No. 689,802. Patented Dec. 24, 1901.

A. S. J. HAYGOOD.

WINDOW.

(Application filed July 20, 1901.)

(No Model.) 2 Sheets—Sheet 1.

Fig. 1.

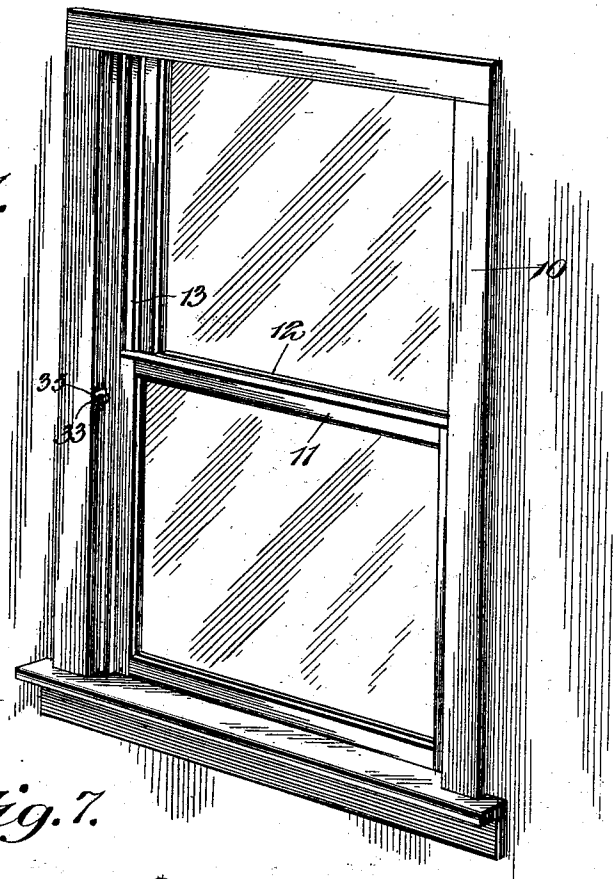



Fig. 7.

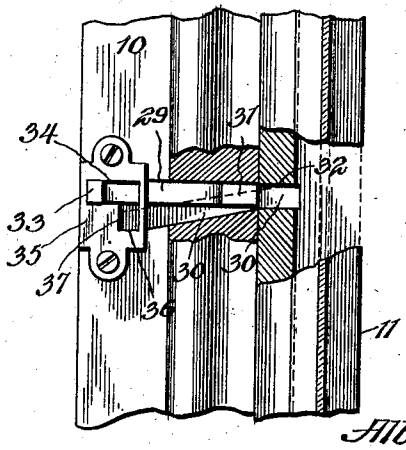
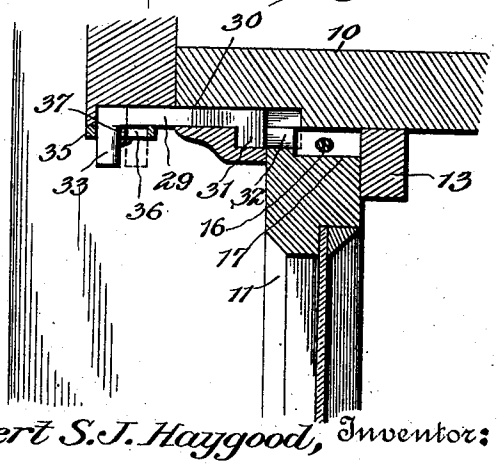



Fig. 8.




Albert S. J. Haygood, Inventor:

By E. G. Siggers.

Attorney

Witnesses

Howard D. Orr.

B. G. Foster.

THE NORRIS PETERS CO., PHOTO-LITHO., WASHINGTON, D. C.

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(No Model.) 2 Sheets—Sheet 2.

Fig. 3.

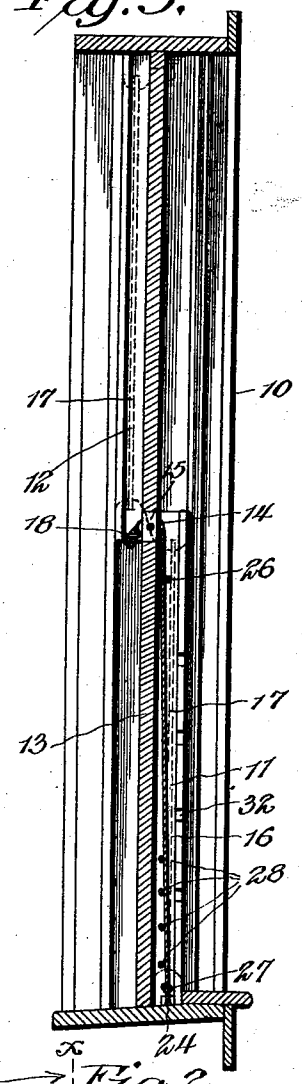



Fig. 4.

