

E. J. O'LEARY.
SASH BALANCE.
APPLICATION FILED MAR. 7, 1911.

1,006,264.

Patented Oct. 17, 1911.

Fig. 1.

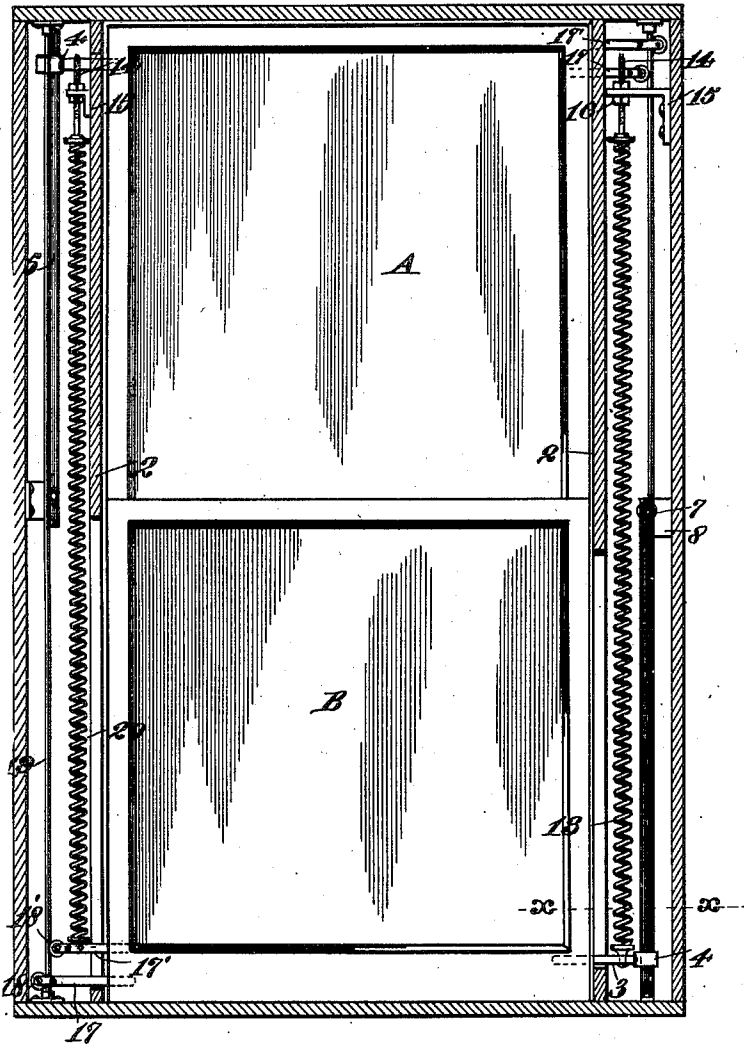


Fig. 2.

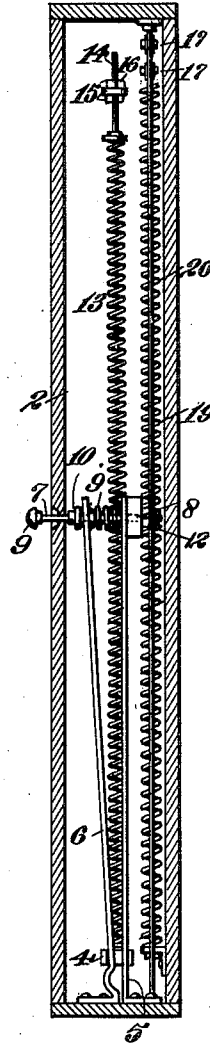
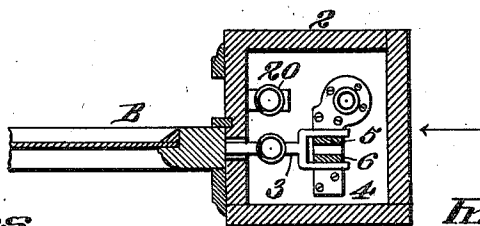


Fig. 3.



