(No Model.)

J. H. WALLACE & A. G. HILTON.

SASH BALANCE AND FASTENER.

No. 598,880. Patented Feb. 8, 1898.

Fig. I.

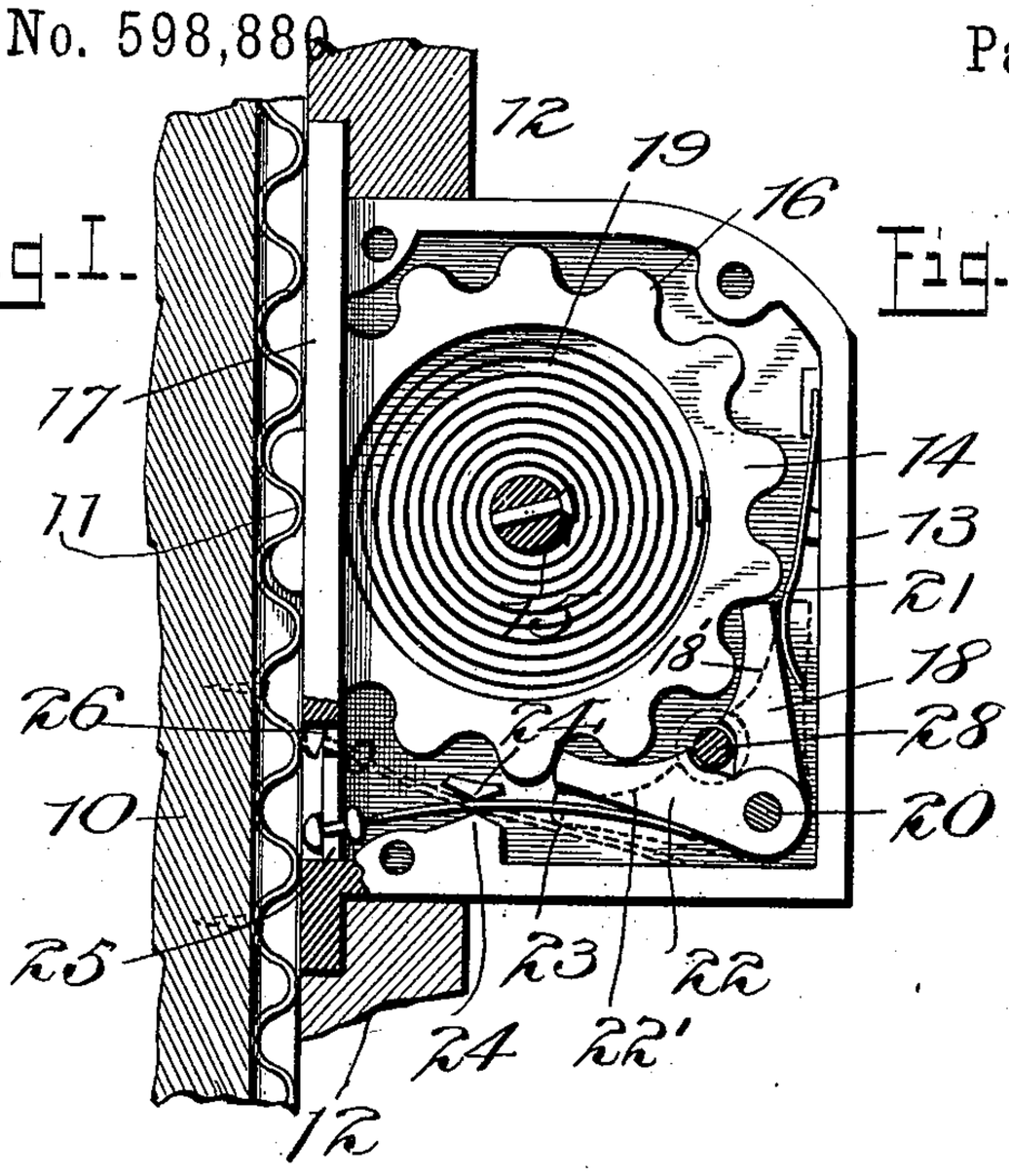


Fig. II.

