No. 625,054.

Patented May 16, 1899.

J. H. McKERNAN.

SASH BALANCE.

(Application filed Aug. 5, 1898.)

(No Model.)

Fig. 1.

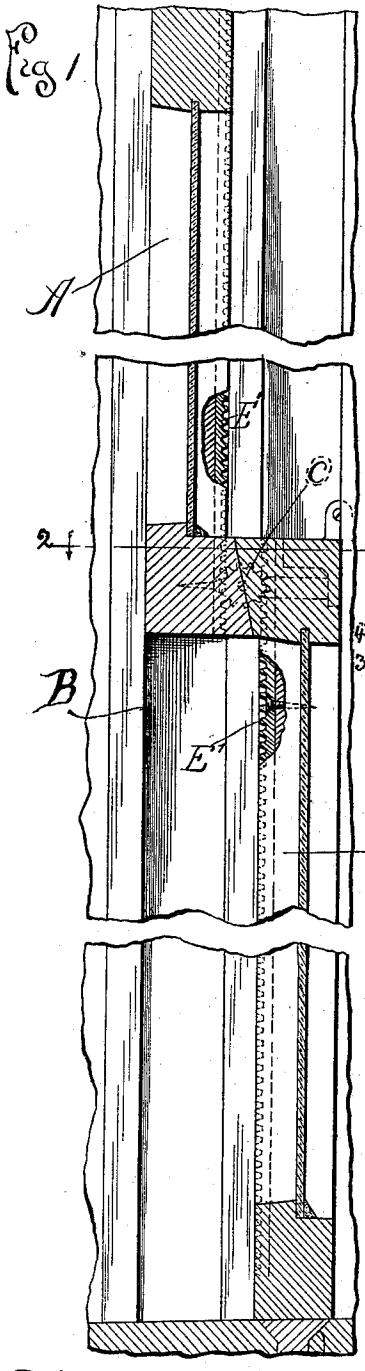


Fig. 3.

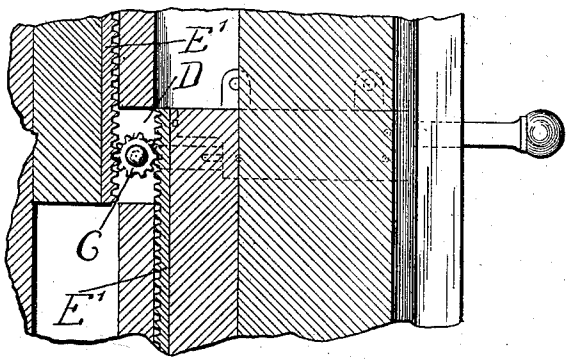


Fig. 2.

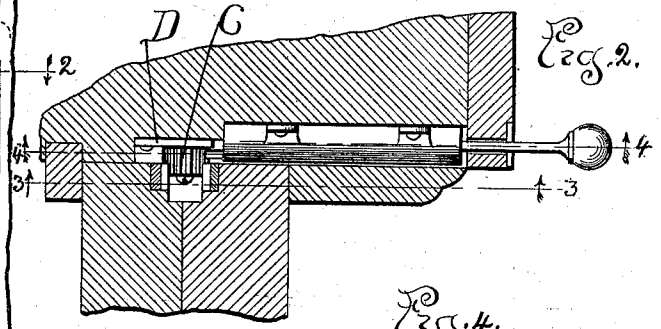
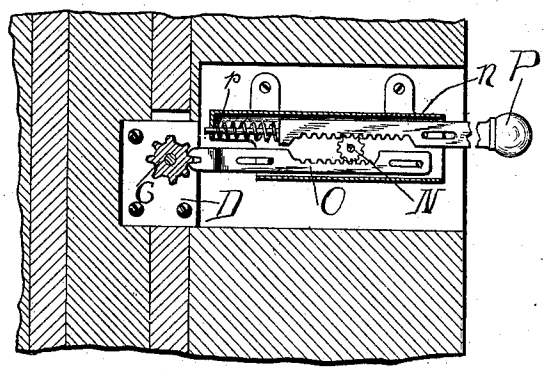


Fig. 4.



