

No. 640,233.

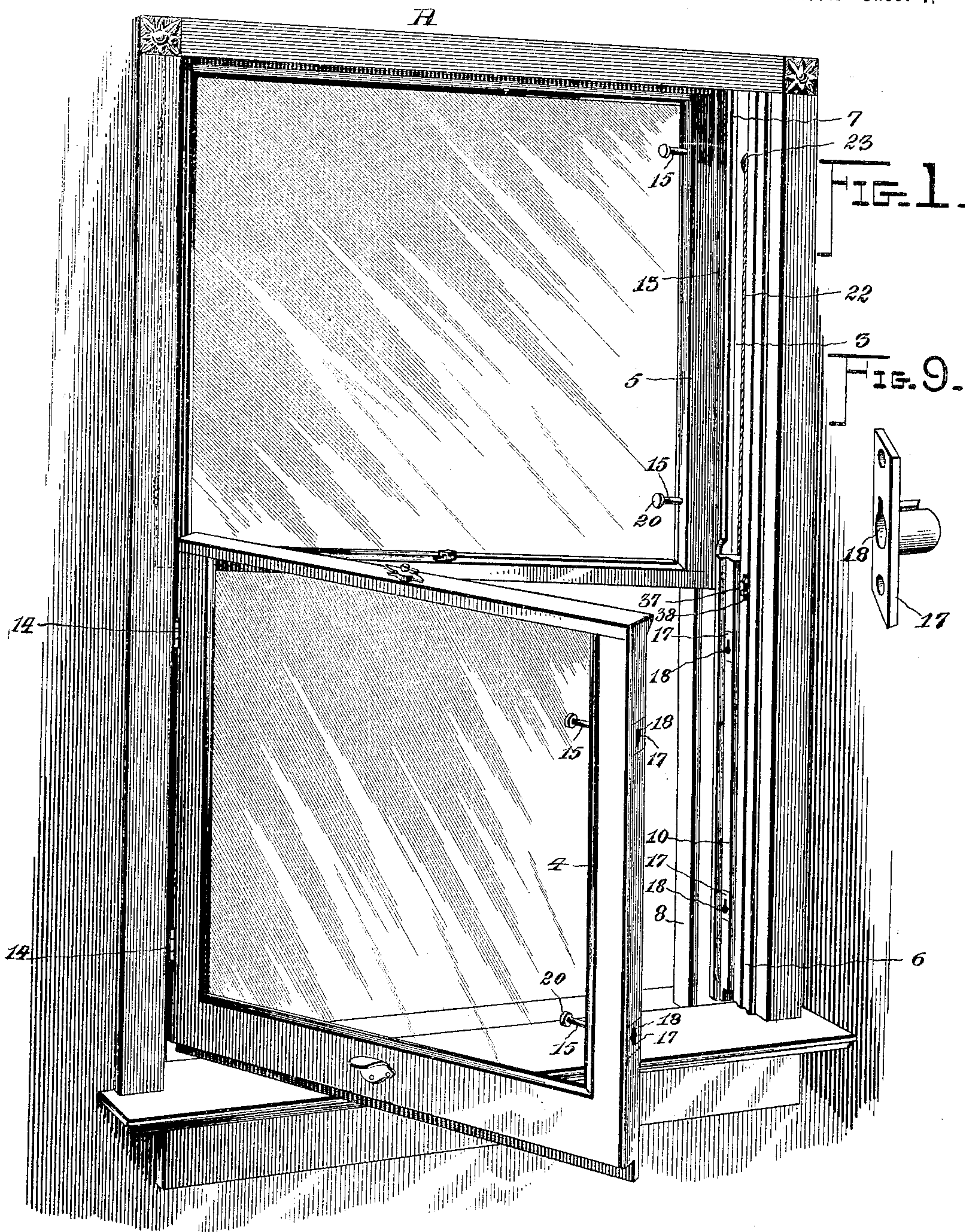
Patented Jan. 2, 1900.

E. SCHMIDT.  
WINDOW.

(Application filed Mar. 11, 1899.)

(No Model.)

2 Sheets—Sheet 1.



Witnesses

*John T. Deufferwald*

*Heath Litchfield*

*Evert Schmidt*, Inventor

By *his* Attorneys.