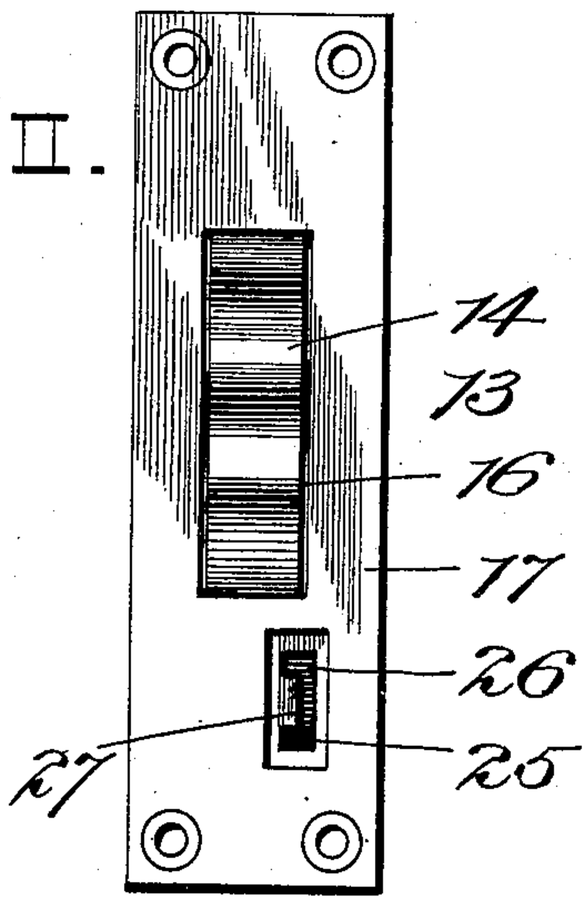


Fig. III.

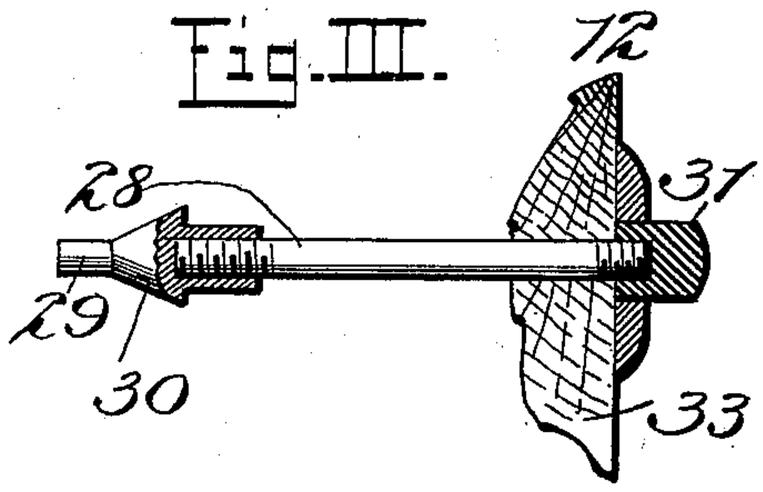


Fig. IV.

