

No. 632,411.

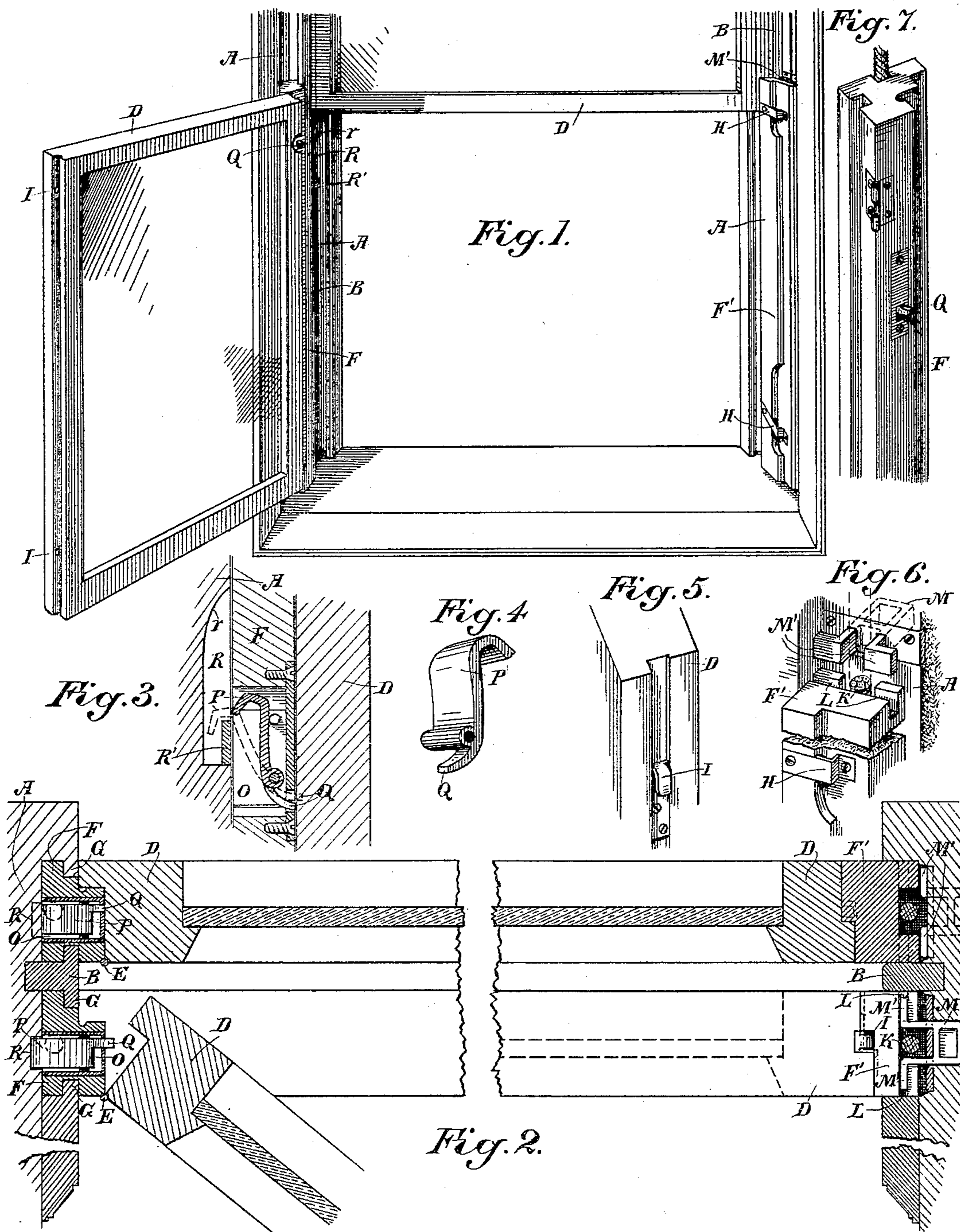
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B. HAUSMANN.

SLIDABLE AND SWINGING WINDOW SASH.

(Application filed Dec. 27, 1898.)

(No Model.)



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# UNITED STATES PATENT OFFICE.

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## SLIDABLE AND SWINGING WINDOW-SASH.

