No. 681,863. Patented Sept. 3, 1901.

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

SASH BALANCE.

(Application filed June 7, 1900.)

(No Model.)

Fig. 1.

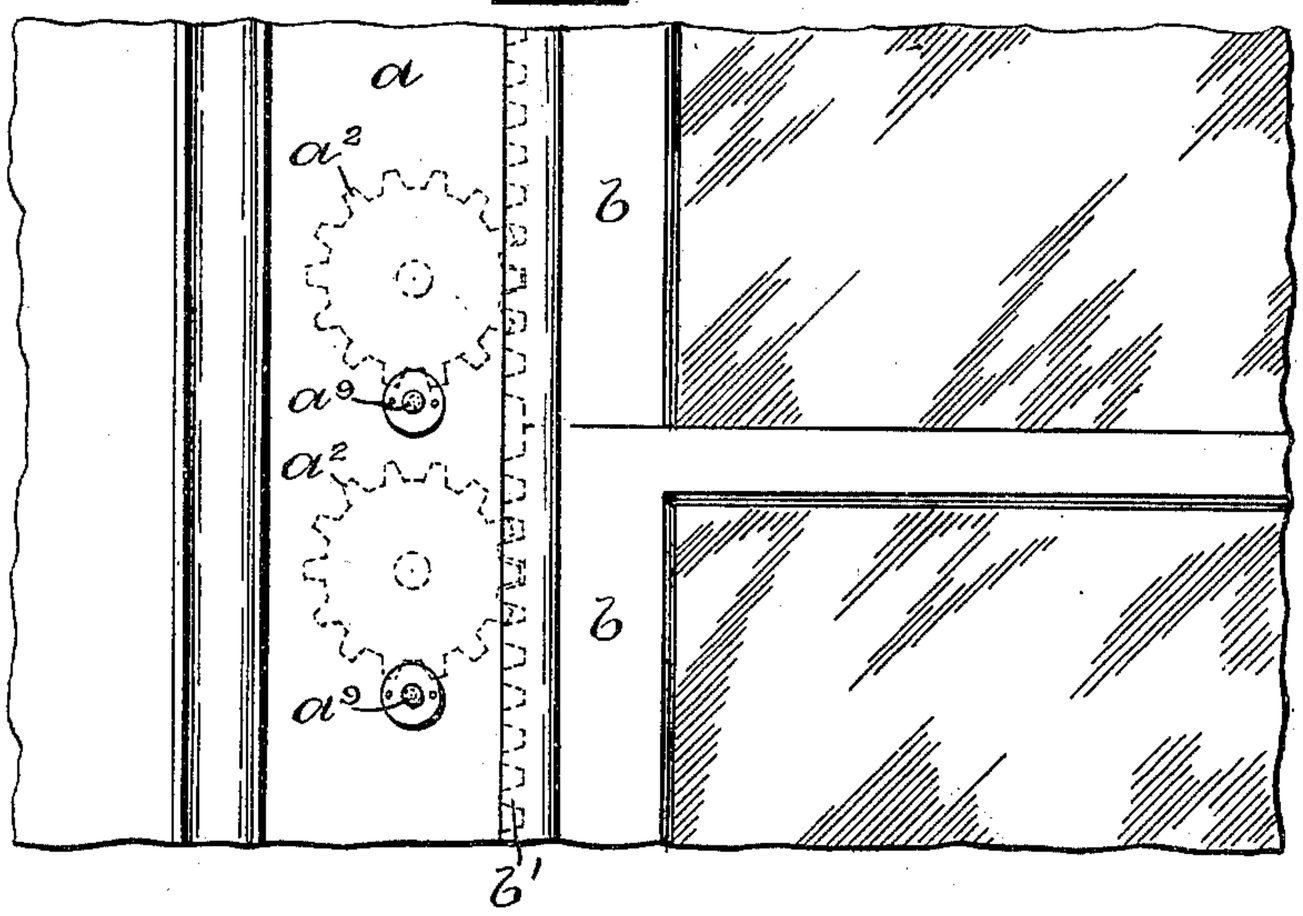


Fig. 2.

