(No Model.)

R. K. BROWN.

SASH BALANCE.

No. 510,154. Patented Dec. 5, 1893.

Fig. 1.

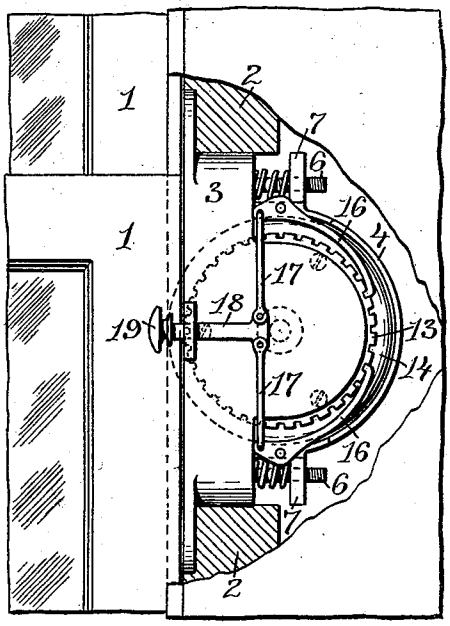


Fig. 2.

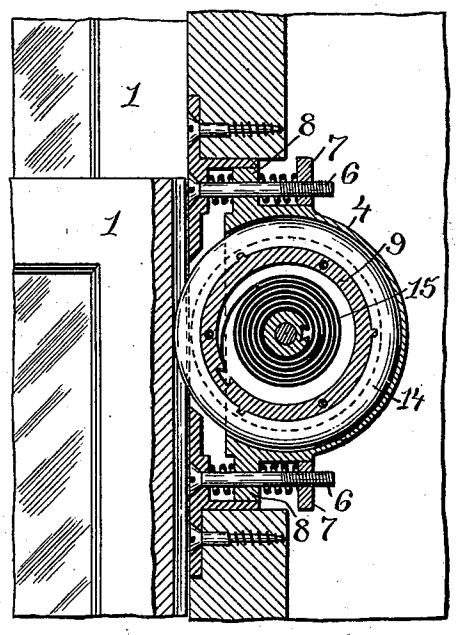


Fig. 3.

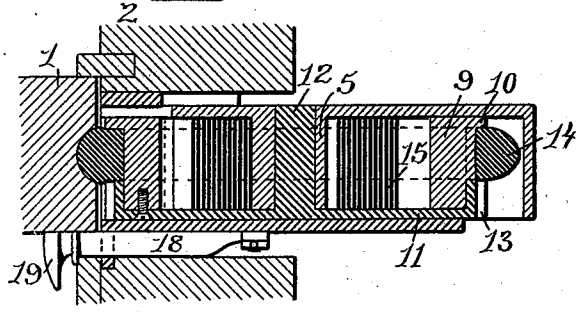


Fig. 4.

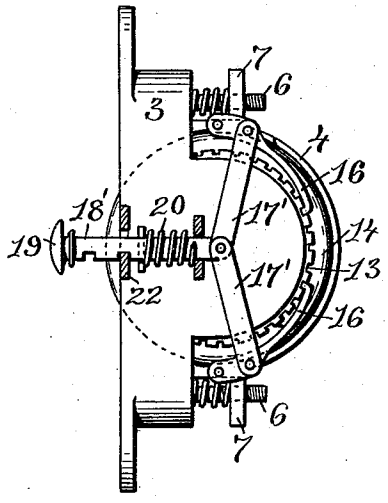
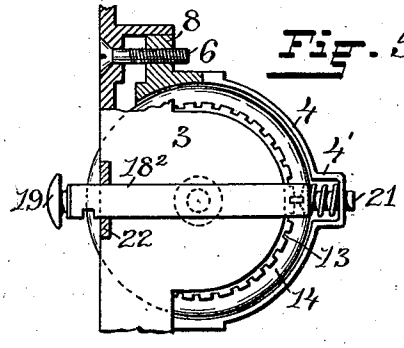


Fig. 5.



WITNESSES:

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ROBERT K. BROWN, OF WHITINSVILLE, MASSACHUSETTS.

SASH-BALANCE.

SPECIFICATION forming part of Letters Patent No. 510,154, dated December 5, 1893.

Application filed January 24, 1893. Serial No. 459,530. (No model.)

To all whom it may concern:

Be it known that I, ROBERT K. BROWN, of Whitinsville, in the county of Worcester and State of Massachusetts, have invented a new and useful Improvement in Window-Sash Balances; and I hereby declare that the following is a full, clear, and exact description of the same, reference being had to the accompanying drawings, forming part of this specification.

This invention has reference to an improvement in the construction of window-sash balances in which a coiled-spring is used to balance, or partly balance, the window-sash.