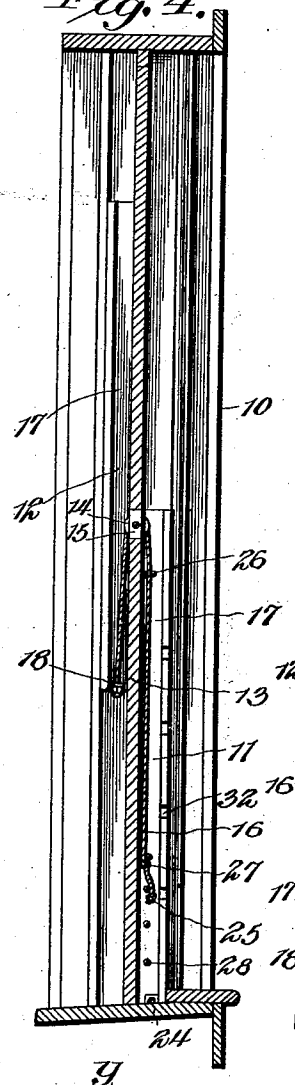



Fig. 5.

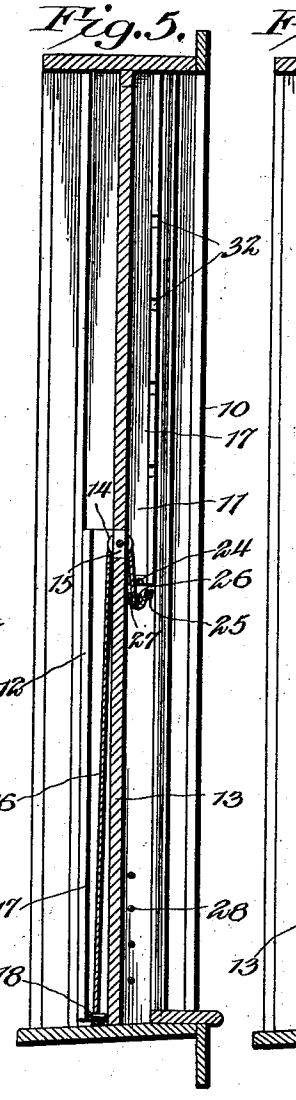



Fig. 6.

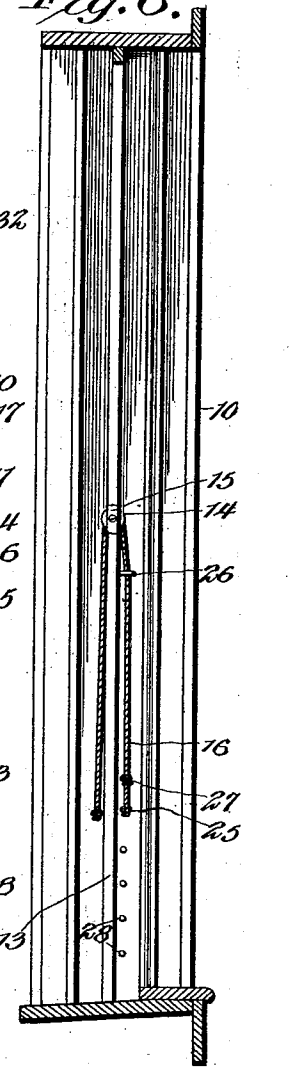



Fig. 2.

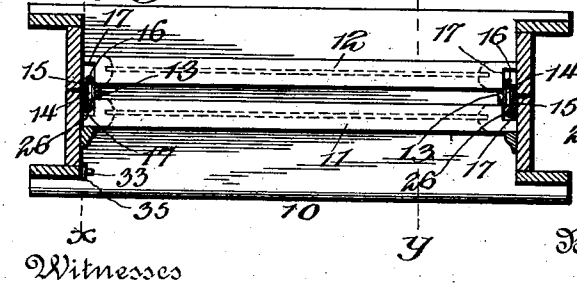



Fig. 9.

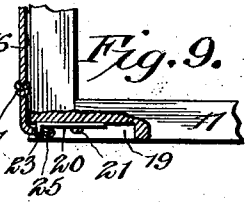
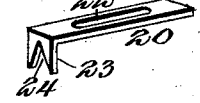



Fig. 10.




Witnesses
Howard D. Orr.
B. L. Potter.

Inventor:
Albert S. J. Haygood,
By E. G. Siggers.
Attorney

THE NORRIS PETERS CO., PHOTO-LITHO., WASHINGTON, D. C.

# UNITED STATES PATENT OFFICE.

ALBERT S. J. HAYGOOD, OF LAS CRUCES, TERRITORY OF NEW MEXICO.