*C. A. Snow & Co.*



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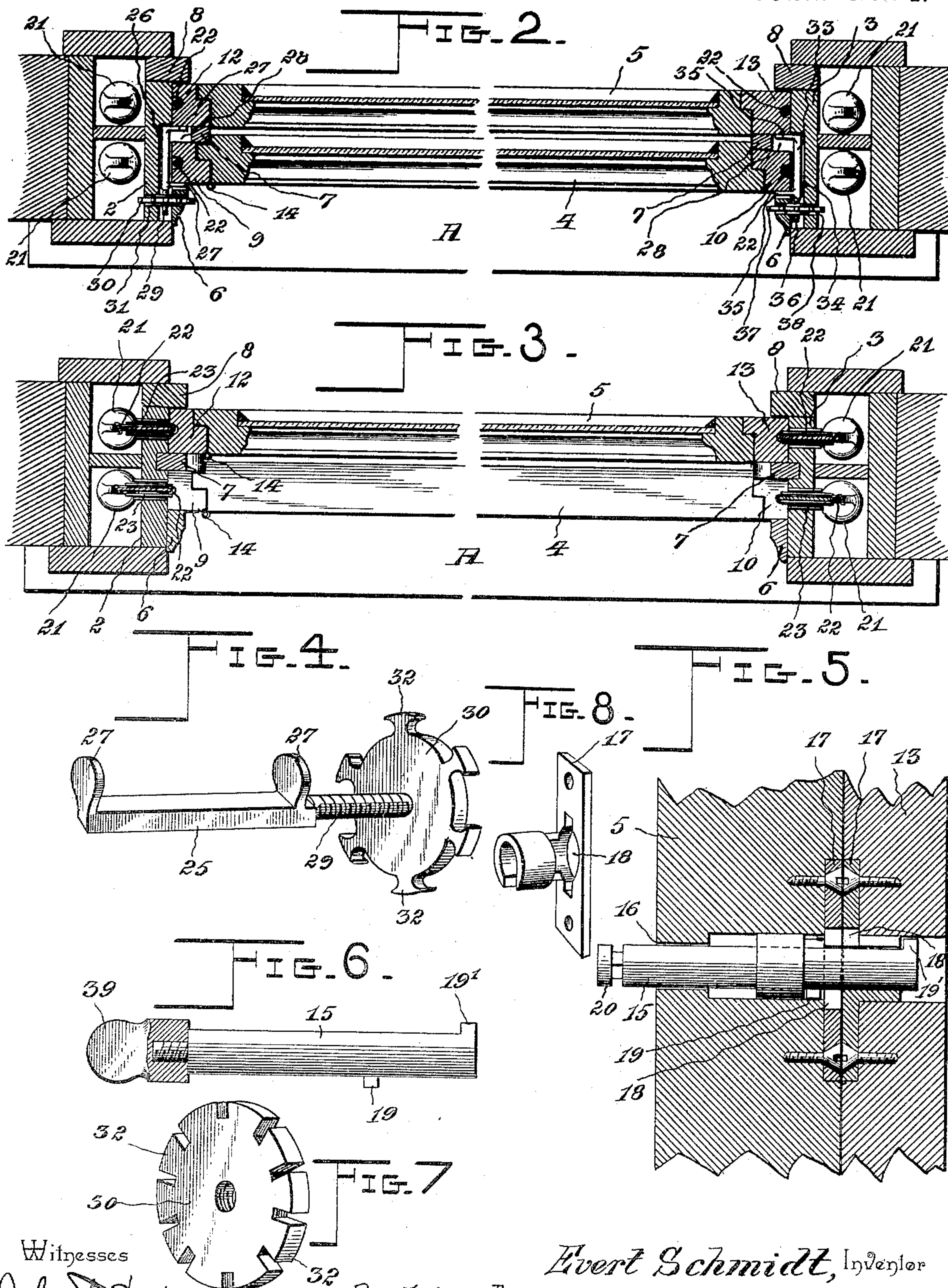
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# UNITED STATES PATENT OFFICE.

EVERT SCHMIDT, OF WAUPUN, WISCONSIN.

## WINDOW.

SPECIFICATION forming part of Letters Patent No. 640,233, dated January 2, 1900.

Application filed March 11, 1899. Serial No. 708,749. (No model.)

*To all whom it may concern:*

Be it known that I, EVERT SCHMIDT, a citizen of the United States, residing at Waupun, in the county of Fond du Lac and State of Wisconsin, have invented a new and useful Window, of which the following is a specification.

This invention relates to windows; and the object of the invention is to provide a simple and efficient device of this character wherein the sash or sashes can be raised or lowered and can be also swung outward from the frame, by reason of which last-mentioned feature the maximum ventilation can be obtained as well as rendering the glass and certain of the woodwork more accessible for cleaning the same.

