No. 723,530. PATENTED MAR. 24, 1903.

P. O. HULTMARK.

WINDOW.

APPLICATION FILED JUNE 14, 1902.

NO MODEL.

Fig. 1.

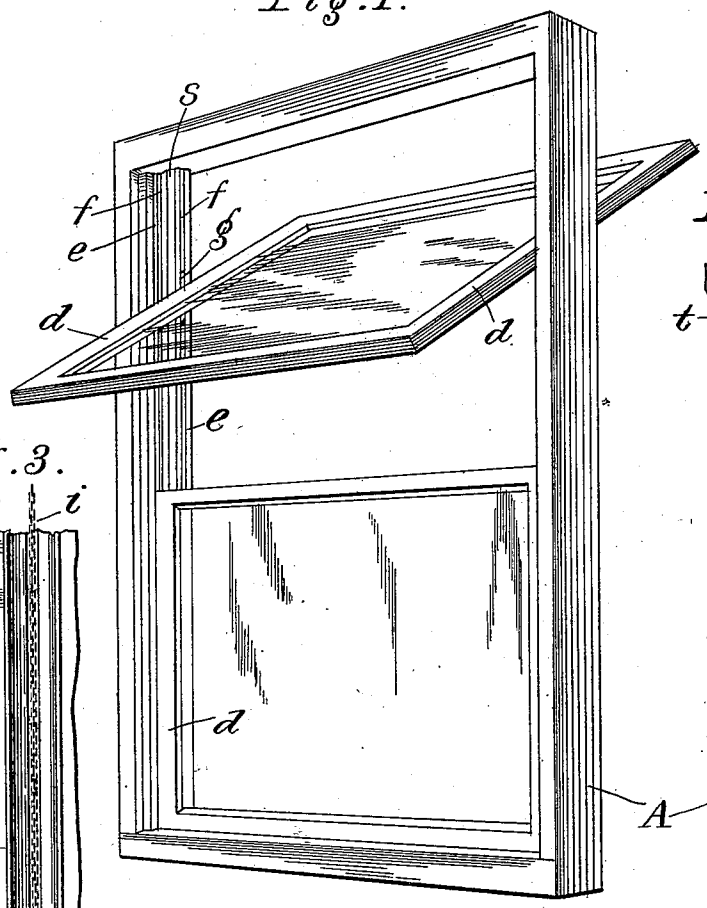


Fig. 4.

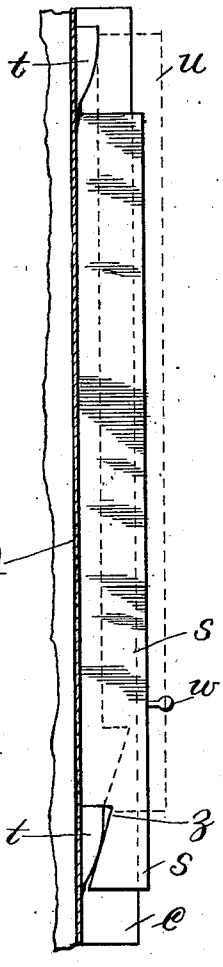


Fig. 3.

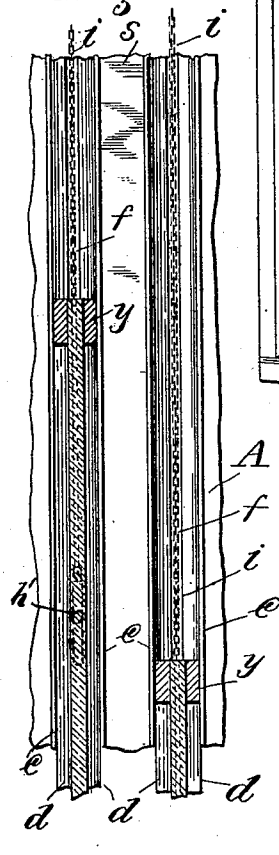
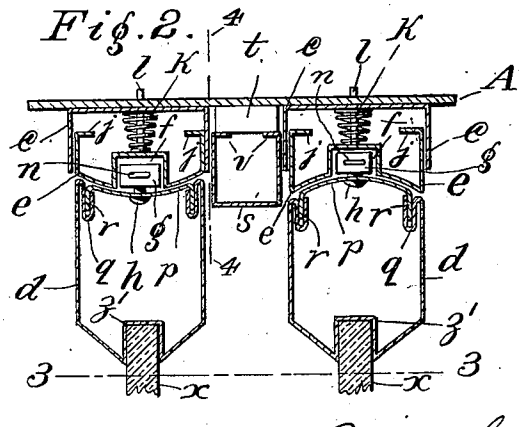


Fig. 2.



Witnesses.
C. Sedgwick
J. M. Howard.

Peter Olof Hultmark Inventor
By his Attorney
A. C. Thayer.

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

UNITED STATES PATENT OFFICE.

PETER OLOF HULTMARK, OF NEW YORK, N. Y., ASSIGNOR TO JOHN T. LEONARD, OF NEW YORK, N. Y.