## WINDOW.

SPECIFICATION forming part of Letters Patent No. 689,802, dated December 24, 1901.

Application filed July 20, 1901. Serial No. 69,101. (No model.)

*To all whom it may concern:*

Be it known that I, ALBERT S. J. HAYGOOD, a citizen of the United States, residing at Las Cruces, in the county of Donna Ana and Territory of New Mexico, have invented a new and useful Window, of which the following is a specification.

The present invention relates to windows, and more particularly to the balancing and locking means therefor.

One of the principal features of the invention resides in means for connecting the sashes of the window so that each will form a balance for the other, said means being so constructed that the independent adjustment of each sash is permitted, in which latter relation the connecting means serves as a lock for one of the sashes.

A further feature relates to means for automatically disengaging one sash from the other upon their movement to a predetermined position, so as to permit of their independent adjustment.

In order that the invention may be readily understood, the preferred form thereof is shown in the accompanying drawings, and its construction and operation are fully described in the following specification. The invention is, however, not to be limited to the exact construction shown and described, but is open to such changes and modifications as are allowed by the scope of the appended claims.

In the drawings, Figure 1 is a perspective view of a window having the improvements applied thereto. Fig. 2 is a horizontal sectional view through the same. Fig. 3 is a vertical sectional view showing the window-sashes when closed. Fig. 4 is a similar view illustrating the upper sash when lowered while the lower sash is closed. Fig. 5 is a vertical sectional view showing the lower sash raised and the upper sash lowered, with the connecting means disengaged from said lower sash. Figs. 3, 4, and 5 are all taken on the line X X of Fig. 2 looking in the direction of the arrow. Fig. 6 is a vertical sectional view taken on the line Y Y of Fig. 2, but showing both sashes removed in order to more clearly illustrate the construction and arrangement of the several elements of the invention. Fig. 7 is a detail vertical sectional view more clearly illustrating the construction of the locking-bolt for the lower sash. Fig. 8 is a detail horizontal sectional view through the same. Fig. 9 is a detail view of one of the lower corners of the lower sash, said sash being shown partly in section. Fig. 10 is a perspective view of the fastening device for the connecting-cord.

Similar numerals of reference designate similar parts throughout the several figures of the drawings.

In order that the invention may be readily understood, a window-frame 10 is shown in which are slidably mounted the usual lower and upper sashes 11 and 12, separated from each other by parting-beads 13. Mounted in these parting-beads, intermediate their ends and preferably, though not necessarily, at the point where the meeting-rails of the sashes coact when said sashes are in closed position, are grooved pulleys 14, located in suitable casings 15. Connecting the sashes are cords 16 or other suitable flexible devices, said cords passing over the pulleys 14 and operating in longitudinal grooves 17, made for that purpose in the opposite side edges of the sashes. In the present instance these cords are each rigidly secured at one end to the lower end of the upper sash by means of a staple 18, while they are detachably fastened at their other ends to the lower end of the lower sash. To this end said lower sash is provided in its opposite lower corners with a groove 19, in which is secured a slidably-mounted fastening-plate 20 by means of a screw 21 passing through a slot 22 therein and engaging the sash. This plate has a downturned arm 23, which is forked to provide a socket 24, in which the end of the cord is engaged, and held by a knot 25, that abuts against the rear face of the same. By this means it will be seen that the ends of the cords are detachably and adjustably secured to the sash. Instead of a knot, as shown, it will readily be seen that a loop may be employed that will engage over the projection. The cords furthermore pass through screw-eyes or staples 26, located just below the pulleys 14, and knots or enlargements 27, located upon the cords contiguous to their adjustable connections with the sash, are arranged to engage these eyes or loops

when the sash is thrown to its uppermost position, as shown in Fig. 5. A vertically-disposed row of holding-pins 28 is arranged upon each side of the frame and extend in the grooves in the lower sash, said pins being disposed contiguous to the parting-beads, but spaced a slight distance therefrom, so as to permit of the insertion of the cord, but to prevent the passing of the knot, as shown in Fig. 4.

For the purpose of locking the lower sash a sliding bolt 29 is provided, which is mounted in a slot 30, made in the window-frame for that purpose. The inner end of the bolt has an offset lug 31, which is arranged to be moved into and out of a series of notches 32, made in the adjacent edge of the sash. The outer end of the bolt has an offset operating-handle 33, that projects through the slot 34 of a face-plate 35, secured to the frame, said slot being provided with an offset pocket 36, forming a retaining-shoulder 37.