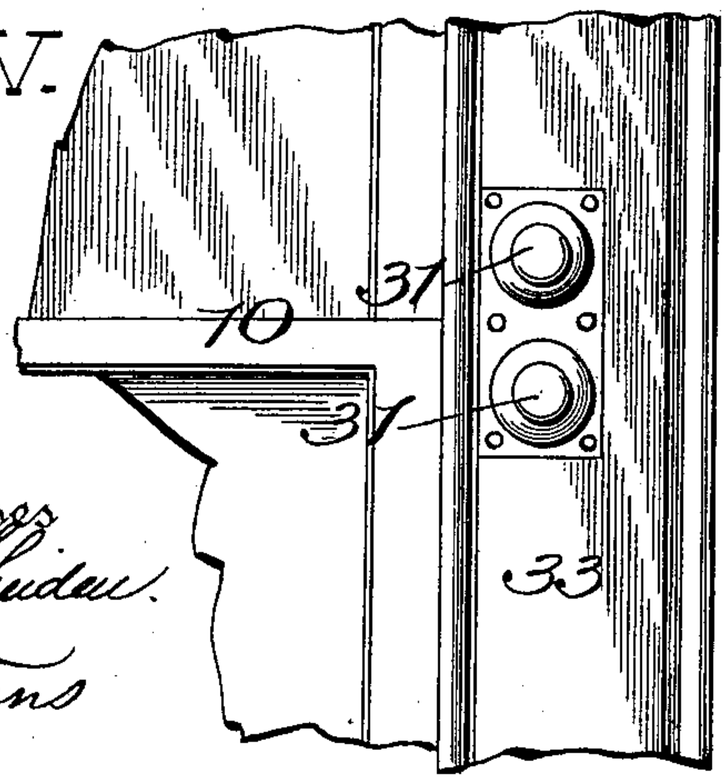
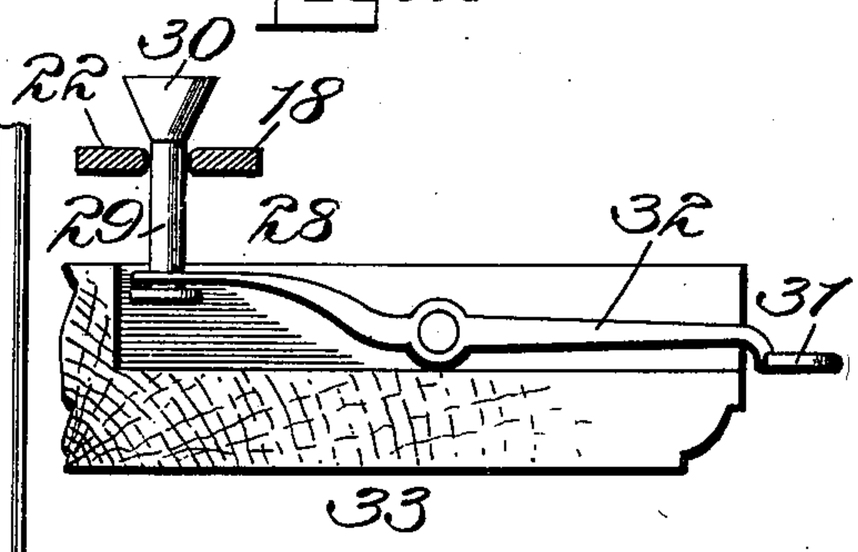


Fig. V.



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UNITED STATES PATENT OFFICE.

JAMES H. WALLACE AND ARTHUR G. HILTON, OF FORT FAIRFIELD, MAINE, ASSIGNORS OF ONE-THIRD TO WINFORD H. LINTON, OF SAME PLACE.

SASH BALANCE AND FASTENER.

SPECIFICATION forming part of Letters Patent No. 598,880, dated February 8, 1898.

Application filed May 3, 1897. Serial No. 634,915. (No model.)

To all whom it may concern:

Be it known that we, JAMES H. WALLACE and ARTHUR G. HILTON, citizens of the United States, residing at Fort Fairfield, in the county of Aroostook and State of Maine, have invented a new and useful Improvement in a Combined Sash Balance and Fastener; and we do hereby declare the following to be a full, clear, and exact description of the same, reference being had to the accompanying drawings, in which—

Figure I represents in side view a combined sash balance and fastener according to our invention with the side plate removed and a portion of a sash. Fig. II is a face view of the same. Fig. III is a side elevation of the push-pin. Fig. IV is a face view of a portion of sash and casing, showing two push-buttons; and Fig. V represents the face-board of a window-casing in cross-section, showing an operating-lever for the push-button.

This invention relates to that class of devices which are designed to balance vertically-sliding sashes by the action of coiled springs; and its object is to provide each sash of a window with balancing devices which may be concealed within the side casing, to adapt one of said devices of each pair to serve as a sash-fastener, and to adapt both devices to retain their springs coiled when the sash is removed for any purpose.

