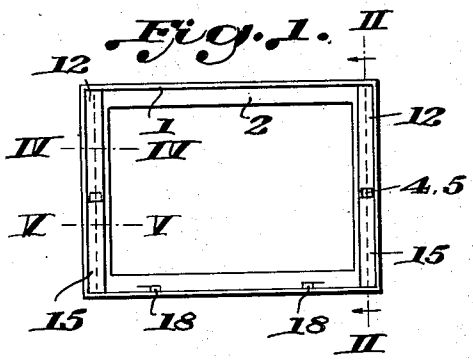
Jan. 9, 1940. E. S. PERSSON 2,186,270

WINDOW HAVING COUPLED SASHES

Filed Nov. 10, 1937

Fig. 1.



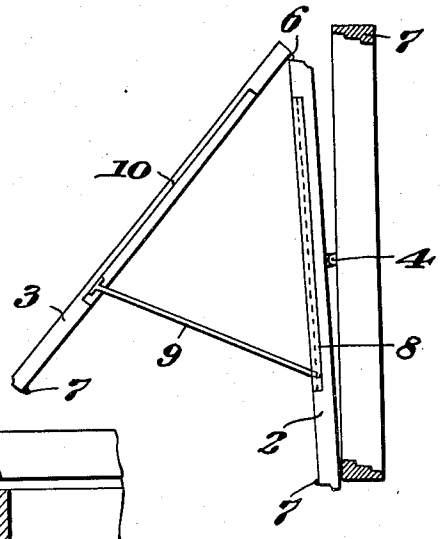
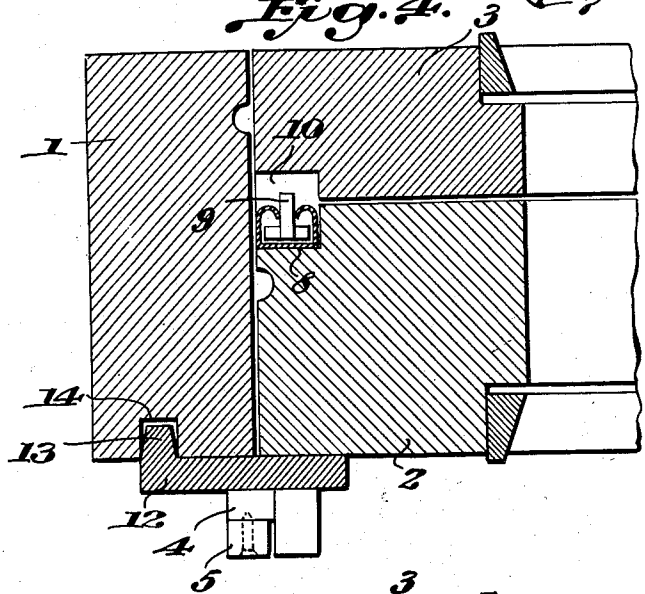


Fig. 3.

Fig. 4.



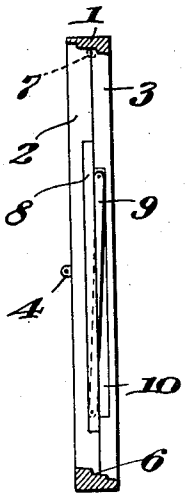


Fig. 2.

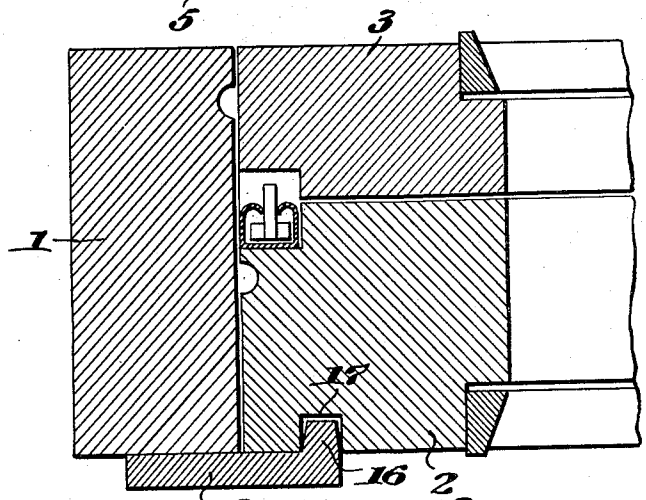


Fig. 5.