The manner of operating the device is as follows: Under normal conditions the upper and lower sashes are connected by the cords 16, so that each sash will counterbalance the other, and as a consequence when the lower sash is raised the upper sash will be lowered, and vice versa. Furthermore, when the lower sash is locked in its closed position by means of the bolt 29 the upper sash will be fastened against lowering. When it is desired to have the upper sash lowered and the lower one closed, it is only necessary to raise said lower sash to its highest position, whereupon the knots 27 of the cords will engage the stop-loops 26, and the free ends of said cords will thereby be automatically disengaged from the fastening-hooks, as shown in Fig. 5. The lower sash may then be dropped to its normal position, and the two sashes will thus be at the bottom of the frame. In order to place both of the sashes at the top, the bottom sash is raised and locked by means of the bolt. The disengaged ends of the cords are then drawn and hooked behind the lower projections or pins 28, or if it is desired to lower the top sash and leave the lower one closed the cords are disengaged and fastened behind the pins, as shown in Fig. 4. In the practical embodiment of the invention the cords are made short enough so that when disengaged from the lower sash the lower end of the upper sash will be a slight distance above the sill, as illustrated in Fig. 5. In this manner said cords act as cushions to prevent any jar or shock occasioned by the sudden elevation of the lower sash and the consequent lowering and disengagement of the upper sash. By this means it will be seen that the several objects mentioned in the preliminary portions of the specification are accomplished in a very simple manner and that the sashes may be adjusted simultaneously or independently. Furthermore, they can be locked so that they cannot be operated by a person on the exterior attempting to gain an entrance through the window. For this reason the specific position of the pulleys is important, as the cords passing over them are completely housed by the sashes, and therefore cannot be cut in order to release the upper sash. Under certain conditions, however, these pulleys may be arranged in other positions, and the invention is not to be limited to this precise disposition.

From the foregoing it is thought that the construction, operation, and many advantages of the herein-described invention will be apparent to those skilled in the art without further description, and it will be understood that various changes in the size, shape, proportion, and minor details of construction may be resorted to without departing from the spirit or sacrificing any of the advantages of the invention.

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

1. In a window, the combination with a pair of movable sashes, of a flexible connection between the sashes, said connection having a detachable engagement with one, and means for automatically disengaging the connection from the sash upon the movement of the latter to a predetermined position.

2. In a window, the combination with a pair of movable sashes, of a flexible connection between the sashes, said connection having a detachable engagement with one, and a loop through which the flexible connection passes, said loop being secured to the window-frame below the point to which the detachably-engaged portion of the connection is movable, said loop constituting means for automatically detaching the connection from the sash upon the movement of the latter to a predetermined position.

3. In a window, the combination with a pair of movable sashes, of a forked fastening device secured to one of the sashes, a flexible connection fastened to the other sash and having an enlargement that detachably engages in the fork of the fastening device, and a loop through which the flexible connection passes, said loop being secured to the window-frame below the point to which the lower end of the fork is movable and constituting means for automatically detaching the connection from the fork upon the movement of the sash to a predetermined position.

4. In a window, the combination with a frame having a guideway, of a pair of movable sashes, one of which is arranged in the guideway, a flexible connection between the sashes, said connection having a detachable engagement with one of the sashes, and means located in the guideway for securing said connection to the window-frame when detached from the sash.

5. In a window, the combination with a pair of movable sashes, of a flexible connection between the sashes, said connection having a detachable engagement with one of the sashes, and means for adjustably securing said connection to the window-frame when detached

from one sash to hold the other at different heights.

6. In a window, the combination with a pair of movable sashes, of a flexible connection between the sashes, said connection having an enlargement that detachably engages with one of the sashes, and a plurality of holding devices secured to the window-frame at different distances from the bottom thereof, said enlargement being arranged to be engaged with one of the holding devices when detached from the sash.

7. In a window, the combination with a pair of movable sashes, of a flexible connection between the sashes, said connection having a detachable engagement with one of the sashes, means for securing said connection at different points to the window-frame when detached from one sash to hold the other at different heights, and a sliding bolt secured to the window-frame and engaging the sash at different points to hold the same against movement and at different heights when the connection is detached.

8. In a window, the combination with a pair of movable sashes, of a flexible connection secured to one sash, a fastening device movably mounted upon the other sash, and means for holding the fastening device against movement, said connection being secured to said fastening device.

9. In a window, the combination with a pair of movable sashes, of a flexible connection secured to one sash, a plate having a slot, said plate being movably mounted upon the other sash and having an offset forked arm, a screw holding said plate against movement and passing through the slot of the arm, said connection having an enlargement that detachably engages the forked arm of the plate.

10. In a window, the combination with an upper and a lower sliding sash, said lower sash being provided with a plurality of sockets, a pulley mounted upon the window-frame, a flexible connection between the sashes, said connection passing over the pulley, and a sliding bolt mounted upon the window-frame, and movable into and out of the different sockets of the lower sash to hold the same in different positions against movement.

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

ALBERT S. J. HAYGOOD.

Witnesses:
C. T. JORDAN,
M. HODGSON.