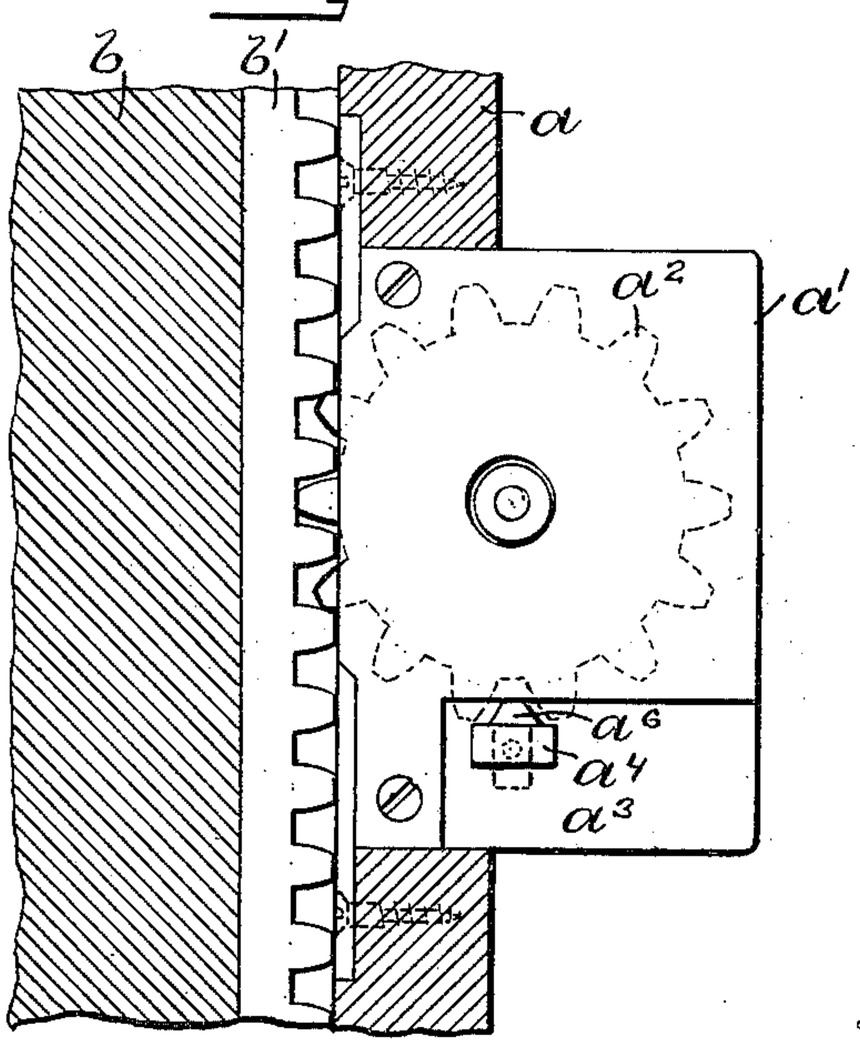
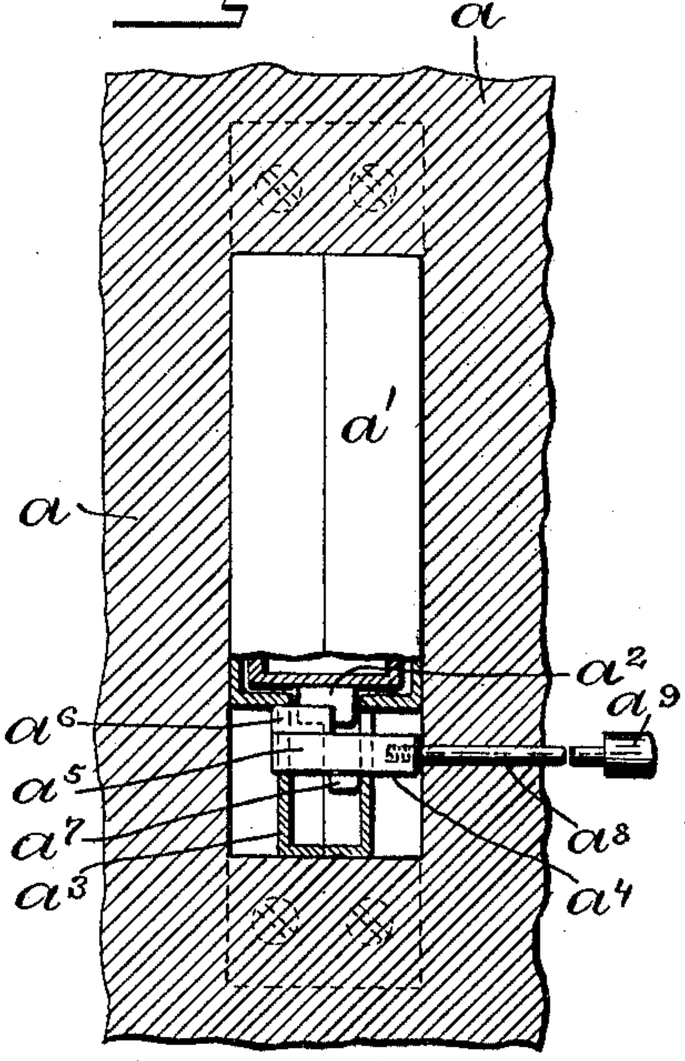


