Feb. 1, 1938. J. TAKACH 2,107,192

DOUBLE SLIDE WINDOW

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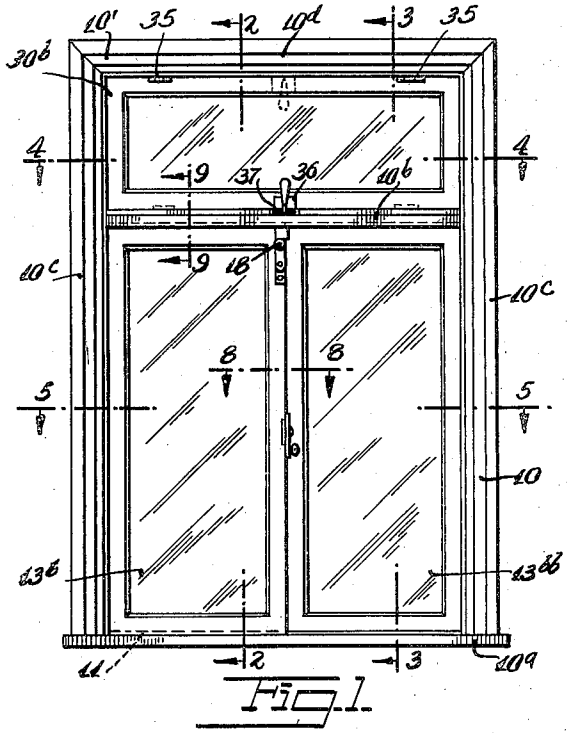


Fig. 1.

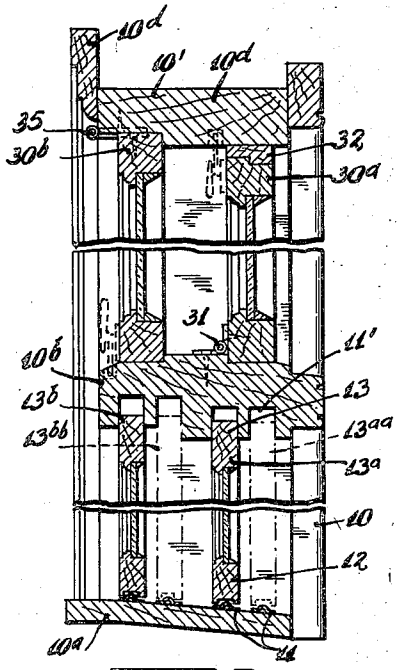


Fig. 2.

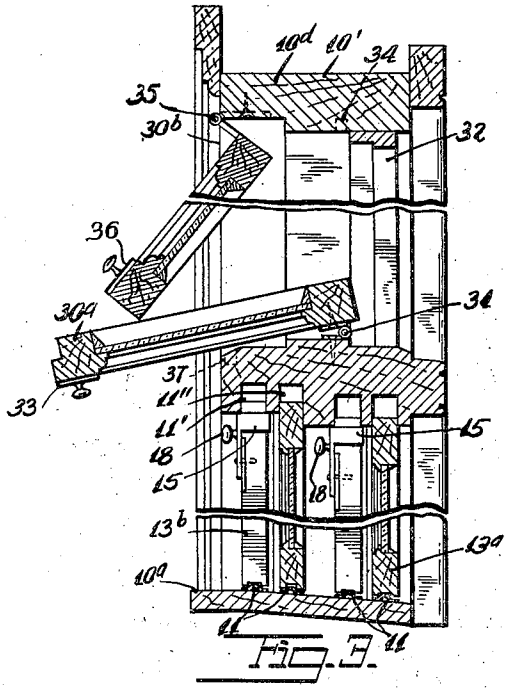


Fig. 3.

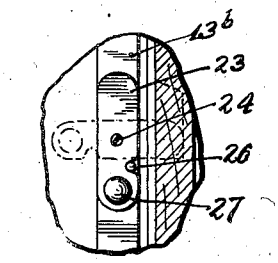


Fig. 3A.

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DOUBLE SLIDE WINDOW

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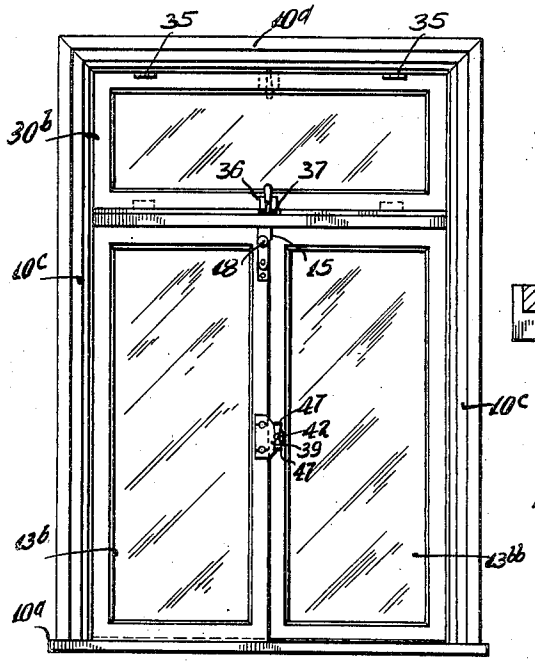


Fig. 10.