My device consists of a frame, sliding strips supported between the jambs of said frame, a sash hinged to one of said sliding strips, means for detachably connecting said sash to the other strip, and means for locking one or both of the strips in a predetermined position, whereby the sash can be swung outward relatively to its carrying-strip.

In the present case the window-frame incases balancing devices, as weights, which are preferably connected by cords to the sliding strips, and I prefer to provide a series of four strips and two sashes, each sash being hinged to a sliding strip, and bolts or analogous devices carried by said sashes being provided to connect the same with the other sliding strips, and the construction is such that when the working ends of these locking-bolts are seated in the sliding strips a strong and durable sliding frame is provided, said frame being in the nature of an auxiliary one and being supported for vertical movement within the main frame.

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

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

Figure 1 is a perspective view of a window constructed in accordance with my invention. Fig. 2 is a cross-sectional top plan view of the

same. Fig. 3 is a similar view. Fig. 4 is a detail in perspective of one of the bolts for locking a strip and the operating device for said bolt. Fig. 5 is a cross-sectional view, on an enlarged scale, showing one of the bolts that lock a sash to its strip in operative position. Fig. 6 is a sectional elevation showing a slightly-different form of bolt. Fig. 7 is a perspective view of an alternative form of bolt-operating nut. Figs. 8 and 9 are opposite perspective views of one of the bolt-guiding devices.

Like characters denote like and corresponding parts in each of the several figures of the drawings.

In the drawings there is represented at A a window-frame, and between the jambs 2 and 3 thereof the vertically-reciprocatory and swinging sashes 4 and 5 are disposed, one being normally located above the other when the two are shut. The jambs 2 on the inside thereof are provided with spaced stops or strips 6, 7, and 8, and the grooves between these stops are adapted to receive the sliding strips 9 and 10 of the lower sash and the strips 12 and 13 of the upper sash 5, said sashes 4 and 5 being hinged, as at 14, to the sliding strips 9 and 12, which when the sashes are being raised and lowered slide in parallelism with the strips 9 and 12.

In connection with the two sashes 4 and 5 I provide means for detachably coupling or connecting the same with the strips 10 and 13, it being understood, of course, that said sashes are permanently connected with the strips 9 and 12 by hinged joints. Each of the sashes is provided with a pair of sliding bolts, as 15, which extend through openings 16 in the stiles of the sashes in proximity to and are adapted to engage in corresponding aligning openings or seats formed in the sliding strips 10 and 13, respectively, as shown in Fig. 5 of the drawings, the openings in the sashes and strips being covered at their adjacent ends by plates, as 17, having T-shaped slots 18, through which the sliding bolts 15 are adapted to project. Each bolt is of a substantially cylindrical shape and is provided at different points in its length with the oppositely-disposed keys or fins 19 and 19', and the key or fin at the front end of the bolt is adapted to fit within the narrow portion of a key-shaped slot



18 when said bolt is shot into its seat, at which time the downwardly-projecting key or fin 19, located at about the middle of the bolt, is adapted to fit within the narrow portion of the key-shaped slot in that plate carried by the sash, by reason of which the bolt is prevented from turning. Each of the bolts is provided with a finger-piece, as 20, located inside of the sash and constituting a convenient means for shooting the bolts into and out of their seats in the strips 10 and 13.

To counterbalance the sashes, I provide sash-weights 21, which are located inside the jambs and are connected by cords, as 22, with the respective sliding strips, which cords run over the usual guide-pulleys 23. Although I have illustrated sash-weights as a convenient means for counterbalancing the sashes, it is apparent that other means can be employed for this purpose.

When the several locking-bolts 15 are fitted in their seats or openings 16 in the sliding strips 10 and 13, it will be apparent that the said sliding strips, in connection with the other two upon the opposite sides of the sashes, constitute strong frames for said sashes, whereby the latter can be raised or lowered and held in their adjusted positions by the counterbalance-weights 21 in the familiar manner.

