

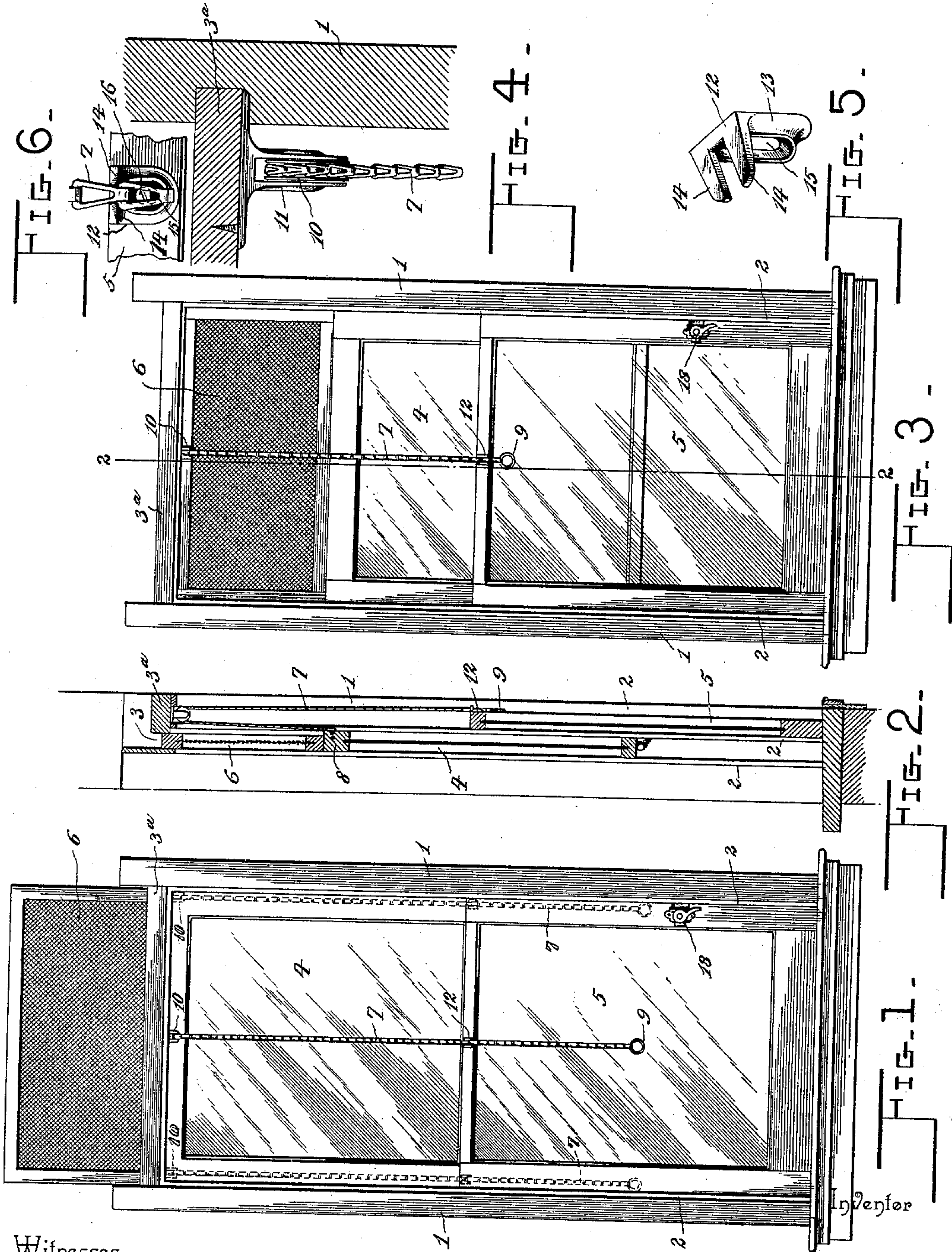
No. 609,930.

Patented Aug. 30, 1898.

W. DRISCOLL.  
SASH BALANCE.

(Application filed Dec. 29, 1897.)

(No Model.)



Witnesses  
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# UNITED STATES PATENT OFFICE.

WILLIAM DRISCOLL, OF BROCKVILLE, CANADA.

## SASH-BALANCE.

SPECIFICATION forming part of Letters Patent No. 609,930, dated August 30, 1898.