SPECIFICATION forming part of Letters Patent No. 632,411, dated September 5, 1899.

Application filed December 27, 1898. Serial No. 700,340. (No model.)

*To all whom it may concern:*

Be it known that I, BERNARD HAUSMANN, a citizen of the United States, residing in the city and county of San Francisco, State of California, have invented an Improvement in Slidable and Swinging Window-Sashes; and I hereby declare the following to be a full, clear, and exact description of the same.

My invention relates to a mechanism for sliding window-sashes and means for disengaging such sashes so that they are turnable about hinges to swing inwardly for the purpose of obtaining access to the outside of the sash and for other reasons.

My present invention is an improvement upon a patent which was issued to me November 1, 1898, Serial No. 613,152; and it consists in a means for automatically locking the slide to which the sash is hinged into the window-casing or pulley-stile when the sash is opened and similarly unlocking the slide to allow it to move vertically after the sash has been closed.

It also comprises an improved means for arresting and locking the slide against which the sash closes upon the opposite side to prevent its being carried up by the counterweight when the sash has been disengaged from it, and details of construction, which will be more fully explained by reference to the accompanying drawings, in which—

Figure 1 is a view of the window, showing the lower sash open. Fig. 2 is a horizontal section of the window, showing both sashes and attachments in plan. Fig. 3 is a section showing the automatic locking device upon the hinge side and recess in pulley-stile. Fig. 4 is a perspective view of the locking-hook of said device. Fig. 5 is a perspective of the edge of the sash, showing the hook to engage the slide at the detachable end. Fig. 6 is a view of the upper part of the slide and the device for arresting the same. Fig. 7 is a view showing the construction of the hinged slide and the tongue Q.

When the sash is opened, it is desirable to give support to the slide upon the opposite or hinged side to prevent the greater weight of

the sash, having then only one counterbalance-weight acting upon it, from pulling it down, so that the sash will not rest upon and scrape or deface the window-sill. The accomplishment of these results is the object of my present invention.

A A are the pulley-stiles, and B the parting-strips, between which and the exterior stops the upper and lower sashes slide.

The sashes D are hinged, as shown at E, to vertically-movable slides F, and these slides are retained in place, so as not to be pulled out by the weight of the sashes when the latter are opened by having their opposite edges so formed as to be engaged and held in place by the parting-strip B and the stops outside of the sashes, which have tongues or projections G to engage with the slides, and thus prevent the weight of the sash when opened from pulling the slides bodily away from the pulley-stile; but they are at the same time allowed to move freely in a vertical direction when it is desired to raise and lower the sash.

The slides F' upon the opposite side against which the edge of the sash closes are provided with loops H, as shown in Figs. 1 and 6, and the edge of the swinging sash D is provided with downwardly-turned hooks I, which by the slight lifting of the sash are brought directly over the loops H and allowed to drop, so that the sash and slide are at once firmly interlocked. The counterbalance-cord lies in a vertical groove of the slide facing the pulley-stile. When the sash is to be opened about its hinges, it is necessary to first lock the slide F' to prevent its being forced to the top of the window by the counterweight connected with it after the sash has been disengaged from the slide. The upper part of the slide F' has transverse channels L, as plainly shown in Fig. 6.

M is a yoke-shaped piece of metal slidable transversely in and from a recess made for it in the pulley-stile. This yoke has the oppositely-turned lugs M' on its outer ends, and when the yoke has been pulled out, so that these lugs project, as shown in Fig. 6, the transverse channels L of the slide F' will en-

gage with these lugs and will thus lock the slide F' to hold it in place and prevent its moving upwardly. When the sash has been closed and engaged with the slide F', it is released from the interlocking lugs M' by pulling it down. The yoke M is then pushed back into its recess in the pulley-stile to be entirely out of the line of travel of the closed sash, which is free to move vertically and in unison with the slide F'.

