

(No Model.)

W. L. SILBEREISEN.

HINGED WINDOW SASH.

No. 385,577.

Patented July 3, 1888.

Fig. 1.

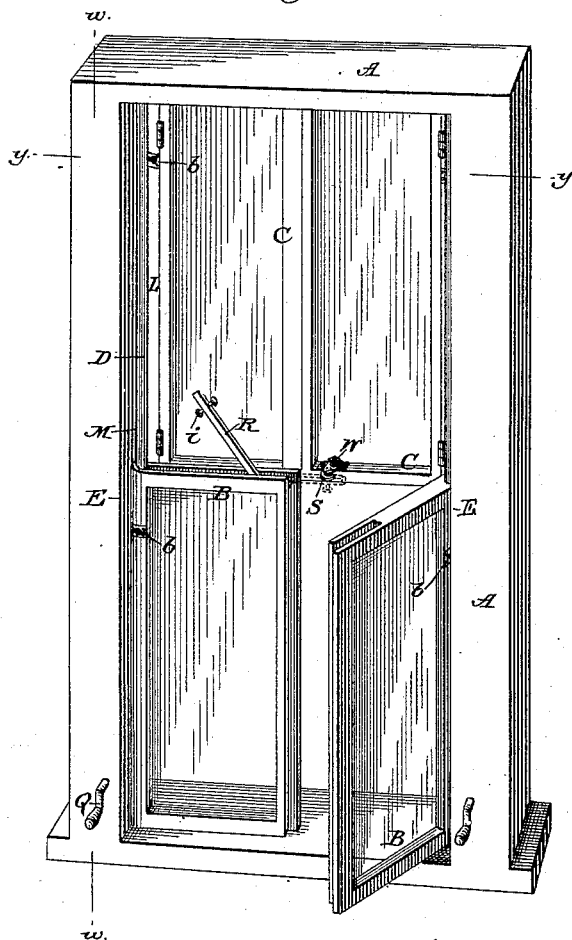


Fig. 2.

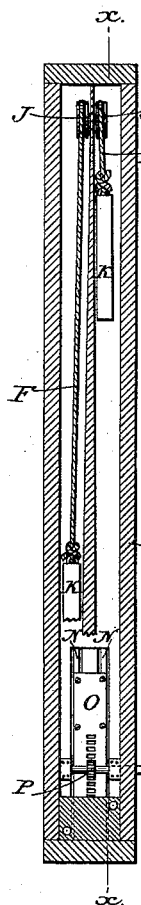


Fig. 3.

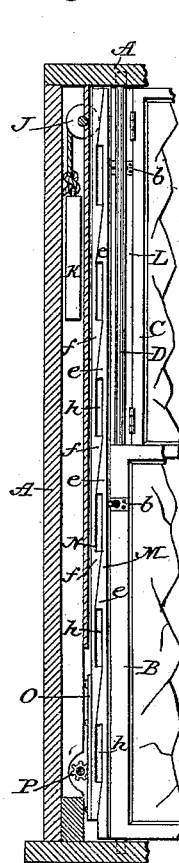


Fig. 4.

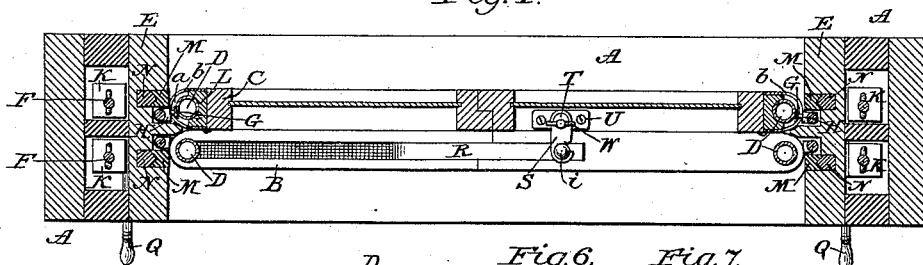


Fig. 5.

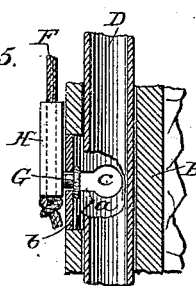


Fig. 6.