Application filed December 29, 1897. Serial No. 664,242. (No model.) Patented in Canada November 4, 1895, No. 50,455.

*To all whom it may concern:*

Be it known that I, WILLIAM DRISCOLL, a subject of the Queen of Great Britain, residing at Brockville, in the county of Leeds, Province of Ontario, and Dominion of Canada, have invented a new and useful Sash-Balance, (patented in Canada, No. 50,455, dated November 4, 1895,) of which the following is a specification.

My invention relates to improvements in sash-balances; and the object that I have in view is to improve the construction of adjusters of that class in which the sashes are suspended by the employment of a chain which runs over a guide-sheave and has one end fastened to the upper sash and its other end adjustably attached to the lower sash.

The object that I have in view is to provide an improved construction of the sash-adjuster in which the chain-holder is constructed to receive and clasp the chain in a manner to prevent it from slipping and also to provide for a limited adjustment thereof on the lower sash for the purpose of securing such an application or fitting of the parts as to draw the top rail of the upper sash tightly against the cap or head of the window-frame when the chain is engaged with the holder to sustain the upper sash at its highest point.

With these ends in view the invention consists in the novel construction and combination of parts, which will be hereinafter fully described and claimed.

To enable others to understand my invention, I have illustrated the same in the accompanying drawings, forming a part of this specification, and in which—

Figure 1 is a front elevation of a window embodying my invention and illustrating by dotted lines a modified construction by which heavy sashes may be suspended at both sides thereof. Fig. 2 is a vertical transverse section on the plane indicated by the dotted line 2 2 of Fig. 3, showing the upper sash and the screen lowered. Fig. 3 is a front elevation similar to Fig. 1, but showing the sashes adjusted to the position indicated by Fig. 2. Fig. 4 is a detail view illustrating one way of attaching the guide-sheave when positioned at one side of the window-frame. Fig. 5 is a perspective view of the chain-holder. Fig. 6

is a front view of the chain-holder with the chain adjusted thereto.

Like numerals of reference denote corresponding parts in each of the several figures of the drawings.

1 designates the casing or frame of an ordinary window. As is usual in this art, the casing or frame is provided with the usual stop-beads 2, arranged parallel to each other and spaced at suitable distances apart within the frame to form the vertical channels or grooves which receive and guide the sashes. In case it is desired to use my improvement without a window-screen the casing may be similar in all respects to those now in use; but when the screen is to be used in connection with the upper sash I provide the head or cap 3<sup>a</sup> of the frame or casing with a vertical slot 3, which is formed in said head or cap 3<sup>a</sup> at a point in line with the grooves or channels for the upper sash. This slot 3 is not equal in width to the width of the channels for the upper sash for the purpose which will presently appear.

4 designates an upper sash which is fitted between adjacent pairs of stop-beads to slide freely therein toward or from the head or cap 3<sup>a</sup> of the frame or casing, and the thickness of this upper sash or its top rail is such that when the sash is raised to its full limit one edge thereof will abut or bear against the cap or head 3<sup>a</sup> at one side of the slot 3 therein, thus forming the necessary tight joint or connection between the upper rail of the sash and the head or cap 3<sup>a</sup>, notwithstanding the formation of the slot 3 in said cap or head of the window-casing.

5 is the lower sash, fitted in the other set of channels or grooves provided by the stop-beads within the window-frame, and both the upper and lower sashes are similar in all substantial particulars to ordinary sashes.

6 designates the screen, which consists of a suitable frame carrying ordinary screen fabric. This screen 6 is attached to the top rail of the upper sash 4, and it is arranged to pass through and play in the slot 3 of the window frame or casing. The thickness of the screen-frame is slightly less than the width of the slot 3 to enable the same to play freely in the slot, and said screen-frame is also of less



thickness than the top rail of the upper sash 4, so that the screen-frame may be seated on and fastened to the upper sash 4 in a manner to leave a projecting lip or edge on said rail of the upper sash for the latter to have the desired tight engagement with the head or cap of the window-frame.