Witnesses,
Charles Pickles
Thos. Eastberg

Inventor,
Edward J. O'Leary
By Geo. H. Strong
Att'y

UNITED STATES PATENT OFFICE.

EDWARD J. O'LEARY, OF SAN FRANCISCO, CALIFORNIA, ASSIGNOR OF ONE-HALF TO
JOSEPH W. ROLPH, JR., OF SAN FRANCISCO, CALIFORNIA.

SASH-BALANCE.

1,006,264.

Specification of Letters Patent.

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To all whom it may concern:

Be it known that I, EDWARD J. O'LEARY, citizen of the United States, residing in the city and county of San Francisco and State of California, have invented new and useful Improvements in Sash-Balances, of which the following is a specification.

This invention relates to a window and particularly pertains to a means for balancing and operating a slidable window.

It is the object of this invention to provide a slidable window which is so constructed and arranged that balance weights, locks, catches and the like may be dispensed with, and which may be opened automatically and retained in any desired position.

Another object is to provide means whereby a window may be locked in any position against further opening only by the operating of a proper mechanism.

Another object is to provide a mechanism whereby a window sash may be raised automatically by pressure of a button or similar device, which mechanism is simple in construction and operation and sufficiently compact to permit of its installation in an ordinary box window casing.

The invention consists of the parts and the construction and combination of parts, as hereinafter more fully described and claimed, having reference to the accompanying drawings, in which—

Figure 1 is a front elevation of a window showing casing removed and showing the invention as applied. Fig. 2 is an end elevation of the invention. Fig. 3 is an enlarged section on lines X—X, Fig. 1.

In the drawings, A and B represent the upper and lower sashes of an ordinary double-hung, vertical, slidable window, which sashes are mounted in a casing 2 and slidable therein; being separated by the usual parting strip and guided by sash moldings in the ordinary manner.

My present invention resides in rigidly mounting a bracket 3 on the sash B preferably near its lower edge, this bracket 3 extending through a vertically disposed slot in the window casing, terminating at its outer end in a yoke 4 on the interior of the casing 2. A vertically disposed guide rod 5 is supported in any suitable manner within the casing 2, and extends through the yoke 4. Mounted parallel with this rod 5 is a plate spring 6 preferably formed of a rec-

tangular bar which is rigidly mounted at its lower end in any suitable manner and extends upward through the yoke 4 adjacent to the guide bar 5. This spring bar 6 is so tensioned as to normally bear in a direction away from the guide bar 5, so as to at all times bear against the inside of the yoke 4 to clamp the latter in frictional engagement with guide rod 5, until such time as the spring 6 is depressed, as later described. The means employed for depressing the spring 6 are here shown as consisting of a shaft 7 which extends through the front of the window casing and through a perforation near the upper end of the spring 6, thence through a bracket 8 on the rod 5. Mounted on the outer end of this shaft 7 is a push-button 9, and disposed on the shaft 7 in front of the spring 6 is a collar 10. Wound on this shaft 7 between the spring 6 and the bracket 8 is a helical spring 9', which acts in conjunction with the normal tension of the spring 6 to retain the upper end of the latter in its outwardmost position. The inner end of the shaft 7 is threaded and has a nut 12 screwed thereon by means of which the outward movement of the shaft 7 and the upper end of the spring 6 may be adjustably limited; this nut 12 acting as a stop to limit the outward movement of the spring 6. Attached to the bracket 3 and extending upward in the casing 2 is a helical spring 13 which is attached at its upper end to a threaded spindle 14 supported in a bracket 15 by means of nuts 16 which are threaded upon the upper end of the spindle 14, as shown in Fig. 2. By the operation of the nuts 16 the tension of the spring 13 may be adjusted. Mounted on the opposite side of the sash B is a pair of brackets 17—17', which extend through a slot in the casing 2 and have rollers 18—18' mounted on their outer ends. These rollers 18—18' are designed to contact with the opposite sides of the vertically disposed rod 19 mounted in the frame 2. This rod 19 extends from the bottom of the sash B, when the latter is in its lowermost position, to the upper end of the frame 2.