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WINDOW HAVING COUPLED SASHES

Eric Sigfrid Persson, Malmo, Sweden

Application November 10, 1937, Serial No. 173,903
In Sweden February 20, 1937

4 Claims. (Cl. 20—53)

My present invention relates to improvements in windows having coupled sashes.

The main object of my invention is to provide a window of the type referred to, and of such design as to make both surfaces of the two panes of the window easily available from within the room in order to facilitate the cleaning and polishing of said surfaces.

With this main object in view, the window according to my invention is characterized by the fact, that the sash positioned on the outside when the window is in its closed position, is hingedly connected to the inner sash at the lower edge of said sashes, said inner sash being rotatable together with the outer sash, which is mounted to be rotated in the window-opening about horizontal pivots provided approximately at the middle of the height of the window, or preferably slightly below said level, the rotation of the combined sashes covering approximately half a turn, with the upper edge of the window moving inwards and downwards, so as to position the two sashes substantially inside the window-opening, the outer sash being in this position separable from the inner sash thanks to its hinged connection to said last mentioned sash, said hinged connection lying in this position of the window, at the upper edge thereof.

Another feature of the invention comprises the fact that there are recesses in the surfaces of the vertical members of the window-sashes facing each other, said recesses housing struts pivoted at one end to one of the sashes, and at the other end to the other sash, and serving to maintain the outer sash separated from the inner sash, when the window occupies its turned-over position.

An embodiment of the invention is illustrated, by way of example, in the accompanying drawing, in which:

Fig. 1 shows a window according to the invention in closed position and viewed from within the room,

Fig. 2 shows, on an enlarged scale, a vertical sectional view on line II—II of Fig. 1, with the window in its closed position,

Fig. 3 shows a similar vertical sectional view with the window turned-over, and with the outer window-sash separated from the inner one,

Fig. 4 shows, on an enlarged scale, a detail horizontal sectional view through the window-frame and the window-sashes on line IV—IV of Fig. 1, and

Fig. 5 shows a similar sectional view on line V—V of Fig. 1.

In the drawing, 1 is a window-frame, in the opening of which a window having coupled sashes 2 and 3 is rotatable about a horizontal axis in a direction to move its upper edge into the room. The window is rotatable on hinges comprising two horizontal pivot studs 4 secured to the inner sash 2, and bearing means 5 for said studs 4 secured to the window-frame 1. The pivot studs 4 are positioned approximately in the plane of the inner surface of the inner sash 2 and slightly below the central line between the upper and lower edges of the window, so as to enable the coupled sashes to be swung round approximately half a revolution about the pivot studs 4, the upper edges of the sashes thereby moving inwards and downwards and the window being positioned substantially inside the window-opening upon completion of said swinging movement.

The two coupled window-sashes 2, 3 are connected to each other by means of hinges 6 at the lower edge of the window when closed (i. e., the edge parallel to the axis of rotation 4—4 and nearest to said axis), and at the opposite edges the sashes are coupled by means of coupling catches 7 adapted to be operated by pins, or shafts, projecting from the joint between the two sashes. The two sashes 2, 3 are provided in those members perpendicular to the axis of rotation 4—4, and in the surfaces of said members facing each other, with longitudinal recesses 8, 10 in which struts 9 are positioned, said struts being pivotally and displaceably connected at one end to one of the sashes and pivotally connected at the other end to the other sash, and serving to retain the outer sash 3 in a position separated from the inner sash, as shown in Fig. 3.