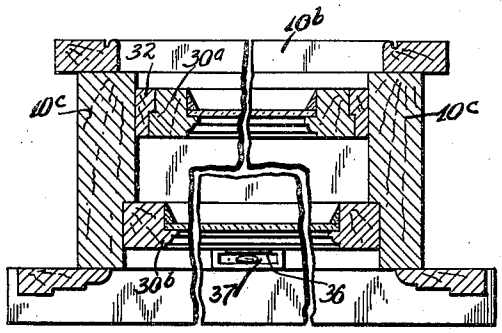


Fig. 4.

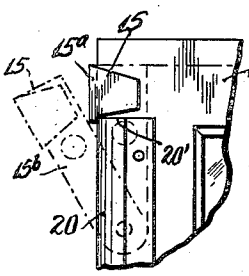


Fig. 7.

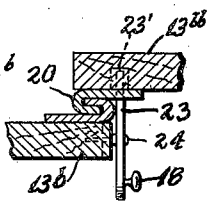


Fig. 8.

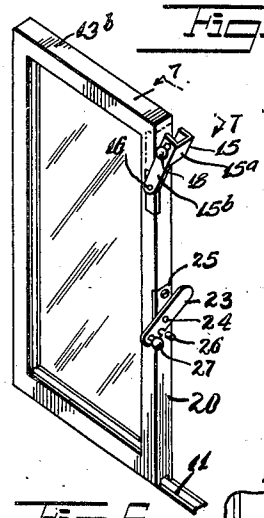


Fig. 6.

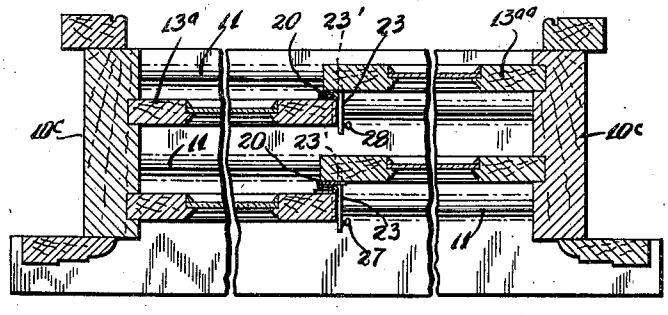


Fig. 5.

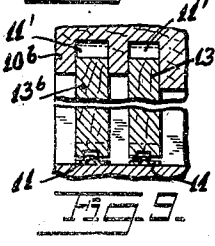


Fig. 9.

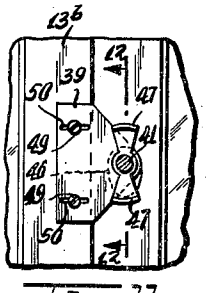


Fig. 11.

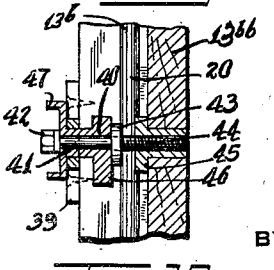


Fig. 12.

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UNITED STATES PATENT OFFICE

2,107,192

DOUBLE SLIDE WINDOW

Julius Takach, Flushing Heights, Long Island, N. Y.

Application January 11, 1937, Serial No. 119,979

4 Claims. (Cl. 20—52)

This invention relates to new and useful improvements in a double slide window.

The invention has for an object the construction of a double slide window which is characterized by a vertical window frame, sash tracks on the top side and the bottom arm of the frame, and sashes arranged on these tracks in a particular manner.

A further object of this invention is to arrange the top portion of the sashes to work in grooves in the top arm of the frame, and to provide elements on the sashes for engaging the frame to hold the sashes on the tracks, and movable to positions which permit said sashes to be moved further into the grooves when desired so that they are removable from the tracks.

Still further the invention proposes to arrange the sashes in adjacent pairs, the elements of each pair capable of sliding past each other, or to be extended across the window frame.

Another one of the objects of this invention is to arrange the sashes within the window frame in two pairs, namely a front pair, and a rear pair.

The invention also contemplates the provision of a transom arranged in the top of the window frame and having transom door elements each adapted to pivot to an open position in the same direction.