In connection with the several sliding strips I provide means for locking the same against elevation by the sash-weights 21 when either one of the sashes is swung open. The means for engaging the sliding strips 9 and 12, to which the two sashes are hinged, consists of a sliding bolt 25, located for reciprocatory movement in the channel or groove 26, formed in the window-jamb 2, and having lugs or ears 27, located at suitable points thereon and adapted to be forced into engagement with the inner faces of the two strips 9 and 12, thereby to lock the same, and consequently the sashes, simultaneously against elevation, and the intermediate stop 7 is apertured, as at 28, to permit of the reciprocation of the sash-locking bolt 25. The bolt 25 is threaded, as at 29, to receive the nut or wheel 30, fitting in the transverse aperture or socket 31, formed, respectively, in the stop 6 and jamb 2, and the walls of the aperture serve to limit or prevent the sidewise movement of the nut. The nut or wheel 30 is provided upon its periphery with a series of teeth or projections 32 to facilitate turning the same, and it will be evident that when the said nut is rotated in one direction the sliding bolt 25 will be fed forward to carry the lugs or ears 27 thereon into contact with the sliding strips 9 and 12, thereby to hold the latter, and consequently the sashes, in an adjusted position when said sashes are swung open. When said sashes are swung open, the sliding strips 10 and 13 should be locked in positions corresponding with the sliding strips 9 and 12, respectively, and for this purpose I employ the sliding bolt 33, fitted in the channel 34 in the window-

jamb 3 and the end of which is adapted to engage the sliding strips 13, while said bolt is provided with a lug or ear 35, adapted to engage the sliding strip 10. This bolt is threaded upon its ends, as at 36, which threaded end is engaged by the nut 37, fitting the aperture 38 in the stop 6 and jamb 3, respectively, whereby the operation of the nut or wheel 37 will actuate the bolt 33 to lock or unlock the strips 10 and 13, respectively, when the sashes are swung open.

In some cases the bolts 15, which connect the sashes with the sliding strips, can be moved backward and forward by nuts, as 39, fitted to and in threaded engagement with the ends of the bolts. By grasping these nuts the bolts can be advanced or retracted, as the case may be, to connect the sashes 4 and 5 with the sliding strips 10 and 13, respectively, or to disconnect the same therefrom. This modified form of sash-locking bolt is illustrated in Fig. 6.

Fig. 7 shows an alternative form of bolt-operating nut in which the teeth 32 are separated by smaller interspaces adapted to receive an instrument for rotation of the nut, although it may also be operated with the fingers.

Changes in the form, proportion, size, and the minor details of construction within the scope of the appended claims may be resorted to without departing from the spirit or sacrificing any of the advantages of this invention. Having thus described the invention, what I claim is—

1. The combination with a window-frame, of two sliding strips supported inside the window-frame, a window-sash hinged to one of said strips, means for connecting said sash with the other strip, and two independent devices carried by the window-frame and each being adjustable and adapted to engage both strips at one side of the frame and lock said strips when the window is swung open, substantially as described.

2. The combination with a window-frame, of two strips supported for sliding movement upon the inside of the frame, window-sashes hinged to said strips, bolts carried by the frame and adapted to engage said strips and move them laterally into engagement with adjacent portions of the frame, an operating-nut in threaded engagement with said bolt, a second pair of strips supported for sliding movement in said frame at the side thereof opposite said first-mentioned strips, and adapted to be detachably connected with the sashes, and an additional bolt carried by the frame and adapted to engage the last-named strips and move them into engagement with adjacent portions of the frame and hold them in position corresponding to those of the other strips, when said sashes are swung open, substantially as described.

3. The combination with a window-frame, of two sliding strips supported inside the window-frame, window-sashes hinged to said



strips, a bolt slidably mounted in said frame and provided with lugs adapted to engage both of the strips and move them laterally into engagement with adjacent portions of the frame, a nut in threaded engagement with and serving to operate said bolt, a second pair of strips supported for sliding movement inside the window-frame, bolts carried by the sashes and adapted to engage openings in said last-mentioned strips, and means carried by the window-frame and adapted to engage the last-mentioned strip and thereby hold them when the window is disengaged therefrom in positions corresponding with said first-mentioned strips.

4. The combination with a window-frame, of two sliding strips supported inside the window-frame, window-sashes hinged to said strips, a sliding bolt fitted in a channel in the frame and provided with lugs for engaging

said strips, a nut in threaded engagement with said bolt and fitted in an aperture in the frame, a second pair of sliding strips fitted inside the frame and having openings, a series of bolts carried by the sashes and provided with fins or keys, and said bolts being adapted to engage in the openings in the last-mentioned strips, a bolt carried by the frame and adapted to engage said last-mentioned strips, a nut on said last-mentioned bolt, sash-weights located inside the frame, and cords connecting the sash-weights and sashes respectively, substantially as described.

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

EVERT SCHMIDT.

Witnesses:

S. J. SUMNER,

J. A. KASTEIN.