The invention herein described refers to an improved locking-device for a sash-balance shown and described in my application of even date herewith, Serial No. 459,531.

The object of the invention is to so construct a sash-balance that the same may be readily locked and unlocked and thereby hold the sash in any desired position.

The invention consists in the peculiar and novel construction of the sash-balance and the locking-device, as will be more fully set forth hereinafter.

Figure 1 is a side view of the improved sash-balance shown in connection with part of a window and its frame. Fig. 2 is a vertical sectional view of the improved sash-balance shown in connection with part of a window and frame. Fig. 3 is an enlarged horizontal sectional view of the improved sash-balance and part of the window sash and frame. Fig. 4 is a side view of my improved sash-balance showing one form of locking-device, and Fig. 5 is a side view of part of the sash-balance showing a modified form of locking-device.

Similar numbers of reference indicate corresponding parts in all the figures.

In the drawings 1 indicates the vertical stile of the window-sashes, 2 the vertical box-stile of the window-frame, 3 the case of the sash-balance which is secured to the stile of the window-frame by screws passing through flanges on the upper and lower ends of the case 3.

4 indicates the shell inclosing the spring-lifting device. It is provided with the sleeve 5; this shell is adjustably secured to the case 3 by means of the screws 6 which are screw-threaded in the nuts 7. These nuts abut on one side against the shell 4 and are thereby kept from rotating. By turning these screws toward the right the nuts are drawn toward the case 3 and this movement is transmitted to the brackets 8, made integral with the shell 4, by the coiled-springs placed between the nuts and this bracket 8. Thus the shell and the spring-barrel journaled in the shell are drawn toward the face of the case 3 and toward the sash.

In the modified form shown in Fig. 5 the screw 6 is shown connected with the bracket 8 which is screw-threaded. The spring-barrel is formed of the ring 9 which has on one side the projecting annular-flange 10 and the disk 11 in the center of which is the shaft, or spindle, 12 which has its bearing in the sleeve 5 and around the periphery of which is the toothed-rim 13. A rubber-ring, or tire, 14 is drawn over the ring 9 and is held between the flanges 10 and the toothed-rim 13. The coiled-spring 15 is secured at one end to the inner side of the ring 9. The toothed-rim is designed for use in connection with a locking-device by means of which the rotation of the spring-barrel and the rubber-tire is prevented and the window may be locked and held in any desired position. This is accomplished by means of a pawl, or pawls, connected with an operating knob projecting from the window-casing.

In Fig. 1 the pawls 16 are pivotally secured to the shell 4. The arms 17 are pivoted to the pawls 16 below the pivotal connections of the pawls on the shell 4 and are connected with the push-bar 18 having the knob 19 at its outer end. As shown in the drawings the sash-balance is locked and by drawing out the knob 19 the locking ends of the pawls 16 are moved outward to release the toothed-rim. It is obvious that by making the push-bar 18 a trifle longer the operation may be reversed and the pawls released by pushing the knob and push-bar inward, or locked by drawing the same outward.

In Fig. 4 the arms 17′ are pivotally connected with the pawls 16 above the pivotal

connection of the pawls with the shell 4. The push-bar 18′ is provided with a stop and the spring 20 bears against this stop and a stop on the box 3, so that in the normal position the sash-balance is locked, and is unlocked by pushing in the knob 19 and push-bar 18′. The spring 20 may be omitted and the push-bar 18′ provided with the notches shown in the drawings so as to hold the push-bar in both positions.

In the modification shown in Fig. 5 one locking pawl is directly secured to the push-bar 18^2. The inner end of the push-bar is provided with a pin passing through a hole in the recess 4′ formed on the shell 4. A spiral-spring surrounds this pin and bears against the shell 4 and the bent end of the push-bar 18^2. As shown in this figure the sash-weight is locked, and will be unlocked when the button is pushed in. The push-bar is also shown provided with a notch which engages with the latch-plate 22 and holds the push-bar in the unlocked position.

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

1. In a sash-balance, the combination with the case 3, the shell 4 adjustably connected with the case 3, the ring 9, the tire 14, the disk 11, and the toothed-rim 13, of a pawl or pawls operated by a push-bar to lock and unlock the sash-balance, as described.

2. The combination with the case 3, the shell 4 adjustably connected therewith, the ring 9, an elastic tire carried by the ring, the disk 11, and the toothed-rim 13, of the pawls 16 pivoted to the case, the arms 17′ pivoted to said pawls, and the spring-operated push-bar 18′ pivoted to the arms 17′, as and for the purpose described.

In witness whereof I have hereunto set my hand.

ROBERT K. BROWN.

Witnesses:
HENRY J. MILLER,
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