Another one of the objects of this invention resides in the provision of a means for holding the sash elements of each pair of sashes in an open position.

Still further the invention contemplates an arrangement which will draw the sash elements of each pair of sashes together laterally while forcing them apart endwise so as to firmly lock them within the window frame.

For further comprehension of the invention, and of the objects and advantages thereof, reference will be had to the following description and accompanying drawings, and to the appended claims in which the various novel features of the invention are more particularly set forth.

In the accompanying drawings, forming a material part of this disclosure:—

Fig. 1 is a front elevational view of a double slide window constructed according to this invention.

Fig. 2 is a fragmentary vertical sectional view taken on the line 2—2 of Fig. 1.

Fig. 3 is a fragmentary enlarged sectional view taken on the line 3—3 of Fig. 1.

Fig. 3a is a fragmentary enlarged detailed view of the central edge portion of one of the sashes as seen in Fig. 3, this view illustrating the portion which is broken away in Fig. 3.

Fig. 4 is a fragmentary horizontal sectional view taken on the line 4—4 of Fig. 1.

Fig. 5 is a fragmentary horizontal sectional view taken on the line 5—5 of Fig. 1.

Fig. 6 is a perspective view of one of the sash elements per se.

Fig. 7 is an edge elevational view of Fig. 6 looking in the direction of the line 7—7 of Fig. 6.

Fig. 8 is a fragmentary sectional view taken on the line 8—8 of Fig. 1.

Fig. 9 is a fragmentary vertical sectional view taken on the line 9—9 of Fig. 1.

Fig. 10 is a front elevational view of a double slide window constructed according to a modification of this invention.

Fig. 11 is a fragmentary enlarged detailed view of a portion of Fig. 10.

Fig. 12 is a sectional view taken on the line 12—12 of Fig. 11.

The double slide window, according to this invention, comprises a window frame 10 having a bottom arm 10a, a top arm 10b, and side arms 10c. Sash tracks 11 are mounted upon the top side of the bottom arm 10a. Window sashes 12 are slidably mounted on these tracks 11 and in grooves 13 formed in the top arm 10b. These sashes are arranged in pairs. There is a front pair 13a, 13aa, and a rear pair 13b, 13bb. Each pair of sashes has sash elements which are adapted to be moved to a position in which they are superimposed on each other when viewed in front elevation, when the window is open, or they may be moved to a position in which they are adjacent to each other (as shown in Fig. 1) and then the window is closed.

An element 15 is mounted on each sash element and is adapted to engage the top arm 10b of the window frame to hold the sash on the track 11. These elements 15 are pivotally supported by pintles 16 so that they may be pivoted slightly downwards as shown by the full lines in Fig. 6. Then the window sash element is free and may be slightly lifted up further into the grooves 11'. When thus lifted the bottom of the sash element may then be swung out and disengaged from the track 11.

Each element 15 comprises a body portion 15a which is of channel form and which may engage around three sides of the sash. From this body portion a lug portion 15b projects downwards along one face of the sash element. It is by this lug portion that the element 15 is pivotally mounted. The front side of the element 15 is

provided with a knob 18 by which it may easily be gripped to be moved from one position to the other. The dotted line position in Fig. 6 illustrates the position in which the element 15 prevents the sash element from being disengaged from the track 11.

The adjacent edges of the sash elements of each pair of sashes, when the sashes are closed, have weather strips 20 mounted thereon and cooperative with each other. These weather strips are of channel shape in transverse cross sections as may be seen from an inspection of Fig. 5. When the sash elements of a pair of sashes are in the closed position the arms of these weather strips engage each other and form a weather tight joint. These weather strips extend from a point 20' slightly below the element 15 downwards completely to the bottom of the sash element.

A means is provided for holding the sash elements of each pair of sashes closed. This means consists of a bar 23 which is pivotally mounted by a pintle 24 upon an inner edge of one of the sash elements. This pintle 24 is mounted on a bracket 25 secured to the sash element. This bracket 25 has a projecting pin 26 which limits pivoting of the bar 23 to the vertical and from the vertical in one direction. A knob 27 is attached to the bar 23 by which the bar may be moved. In the vertical position of the bar 23 the holding means is inoperative and the sash elements may be moved to an open position. When the bar 23 is pivoted to a position as shown in Figs. 6 and 8 it will engage into a groove 23' formed in the adjacent sash element and so hold the sash elements against relative motion.

