No. 723,038. PATENTED MAR. 17, 1903.

W. SCHAAR.

WINDOW.

APPLICATION FILED JULY 1, 1902.

NO MODEL.

Fig. 1,

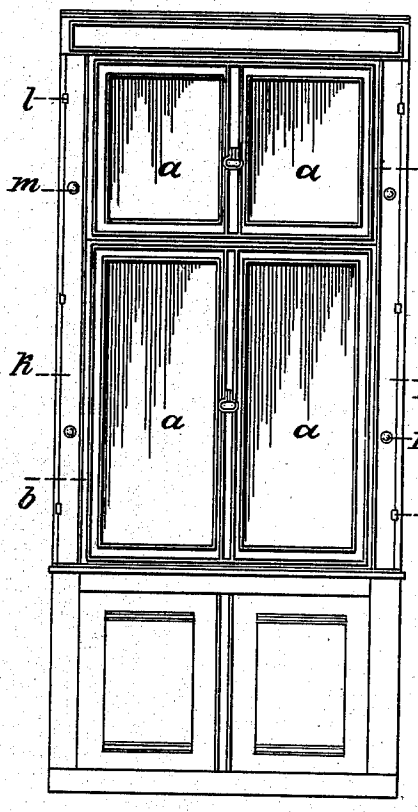


Fig. 3,

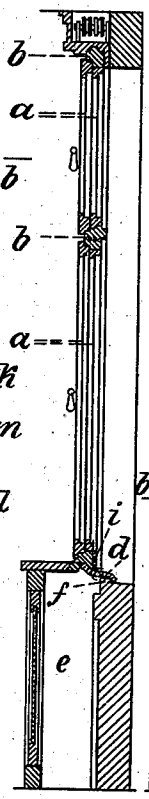


Fig. 2,

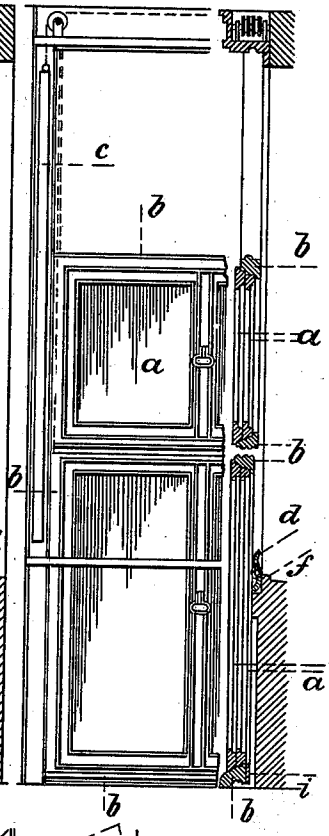
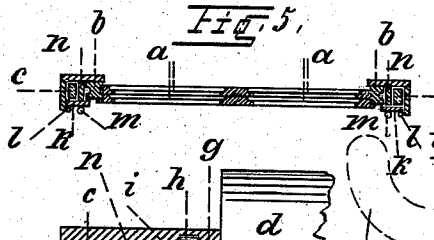