The two vertical joints between the window-frame and the sashes are covered by tightening, or caulking, ribs the portions 12 of said ribs situated above the pivot studs 4 being fixedly connected to the inner sash 2 and, for instance, provided with a longitudinal projection, or a flange, 13 (Fig. 4) extending into a groove 14 provided in the window-frame, while the portions 15 of said tightening ribs are secured to the frame 1 and have a longitudinal projection 16 engaging a groove 17 in the inner sash 2 (Fig. 5). The window is retained in a closed position by means of a locking device 18 or an espagnolet.

It should be obvious from the above description that, when desirable to clean or polish the window, said window ought to be rotated approximately 180° on its horizontal studs 4, the outside of the outer pane then facing towards the interior of the room and being easily accessible from

within said room. When it is desired to polish the surfaces of the panes facing each other in the two sashes, the catches 7 are released and the outer sash 3 separated from the inner one by rotating it upwards about the hinges 6, as shown in Fig. 3, the surfaces of the panes facing each other then being easily polished from within the room.

I claim:

1. A window comprising a frame, an inner sash adapted to fit in said frame, lugs extending inwardly from said frame and sash, studs connecting the inner ends of said lugs for connecting the sash to said frame for pivotal movement about an axis spaced inwardly from said frame, an outer sash juxtaposed to said inner sash, a hinge connecting the lower edges of said inner and outer sashes, said lugs being positioned at a point slightly below the middle of the height of said sash and frame so that both of said sashes may be rotated as a unit about the pivotal axis through an angle of approximately 180° to bring both sashes on the inner side of the room with the hinge at the top, and means for detachably coupling the non-hinged horizontal edges of said sashes to enable them to be separated when on the inner side of the frame for access to the facing surfaces of the sash.

2. A window comprising a frame, an inner sash adapted to fit in said frame, lugs extending inwardly from said frame and sash, studs connecting the inner ends of said lugs for connecting the sash to said frame for pivotal movement about an axis spaced inwardly from said frame, an outer sash juxtaposed to said inner sash, a hinge connecting the lower edges of said inner and outer sashes, said lugs being positioned at a point slightly below the middle of the height of said sash and frame so that both of said sashes may be rotated as a unit about the pivotal axis through an angle of approximately 180° to bring both sashes on the inner side of the room with the hinge at the top, and means for detachably coupling the non-hinged horizontal edges of said sashes to enable them to be separated when on the inner side of the frame for access to the facing surfaces of the sash, the vertical members of said sashes having recesses in the surfaces facing each other and struts housed in said recesses, said struts being operable to hold said sashes spaced apart when uncoupled.

3. A window comprising a frame, an inner sash adapted to fit in said frame, pivot means secured to said frame and for connecting the sash to said frame for pivotal movement about a horizontal axis, an outer sash juxtaposed to said inner sash, a hinge connecting the lower edges of said inner and outer sashes, said pivot means being positioned at a point slightly below the middle of the height of said sash and frame so that both of said sashes may be rotated as a unit about the pivotal axis through an angle of approximately 180° to bring both sashes on the inner side of the room with the hinge at the top, and means for detachably coupling the non-hinged horizontal edges of said sashes to enable them to be separated when on the inner side of the frame for access to the facing surfaces of the sash.

4. A window comprising a frame, an inner sash adapted to fit in said frame, pivot means secured to said frame and for connecting the sash to said frame for pivotal movement about a horizontal axis, an outer sash juxtaposed to said inner sash, a hinge connecting the lower edges of said inner and outer sashes, said pivot means being positioned at a point slightly below the middle of the height of said sash and frame so that both of said sashes may be rotated as a unit about the pivotal axis through an angle of approximately 180° to bring both sashes on the inner side of the room with the hinge at the top, and means for detachably coupling the non-hinged horizontal edges of said sashes to enable them to be separated when on the inner side of the frame for access to the facing surfaces of the sash, the vertical members of said sashes having recesses in the surfaces facing each other and struts housed in said recesses, said struts being operable to hold said sashes spaced apart when uncoupled.

ERIC SIGFRID PERSSON.