Fig. 3.



WITNESSES:

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UNITED STATES PATENT OFFICE.

JAMES H. WALLACE AND ARTHUR G. HILTON, OF PROVIDENCE, RHODE ISLAND, ASSIGNORS TO THE INTERNATIONAL BURGLAR PROOF SASH-BALANCE AND LOCK COMPANY, INCORPORATED, OF SAME PLACE.

SASH-BALANCE.

SPECIFICATION forming part of Letters Patent No. 681,863, dated September 3, 1901.

Application filed June 7 1900. Serial No. 19,401. (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 Providence, in the county of Providence and State of Rhode Island, have invented a new and useful Improvement in Window-Sash Balances, of which the following is a specification.

In window-sash balances in which a spring-actuated gear engages with a rack the locking of the gear against rotation acts to lock and hold the sash in any desired position. A locking device to hold the gear against rotation must be of substantial construction and must be supported in substantial ways, because the weight of the sash and the force exerted by the unauthorized effort to raise or lower the sash have to be resisted by the locking device.

The object of this invention is to provide a strong and simple locking device for a spring sash-balance and support the same close to the gear, so as to securely lock and hold the sash in the desired position.

The invention consists in the peculiar and novel construction and combination with the locking device of the casing, as will be more fully set forth hereinafter.

Figure 1 is a view of part of the inside casing and part of two sashes of a window provided with spring sash-balances. Fig. 2 is a vertical sectional view showing the sash-balance in connection with the sash provided with the rack. Fig. 3 is a transverse sectional view of the sash-balance in position in the window-frame, partly in section to show the construction of the casing and the locking device.

In the drawings, a indicates the window-frame, a' the case inclosing the spring-actuated gear a^2, and a^3 the contracted part of the case a', which part forms the support of the locking device a^4. The inside width of the part a^3 is but slightly greater than the width of the teeth on the gear a^2.

The locking device a^4 consists of the rectangular bar a^5, sliding in openings in the walls of the contracted portion a^3 of the casing. The bar a^5 has projecting from the side near the gear the locking-key a^6, provided with beveled sides, so as to readily enter between any two of the teeth of the gear a^2. From the opposite side of the bar a^5 the stop a^7 projects, by which the movement of the bar a^5 and key a^6 is limited. The rod a^8 is secured to the bar a^5 and is provided at its outer end with the knob a^9. The bar a^5 and the locking-key a^6 are supported in the sides of the contracted portion a^3 close to the gear a^2 and have a sufficient traverse to lock and unlock the gear without projecting beyond the surface of the main casing a', which casing fits the recess made into the window-frame. The rod a^8 is inserted through a hole bored into the frame and secured to the bar a^5 by screw-thread engagement.

b indicates the stile of the window-sash, and b' the rack secured to the sash.

By this construction the routing of the opening for the insertion of the case a' of uniform width with the case leaves a space on each side of the contracted portion a^3 of the casing for the movement of the bar a^5, the sides of the routed opening forming limits to the movement of the bar a^5. The sides of the casing closely fitting the routed opening adds materially to the strength of the structure.

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

In a window-sash balance, in combination, a spring-actuated gear-wheel, a casing inclosing the gear-wheel, a locking device consisting of a bar, a key projecting from one side of the bar and formed to enter between two teeth of the gear-wheel, the contracted portion of the casing, ways in the contracted portion of the casing close to the teeth of the gear-wheel forming the support of the locking device, a stop on the bar, and a rod for operating the bar; whereby the locking device may be operated within the thickness of the casing, as described.

In testimony whereof we have signed our names to this specification in the presence of two subscribing witnesses.

JAMES H. WALLACE.
ARTHUR G. HILTON.

Witnesses:
B. M. SIMMS,
J. A. MILLER, Jr.