Fig. 4,

Fig. 5,



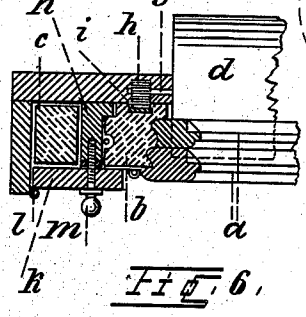


Fig. 6,

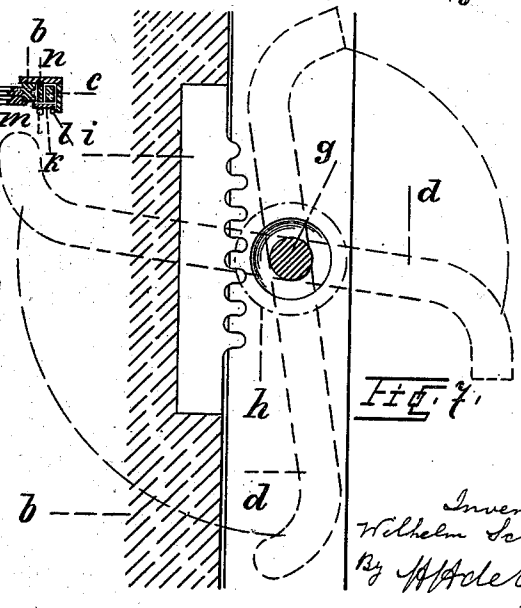


Fig. 7,

Witnesses:
A. Britt.
M. White

Inventor:
Wilhelm Schaar,
By Howson & Howson
Attorneys.

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

UNITED STATES PATENT OFFICE.

WILHELM SCHAAR, OF BERLIN, GERMANY.

WINDOW.

SPECIFICATION forming part of Letters Patent No. 723,038, dated March 17, 1903.

Application filed July 1, 1902. Serial No. 113,979. (No model.)

To all whom it may concern:

Be it known that I, WILHELM SCHAAR, a subject of the King of Prussia, German Emperor, residing at 39 Chausseestrasse, in the city of Berlin, Kingdom of Prussia, and German Empire, have invented a certain new and useful Improvement in Windows, of which the following is a specification, such as will enable others skilled in the art to which it appertains to make and use the same.

The object of my invention is to provide a window the sash of which is so hung and secured in the frame that the same may be lowered down into the cavity beneath the sill of the window-frame; and to such ends the same consists, in substance, of a plurality of sashes provided with any suitable number of glass panes hinged at the sides in a sliding frame slidingly mounted in the main frame of the window and a counterbalance weight or weights for the sliding frame, the main frame having pivoted therein a vibrating sill or tightening-plate adapted when the window is fully raised to close the opening of the sill-cavity, through which the device is lowered into the wall, and to permit the window to pass by the same when pushed downward, one of the side pieces of the sliding frame being provided with a rack-bar and the pivot of the vibrating sill or tightening-plate with a pinion meshing therewith to bring about such movement.

Said invention is fully shown and described in the following specification, of which the accompanying drawings form a part, wherein similar letters of reference designate like or equivalent parts wherever found throughout the several views, and in which—

Figure 1 is a front view in elevation of my improved form of window in the closed position. Fig. 2 is a like view of one side thereof, showing the same in the open position, the front of the wall-cavity being moved in order to better show the construction. Fig. 3 is a side view, in vertical section, of Fig. 1; and Fig. 4 is a similar view of Fig. 2. Fig. 5 is a view of such window in horizontal cross-section. Fig. 6 is a detail view, on an enlarged scale, of one side thereof, taken in horizontal section, showing the sill or tightening-plate and its actuating mechanism; and Fig. 7 is a detail view, on a still larger scale, partially in section and partially in dotted lines, of the mechanism for actuating such sill or tightening-plate.

Referring to the drawings, the window proper consists of the side sections having the panes *a a* and hinged at the sides to the side pieces of the slide-frame, as shown in Fig. 6, so as to be swung out upon such hinges in the same manner as a door, the slide-frame reciprocating up and down in the main frame when the sashes are shut and secured in place therein, this reciprocation being facilitated by a counterbalance-weight *c*, secured thereto in the well-known manner by a cord-and-pulley arrangement, the weight *c* being concealed in a cavity of the main frame, as shown in Figs. 2 and 6.

