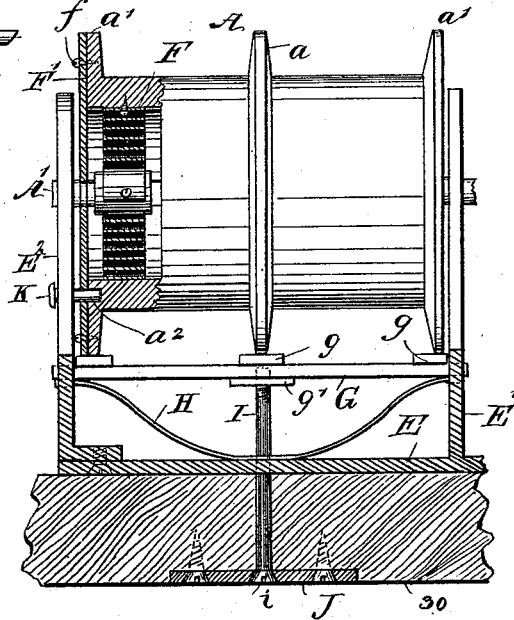


Fig. 3

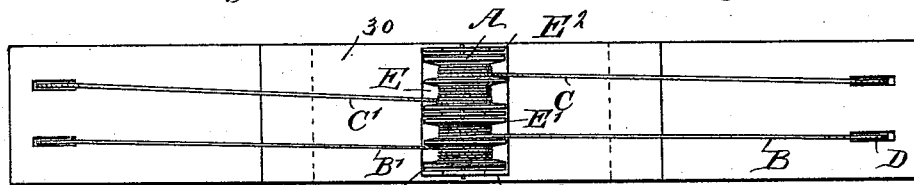


Fig. 2

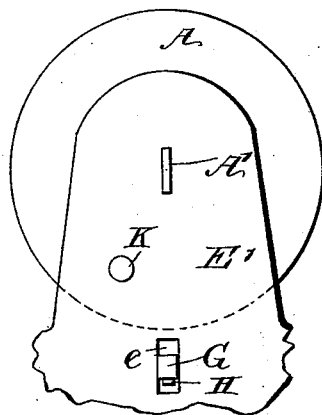


Fig. 4

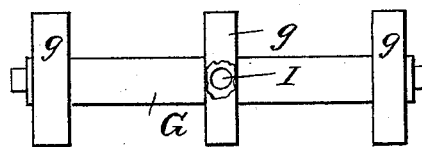


Fig. 5

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# UNITED STATES PATENT OFFICE.

SANDERS B. SUTTON, OF NORTH BALTIMORE, OHIO.

## SASH-BALANCE.

SPECIFICATION forming part of Letters Patent No. 525,237, dated August 28, 1894.

Application filed October 31, 1893. Serial No. 489,613. (No model.)

### *To all whom it may concern:*

Be it known that I, SANDERS B. SUTTON, of North Baltimore, in the county of Wood and State of Ohio, have invented a new and Improved Sash-Balance, of which the following is a full, clear, and exact description.

The invention relates to sash balances, in which the cords wind on spring acted spools, and the object of the invention is to improve sash balances of this character by increasing their efficiency and making provision for the ready repair thereof, when necessary.

The invention is distinguished by a novel manner of arranging and mounting the spools, by novel tension or brake devices for the spool, and by other novel details, all as hereinafter particularly described and defined in the claims.

Reference is to be had to the accompanying drawings, forming a part of this specification, in which similar figures and letters of reference indicate corresponding parts in all the views.

Figure 1 is a broken front elevation partly in section, showing my improvement applied to a window frame and sash. Fig. 2 is a plan view. Fig. 3 is partly an end elevation and partly a transverse sectional view. Fig. 4 is a broken end view of the drums and the frame in which the drums are supported; and Fig. 5 is a plan view of the tension or brake device.

In providing a window with my improved balance, two drums A are provided centrally of the window, and arranged in the top of the frame 10, and from each drum the two sash cords B, B', or C, C', extend in reverse directions, and from the top and bottom thereof, to the pulleys D, over which the cords pass, and extend downward through the top of the frame to a connection with a sash 20. Each drum is formed with a central flange or annular bead *a*, and end flanges *a'*, forming two divisions of each drum, on which the cords wind. The spindle A', on which the drums are mounted is secured in the standards E', E<sup>2</sup>, of a supporting frame, of which E is the flat base and is adapted to be secured to the central removable piece 30, of the top of the window frame, the standards E<sup>2</sup> being removably secured to the base, by screws or otherwise, for permitting access to the spools for repairing the same, or the like. A clock

spring F is secured to the spindle A' within each spool and connected by its outer end to the interior surface of the spool, for counterbalancing the sash and taking up the cords as the sash is raised, and each spool is closed at one end by a removable cap F', secured by screws for the like, whereby ready access may be had to the spring for repairing or renewing it. Below each spool A, a brake head or tension device G is arranged, its ends being guided in slots *e* in the standards E', E<sup>2</sup>, and the upper surface of the head is provided with blocks *g* of rubber, or leather, adapted to bear against the flanges *a*, *a'*, of the spools. The head G is supported on a bowed spring H, which bears by its ends against the under side of the head G, and is seated at its center on the upper surface of the base E of the spool supporting frame and the tendency of the spring is to press the blocks *g* on the head G against the spool. Secured to the head G at the center is a guide I in the form of a bolt which is tapped into a boss *g'* on the head G, and extends downward through the base E, through the removable piece 30 of the window frame, and through a plate J, secured to the under side of the latter, and the distance between the head *i* of the bolt and the cross head G, limits the brake action of the spring H, so that by adjusting the bolt, the friction on the spools may be regulated.

It will be seen that the construction is very simple, and that by removing the piece 30 of the frame and the spools carried thereby, any repairs may be readily made. Also, the effect on the spring will be equal on each side of the sash, thereby giving it a proper balance.

In order to prevent the drums from turning while the attachments are being applied, a pin K is provided in one of the standards, as E<sup>2</sup>, and is adapted to enter an aperture *a*<sup>2</sup> in the drum so as to lock the latter to the standard, as shown best in Fig. 3.

Having thus fully described my invention, I claim as new and desire to secure by Letters Patent—

1. The combination with the window frame, having pulleys at the top thereof at each side, a central removable piece fitted on the top of the frame, a frame carried by such removable piece, spring-acted drums mounted in said frame, sash cords reversely wound on said

drums and passing to each side of the frame  
over the pulleys therein and connected with  
the sash, a brake head normally bearing  
against the drums, a bowed spring bearing by  
5 its ends against said brake head and nor-  
mally pressing the same against the drums;  
and a regulating bolt engaging at its upper  
end with the brake head and passing freely  
downward through the removable piece car-  
rying the drums, and engaging by its head  
10 with the under side of said removable piece  
substantially as described.

2. The combination with the spring acted  
sash cord drums, of a brake head, a spring  
normally pressing said head against the drum, 15  
and a guide carried by the head and adjust-  
ably engaging the same, the guide serving to  
limit the movement of the head by the spring,  
substantially as described.

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Witnesses:

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