Within the opposite side F is formed a chamber O, extending through the thickness of the slide, and within this chamber is fulcrumed a hook P, having a tongue Q projecting at the lower end and in the opposite direction from the hook P at the upper end. A vertical recess R is made in the pulley-stile, the upper end of the recess gradually decreasing in depth until it merges into the face of the pulley-stile, as shown at r. R' is a plate fixed flush with the pulley-stile and across the lower end of this recess in such a position that when the hook P is released it will drop over and engage the plate R' by gravitation. When the sash is in its normal position closed between the slides F F', this hook lies within the chamber O and presents no obstacle to the sliding of the sash, being held in its vertical position by the contact of the closed sash with the tongue Q at the lower end of the hook P.

To open the sash about its hinges, it must necessarily be underneath the yoke M, which is then pulled forward until its lugs M' are in line with the transverse slot L on top of the slide F'. The sash is then moved up until the slot L engages the lugs M', thus holding it in place and preventing the slide from moving upward any farther when disengaged from the sash, the counterweight retaining these parts in engagement. By the momentum of the upward movement of the sash or a slight lift thereon the hook I is disengaged from the loop H of the slide F', and the sash is then opened inwardly. The hinged slide F being raised simultaneously, the locking-hook P is thus brought somewhat above the plate R' in recess R in pulley-stile and will quickly drop over from its vertical position by its own weight and lock into the plate R', all check upon the lower end Q being removed by the part separation of the sash end from the slide F in turning the sash inwardly. This prevents the slide F from being pulled down any farther by the weight of the sash, which is now altogether suspended from this one slide. When the sash is to be closed, it is turned about its hinges toward the slide F and raised sufficiently to allow the hooks I to drop into the loops H on the slide F'. The hook P upon the hinged slide F is by this slight upward movement released from its hold on plate R' and forced back into its vertical position in the chamber O by its contact on the one side with the upward-tapering form or curve P of the recess in the pulley-stile and

also by the contact of its projecting tongue Q upon the opposite side of the slide F with the edge of the sash, which closes in against it. The plate R' is placed at a sufficient height in the pulley-stile to hold the sash a short distance above the window-sill and will thus allow it to turn freely about its hinges without scraping upon or defacing the window-sill.

Both upper and lower sashes are operated in the same manner, it being necessary to first pull down and open the lower sash after it has been originally raised to the point of contact with the projecting yoke M. Then the upper sash is pulled down to the sill and then opened by the same operation.

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

1. The combination of slides, a sash hinged to one of said slides and provided with means for detachably engaging the opposite slide, said last-named slide having a transverse channel in its upper portion, and a yoke slidable horizontally in the pulley-stile and having oppositely-turned lugs to engage the channel in the slide to secure said slide against upward movement.

2. In a window-sash of the character described, guided grooved and shaped slides, to one of which one edge of the sash is hinged, a hook or hooks upon the opposite edge of the sash, and corresponding loops upon the slide with which the hooks engage when the sash is closed, a means for retaining in place and preventing the slide from moving upwardly when the sash has been disengaged therefrom, consisting of a stop or channel upon the slide and a yoke horizontally slidable in the pulley-stile so as to engage with said stop or channel or to be disengaged therefrom.

3. In a window of the character described, guided slides with vertically grooved and shaped sides, a sash hinged to one of said slides adapted to open about its hinges, a recess and a plate fixed in the pulley-stile behind the slide and between the parting-strip and stop, a hook fulcrumed in an open chamber in the slide and adapted to engage the fixed plate by gravitation when the sash is opened, and a tongue extending from the lower end of the hook-plate to contact with the sash when closed.

4. In a window-sash of the character described, guided vertically-movable slides, a sash hinged to one of said slides, means for locking the opposite edge of the sash in engagement with the opposite slide, and a gravity-hook fulcrumed in the slide to which the sash is hinged, having a tongue extending from the lower end with which tongue the sash contacts when closed so as to retain the hook within the slide, a plate fixed in the pulley-stile with which plate the hook automatically engages when the sash is opened about its hinges.

5. In a window-sash of the character described, guided vertically-movable slides, a sash hinged to one of said slides, means for locking said slide to the pulley-stile when the sash is opened about its hinges, and means for holding the opposite slide in place consisting of a yoke slidable transversely in a recess in the pulley-stile and a stop or channel upon

the vertical slide with which said yoke engages when extended.

In witness whereof I have hereunto set my hand.

BERNARD HAUSMANN.

Witnesses:

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