Pivoted at either end in the main frame and extending horizontally across the same just below the rear edge of the stationary sill *d'* is a vibrating sill or tightening-plate *d*, usually of the elongated **S** or reversed curve shown in Figs. 3 and 4 and more plainly in dotted lines in Fig. 7, one of the pivot-pins *g* of which is provided with a pinion *h*, meshing with a rack-bar *i*, which is rigidly secured to, and the teeth of which project outward from, the side bar of the sliding frame *b*, and by the coaction of such pinion and rack-bar it will be seen that the sill or tightening-plate *d* will upon the last portion of the upward movement of the sliding frame *b* be vibrated into the position shown in Fig. 3, so as to close the frame-receiving cavity by contact on the outer edge with the top of the rear portion of the sill and by contact on the inner side with the bottom edge of the sliding frame, and that the instant the sliding frame is pushed downward in the main frame such plate *d* will be vibrated into the open position, (shown in Fig. 4,) so as to permit the passage down by the same of such frame *b*, the rack-bar *i* being of just sufficient length to bring about such movement and no more as the sliding frame passes down into the cavity *e*, and it will be seen that when closed the joint is made tight against wind and rain by reason of the curved shape in cross-section of such plate *d* and by the coaction therewith of a groove in the bottom of the sliding frame *b* and the ridge-like

projection *f* of the outer portion of the sill of the main frame.

In order to be able to effect even extensive repairs of the improved sash-window without difficulty and with a view to rigidly secure the sash-window in any position desired and to effect an absolute tight closing of the joint between the slide-frame and the window-frame, even against the pressure of a strong wind blowing against the window, the guides *k* for the slide-frame *b* are connected to the main window-frame by hinges *l*. These guides *k* are ordinarily secured in their normal position by screw-buttons *m*, which are screwed into the narrow partition *n*, Fig. 6, and through the said guides *k*. The partition *n*, which separates the space for the counterweight *c* from the slide-frame *b*, is of such width that when the screws *m* are tightened the guides *k* are pressed tightly against the slide-frame *b*, thereby preventing displacement of the latter and securing a tight joint and a perfect closing of the latter, the wind being thereby prevented from entering at the slide-frame, such screws being of course loosened when it is desired to reciprocate the slide-frame. If the screws *m* are taken out from the guides *k* or if they are sufficiently screwed back into the said guide to become disengaged from the partition *n* and by then swinging the guides *k* back upon their hinges *l*, the entire device may be taken out from the main frame.

What I claim, and desire to secure by Letters Patent, is—

1. The combination with a main window-frame provided with a cavity dividing the sill thereof into an inner and outer portion, of a window-frame slidingly mounted in the main frame adapted to be reciprocated in and out of the sill-cavity, a sill or tightening-plate pivoted adjacent to the cavity, a pinion secured to the plate, and a rack-bar adapted to engage with the pinion, substantially as shown and described.

2. The combination with a main window-frame provided with a sill-cavity dividing the sill thereof into an outer and an inner portion, of a sliding frame mounted in the main frame so as to be capable of vertical reciprocation in and out of the sill-cavity, an S-shaped sill closing or tightening plate pivoted at the ends in the main frame adjacent to the sill adapted when substantially horizontal to contact with the bottom of the sliding frame on the inner side and with the top of the sill on the outer side, a pinion secured to the plate, and a rack-bar secured to the sliding frame adapted to coact with the pinion so as to vibrate the sill or tightening-plate, substantially as shown and described.

3. The combination with a main window-frame provided with a sill-cavity dividing the sill thereof into an outer and an inner portion, of a sliding frame mounted in the main frame so as to be capable of vertical reciprocation in and out of the sill-cavity, a counterbalance-weight in actuating connection with the sliding frame, an S-shaped sill closing or tightening plate pivoted at the ends in the main frame adjacent to the sill adapted when substantially horizontal to contact with the bottom of the sliding frame on the inner side and with the top of the sill on the outer side, a pinion secured to the plate, and a rack-bar secured to the sliding frame adapted to coact with the pinion so as to vibrate the sill or tightening-plate, substantially as shown and described.

In witness whereof I have hereunto set my hand in presence of two witnesses.

WILHELM SCHAAR.

Witnesses:
WOLDEMAR HAUPT,
HENRY HASPER.