WINDOW.

SPECIFICATION forming part of Letters Patent No. 723,530, dated March 24, 1903.

Application filed June 14, 1902. Serial No. 111,717. (No model.)

To all whom it may concern:

Be it known that I, PETER OLOF HULTMARK, a subject of the King of Sweden and Norway, and a resident of borough of Bronx, New York city, and State of New York, have invented certain new and useful Improvements in Windows, of which the following is a specification.

My invention relates to windows having the sashes pivoted, so as to be turned over for convenience in washing the outside, the said sashes and the window-frame being of metallic construction, as hereinafter described, reference being made to the accompanying drawings, in which—

Figure 1 is a perspective view of a window constructed in accordance with my improvement with the upper sash partly turned over on its pivots. Fig. 2 is a horizontal section of one side of the frame and parts of the sashes, which are represented as overlapping each other, so that a horizontal line will intersect both, and showing a modification in the construction of the sash-stiles and guideways. Fig. 3 is a detail in vertical section on the line 3 3 of Fig. 2. Fig. 4 is a detail in vertical section on line 4 4 of Fig. 2.

A represents one of the vertical metallic side plates of the window-frame.

c represents vertical channel-bars attached to the plate A and forming parts of guide-rails for the sash *d*.

e represents counterparts to the channel-bars *c*, forming therewith laterally contracting and expanding guide-rails for the sash and having a channel *f* in the front face for a sliding block *g*, carrying a pivot-stud *h*, on which the sash-stile is pivoted and which is suspended by the sash-chain *i*, connected thereto by an eye *n* and running over the usual pulley (not shown) at the top of the window and counterbalanced by the weight *h'*. (Dotted in Fig. 3.)

The sides of the counterpart channel-bar *e* are telescopically fitted within the sides of bar *c*, and the inner edges are flanged at *j* for stiffening them.

A series of taper spiral springs *k* are set between parts *c* and *e* of the guideway, with stud-pins *l* to stay them, for allowing parts *e* to be thrust back for admitting the sash and for returning said parts *c* to and maintaining them in the normal position. The stud-pins *l* are attached to the part *e* of the guideway.

In Fig. 2 one of the counterparts *e* of the guideway is represented as having a concave exterior of the part intermediate of the sides with a corresponding convex exterior of the edge of the sash-stile, and the other of said counterparts and the corresponding part of the sash-stile are of reverse forms, showing that in these respects the forms are immaterial. While the edge members *p* of the stiles *d* may be of integral connection with the sides, it is preferable to connect them detachably for ready renewal from time to time on account of the wear they are subject to against the parts *e* of the guideway. Wherefore I make the stiles in two parts, with edges of the sides flanged inward and outward and forming deep channels at *q*, and provide corresponding flanges *r* of the members *p* fitting therein, so as to be sufficiently secured by friction and paint, and thus am enabled to renew said parts at will. The parts *e* of the guideway also subject to wear by the rubbing of the stiles against them are also readily removable for renewal when required.

The middle stop *s* is relied on to maintain the sashes in the vertical line of the slideways by projecting a suitable extent between the stiles, as shown in Fig. 2, and it is fitted in a retracting arrangement for allowing it to be pressed back to permit the sash to swing when access to the outside is desired for cleaning purposes. For this purpose it is fitted to slide to a limited extent up and down the inclined blocks *t*, set behind it on the frame-plate A, so that when shifted upward it projects, as shown in Fig. 2 and indicated by the dotted line *u*, Fig. 4, and when set in the lower position it recedes, as in the full lines of Fig. 4. Near the lower end said stop is notched at *z* in the back for clearance for the block *t* when the stop is to be pressed back. The normal position for the stop is that shown in full lines in Fig. 2 and dotted lines in Fig. 4.

Any approved means may be employed for securing the stop in its position. A thumb-stud *w* is applied to it for application of the

fingers for sliding it up and down. This stop is also a sheet-metal structure, being in the form of a channel-bar with inwardly-flanged margins *v* of the sides for stiffening purposes. The inner edges of the sash-stiles are grooved at *z'* for reception of the glass panes *x*, which may be inserted through a slot in the meeting-rail *y*.

What I claim as my invention is—

1. The combination in guideways for window-sash, of the metallic channel-bar attached to the window-frame, another metallic channel-bar telescopically fitted in said channel-bar, and provided with the groove for the pivot-block, and the intermediate springs and spring-controlling stud-pins.

2. The combination with the window-sash, of the laterally-adjusting guideways for the sash, having the guide-grooves for the pivot-blocks, said blocks applied in said grooves, sash pivoted to said blocks, and the counterbalance weights and cord connected to said blocks.

3. The combination with the window-sash, of the laterally-adjusting guideways for the sash having the guide-grooves for the pivot-blocks, said blocks applied in said grooves and having the sash pivoted to them, counterbalance weights and cords connected to said blocks, and the laterally expanding and contracting middle stop.

Signed at New York city this 24th day of May, 1902.

PETER OLOF HULTMARK.

Witnesses:
C. SEDGWICK,
J. M. HOWARD.