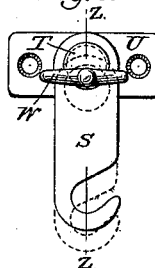
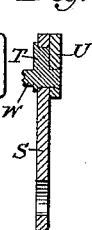


Fig. 7.



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UNITED STATES PATENT OFFICE.

WILLIAM L. SILBEREISEN, OF BROOKLYN, NEW YORK.

HINGED WINDOW-SASH.

SPECIFICATION forming part of Letters Patent No. 385,577, dated July 3, 1888.

Application filed August 3, 1887. Serial No. 246,012. (No model.)

To all whom it may concern:

Be it known that I, WILLIAM L. SILBEREISEN, of Brooklyn, in the county of Kings and State of New York, have invented certain new and useful Improvements in Hinged Window-Sashes; and I do hereby declare that the following is a full and exact description thereof, reference being had to the accompanying drawings, and to the letters of reference marked thereon, making a part of this specification, in which—

Figure 1 is a front elevation in perspective of a window-casing fitted with my invention. Fig. 2 is a vertical section in line *vv* of Fig. 1; Fig. 3, a vertical section in line *xx* of Fig. 1; Fig. 4, a transverse horizontal section in line *yy* of Fig. 1. Fig. 5 is a detached sectional view, on an enlarged scale, of the device for attaching the sash-weight to the hinged sash; Fig. 6, a plan view, on an enlarged scale, of my improved catch and lock; and Fig. 7, a section thereof in line *zz* of Fig. 6.

My invention relates to the construction and arrangement of window-sashes adapted to swing outwardly, and also slide vertically in the window-casing, and has for its object to facilitate, in a simple effective manner, the use of windows which may not only be raised and lowered in their frames and counterbalanced by weights, but will also admit of being swung in or out upon hinges at any height to which they are raised in the casing, and of being locked and fastened in a tight, secure manner, so as to be free from rattling.

It consists in the combination, with window-sashes sliding and turning upon vertical rods, of novel devices, substantially as hereinafter described, for attaching counterbalancing-weights to said sashes, to operate without interference with their swinging movement, and for tightening the sashes in the casing, so as to prevent them from rattling, and also lock and secure them against burglars.

In the accompanying drawings, A represents the frame or casing of a double window, B B its two lower sashes, and C C its two upper sashes.

The corresponding upper and lower sashes, B and C, on each side are hinged severally upon two parallel rods, D D, fixed at top and bottom in the upper and lower bars of the window frame or casing, near to and parallel

with the side bars, E E, of the casing, and which pass through longitudinal perforations in the inner side bars of the sash. (See Figs. 1, 4, and 5.) To obtain the utmost rigidity without undue weight in these hinged rods D D, I prefer to make them tubular, as shown in Figs. 4 and 5.

To permit of an attachment of the ordinary sash-weight cords, F F, to the sashes, thus severally hinged each upon a vertical rod, D, without interfering with the movement of the sash upon its hinge, a horizontal recess, *a*, is cut in the hinged bar of each sash, near to the top thereof, to extend from side to side in a half-circle about the hinge-rod. This recess is made long enough to receive freely the head of a T-shaped lug, G, projecting from a block, H, to which the inner end of the sash-cord F is attached. (See Fig. 5.) The recess *a* is covered by a metallic plate, *b*, having a horizontal slot therein adapted to embrace the shank of the lug, yet allow it free movement, and this slot terminates at one end in an opening, *c*, (see Fig. 5,) sufficiently enlarged to allow the head of the lug G to pass freely through it. By this means the head of the lug is readily inserted into the recess, while the stem of the lug is left free to play in the longitudinal slot as the window swings on its pivot, the enlarged head preventing a disengagement of the lug at any point until the window is swung in one direction to its fullest extent. The sash-cord F, thus attached to the sash by the block H and its lug G, is carried over an upper pulley, J, and made fast to a weight, K, adapted to counterbalance the sash in the customary manner.

When it is desired that either of the sashes shall swing in both directions inward and outward from the casing, the sash is hinged in the customary manner to a strip, L, (see Figs. 1 and 4,) which is itself in turn pivoted upon one of the vertical hinge-rods D, and to which the sash-cord is attached in manner as described.