The frame 10 has a top extended portion 10' which is formed by the arm 10^b, a top arm 10^d, and the side arms 10^c. This extended portion forms a frame for a transom. There are transom elements 30^a and 30^b hingedly mounted at spaced positions within said frame. The transom element 30^a is substantially above the front pair of sashes and the rear transom element 30^b is substantially above the rear pair of sashes. The front transom element 30^a is supported by a hinge 31 connected with a bottom edge thereof by which the transom element is hingedly supported so as to be openable when the top edge is drawn inwards. In the closed position the transom element 30^a engages a strip frame 32 mounted within the transom frame. This transom is provided with a lock 33 cooperative with a keeper 34 mounted on the transom frame. The rear transom element 30^b is supported by a hinge 35 connected with a top edge and the frame. This transom element 30^b is also provided with a lock 36 cooperative with a keeper element 37 on the frame by which it may be locked in the closed position.

In Figs. 10–12 inclusive, a modification of the invention has been disclosed which distinguishes from the prior form merely in the means for holding the sash elements locked. This means comprises a bracket 39 attached upon one of the sash elements and rotatively supporting a tubular member 40. A stem 41 rotatively engages through the tubular member 40. This stem has a head 42 by which it may be turned. Upon the inner portion of the stem there is a flange 43 which prevents the stem 41 from sliding out of the tubular member 40.

The inner end of the stem 41 is provided with a threaded portion 44 which threadedly engages a bracket 45 upon the other sash element. The tubular member 40 has a cam 46 upon its inner end and projecting fingers 47 on its outer end. The tubular member 40 may be turned manually by gripping the fingers 47, to pivot the cam to the position indicated by the dot and dash lines in Fig. 11 to force the sash elements apart. The bracket 39 is loosely mounted on the sash element so as not to interfere with the operation of the cam 46. This loose mounting is obtained by studs 49 mounted on the sash element and engaging through slots 50 formed in the bracket 39.

The screw 44 is capable of forcing the sash elements together laterally. This lateral action is simultaneous with the endwise action of the cam 46. The tubular member 40 is slidable in the bracket 39 and is rotatively mounted on the stem 41. This permits the screw portion 44 to be engaged into and removed from the bracket 45. As shown in Fig. 12 the screw 44 is engaging the bracket 45 and drawing the sashes together laterally to compress the weather strips 20 between the sashes. The handles 47 may be turned to cause the cam 46 to simultaneously force the sash elements endwise apart from each other so that they tightly engage against the side arms 10^c of the window frame. Thus the sashes are locked, and the construction is weatherproof.

While I have illustrated and described the preferred embodiments of my invention, it is to be understood that I do not limit myself to the precise constructions herein disclosed and the right is reserved to all changes and modifications coming within the scope of the invention as defined in the appended claims.

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

1. A double slide window comprising a vertical window frame, sash tracks on the top side of the bottom arm of said frame, sashes slidable on said tracks and in grooves in the top arm of said frame, and elements on said sashes for engaging said frame to hold said sashes on said tracks and movable to a position which permits said sashes to be moved further into said grooves so that they are removable from said tracks.

2. A double slide window comprising a vertical window frame, sash tracks on the top side of the bottom arm of said frame, sashes slidable on said tracks and in grooves in the top arm of said frame, and elements on said sashes for engaging said frame to hold said sashes on said tracks and movable to a position which permits said sashes to be moved further into said grooves so that they are removable from said tracks, and means for drawing said sashes together laterally and forcing them apart endwise.

3. A double slide window comprising a vertical window frame, sash tracks on the top side of the bottom arm of said frame, sashes slidable on said tracks and in grooves in the top arm of said frame, and elements on said sashes for engaging said frame to hold said sashes on said tracks and movable to a position which permits said sashes to be moved further into said grooves so that they are removable from said tracks, and means for drawing said sashes together laterally and forcing them apart endwise, comprising a bracket loosely mounted on one of the sash elements and supporting a tubular member which in turn supports a stem, said stem being provided with a threaded portion engaging a bracket on the other sash element by which the sash elements may be drawn together laterally, and said tubular member being provided with a cam engaging against

one edge of the sash element for forcing the sash elements endwise apart from each other.

4. A double slide window comprising a vertical window frame, sash tracks on the top side of the bottom arm of said frame, sashes slidable on said tracks and in grooves in the top arm of said frame, and elements on said sashes for engaging said frame to hold said sashes on said tracks and movable to a position which permits said sashes to be moved further into said grooves so that they are removable from said tracks, and means for drawing said sashes together laterally and forcing them apart endwise, comprising a bracket loosely mounted on one of the sash elements and supporting a tubular member which in turn supports a stem, said stem being provided with a threaded portion engaging a bracket on the other sash element by which the sash elements may be drawn together laterally, and said tubular member being provided with a cam engaging against one edge of the sash element for forcing the sash elements endwise apart from each other, said tubular member being provided with projecting portions which may be gripped and by which it may be turned.

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