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UNITED STATES PATENT OFFICE.

JOHN H. McKERNAN, OF CHICAGO, ILLINOIS, ASSIGNOR OF ONE-HALF TO ALBERT E. HEWITT, OF SAME PLACE.

SASH-BALANCE.

SPECIFICATION forming part of Letters Patent No. 625,054, dated May 16, 1899.

Application filed August 5, 1898. Serial No. 687,816. (No model.)

To all whom it may concern:

Be it known that I, JOHN H. McKERNAN, a citizen of the United States of America, residing at Chicago, county of Cook, and State of Illinois, have invented a certain new and useful Improvement in Sash-Balancing Means, of which the following is a description.

Referring to the accompanying drawings, wherein like reference-letters indicate like or corresponding parts, Figure 1 is a vertical sectional view through a portion of the window-casing, showing an upper and lower sash and showing my invention applied thereto. Fig. 2 is a partial horizontal sectional view in the line 2 2 of Fig. 1. Fig. 3 is a vertical sectional view in the line 3 3 of Fig. 2. Fig. 4 is a detail sectional view in the line 4 4 of Fig. 2.

The object of my invention is to provide a simple and efficient means for balancing the sashes of windows or the like.

To this end my invention is embodied in the parts and novel construction and combination of parts hereinafter described, and particularly set forth in the claims.

In the drawings, A A′ represent the upper and lower sashes of a window positioned in a frame B by means of stops in the usual manner, permitting the vertical movement of said sashes. In moving either of the sashes the two are brought side by side in the guideways formed by the stops. Upon the frame B, I secure a cog-wheel or pinion C in any suitable manner. As here shown, the pinion is secured to the plate D, which may be screwed or otherwise fastened to the frame. The pinion C is located horizontally in the plane with the bottom of the sash A and top of sash A′ and in a vertical plane between the two sashes (see Fig. 3) and extends laterally beyond the side edge of the inner sash. The sashes are provided with cog-racks E E′, firmly secured thereto and adapted to engage with the pinion C. It will at once be seen that by reason of the cog-racks on the two sashes engaging the pinion any movement of either sash serves to rotate the pinion C and gives the other sash a corresponding movement in the opposite direction. As the two sashes are substantially of equal weight, it will be seen that they counterbalance one another. It is also obvious that in operating the sashes upon the window equal space will be provided at both the top and the bottom of the window.

Any preferred form of lock may be employed to secure the sash either in the closed or adjusted position. The stop herein shown effectively serves the purpose and is preferred. Said stop is clearly shown in Fig. 4, in which the small pinion N is properly secured to a plate *n* in such a manner as to rotate freely. The movable bar O is provided with a cog-section adapted to engage with said pinion and on its inner end with a recess or groove adapted to engage with the pinion C, which, as will be seen in Fig. 4, projects laterally beyond the side edge of the inner sash. On the opposite side of the pinion N is positioned the bar P, also provided with a cog-section adapted to engage with the pinion, and at its inner end with a spring *p*, which normally throws the bar P to its outer limit. It will at once be seen that upon pressing the bar P inward the pinion N will be rotated and the bar O thus moved outward to disengage the pinion C, when the sashes may be adjusted as desired. Upon releasing the bar P the spring throws it outward to its normal position, rotating the pinion N and moving the bar O inward, causing it to again engage with the pinion C, and thus lock the sashes in the position they then occupy.

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

1. In a device of the kind described, an upper and lower sash each provided with a rabbet, oppositely-arranged racks secured to said sashes in the rabbets, guides in which said sashes move longitudinally, a pinion mounted between said guides and meshing with each rack and projecting laterally beyond the side edges of the sashes, and means movable at right angles to the axle of said pinion adapted to engage with the portion of said pinion projecting beyond the sashes, substantially as described.

2. In a device of the kind described, the combination of an upper and lower sash each provided with a rabbet, a rack secured to each sash in the rabbet, a pinion between and meshing with said racks and projecting laterally beyond the side edges of the sashes, and a lock for the pinion comprising the spring-pressed push-bolt P, lock-bolt O and interposed pinion, substantially as described.

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