To form a close tight joint between the sash and its bearings in the window-frame, as well as between the two vertical sashes B C in a double window, I insert a vertical strip, M, longitudinally in a recess in the side bar of the frame, to bear against the inner side bar of the sash, said strip being left free to move freely outward against the sash. (See Fig. 3.) Immediately back of this laterally-moving strip

I insert in the same recess a second parallel strip, N, which is preferably connected with the outer strip, M, by a longitudinal tongue-and-groove joint. (See Fig. 4.) This inner strip is made shorter than the outer strip, and is left free to slide longitudinally up and down over the same.

Upon the opposite contacting faces of the two strips I form a series of opposed inclined surfaces, *eeffff*, with intervening recesses *h h h*, having parallel flat surfaces, (see Fig. 3,) whereby, when the inner strip, N, is moved longitudinally, the movement of its inclined faces *ee* over the opposed inclined faces *ff* of the outer strip, M, will operate to wedge out the latter and force it tightly against the sash.

The inner tightening-strip, N, is moved up and down, as required to tighten or to release the sash, by means of a notched plate, O, at the lower end thereof, (see Fig. 2,) which is engaged by a toothed wheel, P, actuated by a crank, Q, projecting outside of the window-frame. When the vertical tightening-strips are used for both upper and lower sashes, the inner strips, N N, may be both connected to a single notched plate O, to be operated by a single crank Q, as shown in Fig. 2.

The two lower sashes, when lowered and closed, may be fastened and secured by means of a swinging bar, R, hinged in a recess in the top of the upper bar of one of said sashes, to turn down into a recess cut in the top of the upper bar of the other sash, as shown in Figs. 1 and 4, and the sashes are locked and drawn tightly together, so as to make a close joint along the meeting-rail by means of a catch or hook, S, (see Figs. 4 and 6,) pivoted to swing loosely in a horizontal plane upon a pivot consisting of a disk, T, pivoted eccentrically upon a plate, U, by which it is secured to the upper edge of the lower bar of the upper sash in position to permit the catch or hook S to swing out over the top edge of the upper bar of the lower sash and engage a pin or knob, *i*, (see Fig. 4,) on the edge of the swinging lock-bar R when the bar is dropped into its horizontal position to fasten the window, as shown in Fig. 4 and by dotted lines in Fig. 1. The eccentrically-pivoted disk T is turned upon its pivot by a thumb-piece, W, or by a lever projecting therefrom, and by turning the disk the hook is thrown out from and drawn toward said disk, (see dotted lines, Fig. 6, illustrating said movement,) and may be consequently carried out

beyond or drawn into close contact with the knob or catch-pin *i* on the window-sash when swung into position to engage the same, the hook S being swung into position by simply turning it about the disk as its pivotal center. This form of catch turning freely upon an eccentrically-pivoted pin or disk, itself turned by a thumb piece or lever, to throw the swinging hook in and out of position to engage a catch-pin, may evidently be employed to draw and lock together the upper and lower sashes independently of the swinging bar R, as well as in other connections, and I purpose making the same the subject of a separate application for Letters Patent.

Having thus fully described my invention, I claim therein as new—

1. The combination, with a window-sash and its casing, a vertical rod secured in the casing, and upon which the window-sash is pivoted and left free both to swing and to slide longitudinally, and a counterbalancing sash weight and cord mounted in the casing, of a block provided with a T-shaped lug or button and a slotted plate fitted over a recess in the inner edge of the pivoted sash, through which the shank of the lug or button is free to play in a direction transversely to the pivot-rod as the sash turns thereon, substantially in the manner and for the purpose herein set forth.

2. The combination, with the casing of a window and with a sash sliding and turning upon a vertical rod secured in said casing, of a strip fitted in a recess in the casing independently of the sash, to move laterally in and out against the proximate pivoted bar of the sash, a second strip moving longitudinally in said recess against the inner face of the outer strip, and a device, substantially as described, for moving said inner strip, the opposite faces of the two strips being formed with a series of contacting oppositely-inclined surfaces, whereby the longitudinal movement of the inner strip will produce a movement of the outer strip at right angles thereto, substantially in the manner and for the purpose herein set forth.

In testimony whereof I have signed my name to this specification in the presence of two subscribing witnesses.

WM. L. SILBEREISEN.

Witnesses:

A. N. JESBERA,
LELAND M. BURR.