7 designates the chain forming the operative connection between the upper and lower sashes 4 5 and adapted to suspend the sashes when they are opened, thus utilizing the weight of one sash to suspend the other sash, as is common in devices of this class. The chain has one end thereof fastened permanently to the upper sash by means of a screw 8 or other suitable fastening, and the free end of this suspending-chain is provided with a pull-ring 9. The pull-ring which I prefer to employ is of that kind known to the trade as "split and lapped" rings, constructed, preferably, of steel and adapted to be sprung apart for the purpose of engaging with the free end of the chain after the latter shall have been passed around the guide-sheave 10. I prefer to employ the split ring having its parts overlapping each other, because I have found by practical experience that such construction of the ring will stand very great strain and rough use. The guide-sheave 10 is loosely journaled in a bracket 11, having a perforated base, through which screws may be passed for conveniently and readily fastening said bracket to the under face of the head or cap 3<sup>a</sup> of the window-frame.

In using my improved sash-adjuster in connection with light-weight sashes it is sufficient to employ a single chain and guide-sheave arranged centrally with relation to the window-frame and to the sashes, substantially as shown by the full lines in Figs. 1, 2, and 3; but when the sash-adjuster is used in connection with heavy-weight sashes it is preferable to employ two chains and guide-sheaves arranged within the window-frame at the sides thereof and having the chains fastened to the upper rail of the upper sash at or near its opposite sides.

In connection with the chain or chains I employ a specially-constructed chain-holder 12, consisting in each instance of a cast-metal piece comprising a flat base 13 and an angular forked arm 14. The flat base 13 of the chain-holder is provided with a longitudinal slot 15, through which passes a fastening-screw 16, adapted to take into the upper rail of the lower sash and securely fasten the holder 12 thereto by having the head of the screw bind against the slotted base of the holder. The width of the slot or fork in the arm 14 of the holder is such as to admit the narrow end of either link of the suspending-chain, but such slot prevents the passage therethrough of the wide end of the links of the chain, whereby the chain may have either of its links engage with the forked arm of the sash-holder to suspend the upper sash at any desired height within the window-frame.

The chain which I employ is composed of sheet-metal links, each having a wide looped end and a flat narrow end, substantially as shown by the drawings, and in fitting the holder and chain to the sashes it may happen that the wide end of one of the links will engage with the forked arm of the holder in such a way that the upper sash will not fit tightly against the head or cap of the window-rail when the chain is drawn taut to elevate the upper sash and then engage with the forked arm of the holder.

My construction of the chain-holder with the slotted base enables the holder to be adjusted a limited distance on the upper rail of the lower sash, so that the link of the chain may have its wide end engage with the forked arm of the holder when the sash 4 is drawn to its full limit and its upper rail bears snugly and firmly against the head or cap 3<sup>a</sup> of the window-frame, and the described construction of the chain-holder thus provides means for the proper fitting and application of the sash-adjuster to the window, so as to secure the necessary tight joint between the sashes and the frame. I attach especial importance to the described construction of the chain-holder for the reasons stated, and in addition to enabling a tight joint to be secured between the upper sash and the window-frame this chain-holder is very simple and durable in construction and efficient in operation.

If desired, the lower sash may be equipped with a suitable catch, (indicated at 18,) but the detailed construction of the catch is not material.

My improved sash-adjuster is efficient and reliable in operation in that provision is made for the ready lowering of the upper sash to bring the screen 6 into service for the purpose of ventilating a room or apartment without permitting the ingress of flies and insects thereto. The upper sash may be lowered more or less, as desired, and it is held securely in place by engaging the linked chain with the holder 12. By releasing the chain from the holder, lowering the upper sash, and raising the lower sash the chain may then be engaged with the holder in a manner to suspend the two sashes from a single chain.

When the adjuster is used in duplicate at opposite sides of the window, the brackets of the guide-sheaves are fastened to the window-frame, substantially as shown by Fig. 4 of the drawings. Each bracket has one end set in a recess in one side of the window-frame, and the other end of the bracket is fastened in place by a single screw.

It is evident that slight changes in the form and proportion of parts and in the details of construction may be made without departing from the spirit or sacrificing the advantages of the invention.

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

The combination with a frame or casing, the



sashes, and an overhead guide-sheave, of a suspension-chain fitted over the guide-sheave and having one end attached to the upper sash, and a slotted chain-holder adjustably  
5 fastened to the lower sash and provided with a forked arm with which the free end of the suspension-chain may be engaged, substantially as and for the purposes described.

In testimony that I claim the foregoing as my own I have hereto affixed my signature in the presence of two witnesses.

WILLIAM DRISCOLL.

Witnesses:

JOHN WILLIAMS,  
H. E. MCEWAN.