Mounted on the bracket 18' and extending upward to the upper end of the casing 2 is a helical spring 20 corresponding to the spring 13 and similarly adjustably mounted. The springs 13—20 are designed to balance the sash B when the latter is in

its uppermost position and to be extended under tension when the sash is in its lowermost position. When in the latter position, the upward movement of the sash B is prevented by reason of the spring bar 6 acting as a wedge on the yoke 4. When it is desired to raise the sash B, the push button 9 is depressed, whereupon, the pressure of the spring bar 6 on the yoke 4 being released, it permits the springs 13—20 to contact and lift the sash B; the rollers 18—18' travel on the guide rod 19, facilitating easy movement of the sash B and preventing the sash becoming wedged by any uneven strains thereon.

From the foregoing it will be seen that the sash B may be raised to any height within the length of the spring bar 6 and that it may be sustained at any point by reason of the clamping action of the spring 6. It is also manifest that by reason of the leverage exerted by the spring 6 upon the yoke 4 the sash B cannot be raised without first pressing the button 9 and thereby depressing the spring 6. To lower the sash B to any desired distance, it is pulled down by hand in opposition to the springs 13—20.

In applying this invention to the upper sash A, the same mechanism is employed as just described, with the exception that it is inverted, as shown in Fig. 1, so that the action of the springs 13—20 is to pull downward upon the sash A in opposition to the springs 6.

It is obvious that while I have shown the invention as applied to a double hung window, a single sash or a plurality of sashes may be operated by the same mechanism and that the invention is equally applicable to a horizontal slidable sash by disposing it in a horizontal position.

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

1. The combination with a window sash and a frame therefor, of a bracket on said sash extending through a slot in said frame, a slotted member on said bracket, a rod passing through said slotted member, a resilient bar extending through said slotted member adjacent to said rod, a spring to exert a pull on said sash, and means for depressing said resilient bar to permit said spring to move the sash.

2. The combination with a window sash

and a frame therefor, of a bracket on said sash extending through a slot in said frame, a slotted member on said bracket, a rod passing through said slotted member, a resilient bar extending through said slotted member adjacent to said rod, a spring to exert a pull on said sash, and means for depressing said resilient bar to permit said spring to move the sash, said means embodying a pin engageable with the bar and a push button for operating the pin.

3. The combination with a window sash and a frame therefor, of a bracket on said sash extending through a slot in said frame, a slotted member on said bracket, a rod passing through said slotted member, a resilient bar extending through said slotted member adjacent to said rod, a spring to exert a pull on said sash, means for adjusting the tension of said spring, and means for depressing said resilient bar to permit said spring to move the sash.

4. The combination with a window sash and a frame therefor, of a bracket on said sash extending through a slot in said frame, a slotted member on said bracket, a rod passing through said slotted member, a resilient bar extending through said slotted member adjacent to said rod, a spring to exert a pull on said sash, means for adjusting the tension of said spring, means for depressing said resilient bar to permit said spring to move the sash, and yieldable means for exerting an outward pressure on the resilient bar.

5. The combination with a window sash and a frame therefor, of a bracket on said sash extending through a slot in said frame, a slotted member on said bracket, a rod passing through said slotted member, a resilient bar extending through said slotted member adjacent to said rod, a spring to exert a pull on said sash, means for adjusting the tension of said spring, means for depressing said resilient bar to permit said spring to move the sash, and a spring disposed between said resilient bar and said rod for exerting an outward pressure on the bar.

In testimony whereof I have hereunto set my hand in the presence of two subscribing witnesses.

EDWARD J. O'LEARY.

Witnesses:

JOHN H. HERRING,
CHARLES EDELMAN.