To this end our invention consists in the construction and combination of parts forming a combined sash balance and fastener, hereinafter more fully described, and particularly set forth in the claims.

10 represents a window-sash, in each edge of which we embed a toothed rack 11. This rack we make of corrugated sheet metal for lightness and nail it at short intervals to the sash.

12 represents the side casing of the window, within which casing we secure the cases 13 of our sash-balances.

14 is a drum journaled on a fixed stud 15 in the case 13 and having circumferential teeth 16 projecting through the face 17 of the case into the path of the rack 11 to engage the teeth thereof.

19 is a spring coiled within the drum 14, with one end secured to the fixed stud 15 and the other end secured to the drum, with a normal tendency to rotate the drum in the direction to lift the sash by means of the rack 11. It is our design to locate one of these balancing devices at each side of each sash about midway of the frame vertically and near the juncture of the upper and lower sashes of a window, and the springs may be wound with sufficient tension to just balance the sash or so as to a little overbalance it and tend to raise it, if desired.

18 is a detent pivoted at 20 in the case 13, and 21 is a spring actuating that detent normally into engagement with the teeth of the drum to hold the drum against the action of the spring 19 when wound up.

22 is another detent pivoted at 20 to engage the teeth of the drum in the direction opposite to the detent 18, and 23 is a spring fulcrumed between bearings 24 of the case 13 and adapted to engage its outer end or handle with a notch at either of the shoulders 25 or 26 of a slot 27 in the face of the case 13. When this spring-handle is in the notch 25, its working end impels the detent 22 into engagement with the teeth of the drum, as shown in full lines in Fig. I. This holds the drum so that the sash cannot slide downward, and detent 18 prevents the drum from turning in the direction to move the sash upward, so that these two detents hold the sash normally locked in any position where the sash may be left.

28 is an operating-pin having a small neck 29 to stand normally between the two detents 18 and 22 and having an enlarged portion 30 tapering to the neck. The operating-pin 28 extends out through the face-board 33 of the casing and is there furnished with a push-button 31, or it may be otherwise connected with a push-button, as by a lever 32, which is let into the back of the face-board 33. In the latter case the enlargement 30 of the pin may be located beyond the detents 18 and 22, so that pressing upon the button 30 at the end of the lever which projects from the outer edge of the face-board will draw the pin 28 and separate the detents. When the detents are thus separated, they are disengaged from the drum-teeth, as shown in dotted lines 18′ and 22′, respectively, and the sash, balanced by the spring, is free to be raised or lowered

at will; but when the push-button 31 is released the force of the springs 21 and 23 closes the detents, wedging the push-pin back to its normal position. By placing the handle of spring 23 in the notch at shoulder 26 the support will be removed from detent 22, leaving it to fall free from the drum-teeth, when the drum may be revolved in the direction to wind up its spring 19 to give the tension required, and the sash will be free to be run down.

Having thus fully described our invention, what we believe to be new, and desire to secure by Letters Patent, is the following:

1. In a sash balance and fastener, a sash provided with a rack of teeth at its edge; a drum having circumferential teeth to engage the said rack and journaled to rotate in the casing at the edge of the sash; a spring connected with the drum to rotate it as a balance for the sash; two detents engaging the teeth of the drum in opposite directions; springs for the detents, and a pin having a tapering enlargement arranged to slide between the detents and at right angles to the plane of movement of the same, substantially as described.

2. A sash-balance, toothed, spring-drum journaled in a case which is slotted through its face and provided with shouldered notches in the slot, a detent hung to engage the teeth of the drum; a spring for the detent, having midway bearings in the case, and a handle projecting into the said slot to engage either of the said notches, substantially as described.

In testimony whereof we affix our signatures in presence of two witnesses.

JAMES H. WALLACE.
ARTHUR G. HILTON.

Witnesses:
HERBERT T. POWERS,
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