

May 13, 1958

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WINDOW CONSTRUCTION
Filed Nov. 29, 1954

2,834,069

FIG. 1

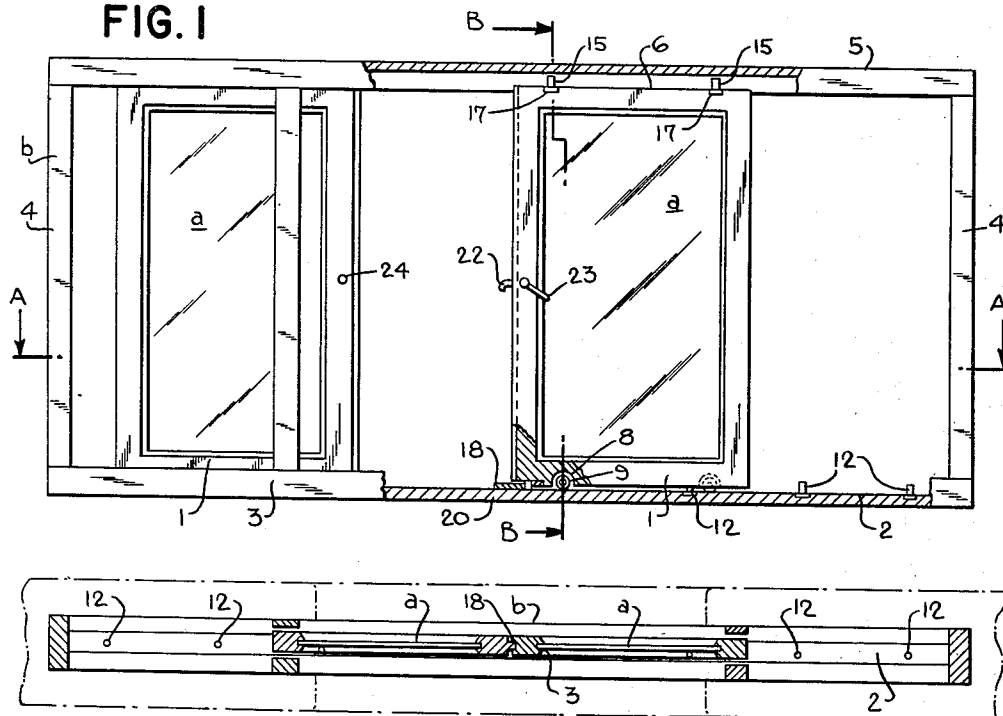


FIG. 2

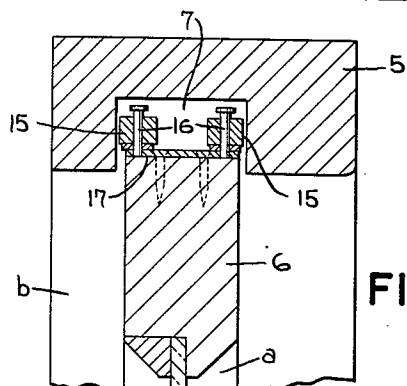


FIG. 3

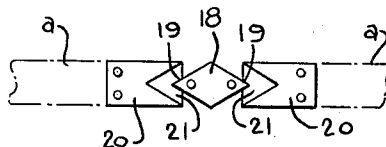
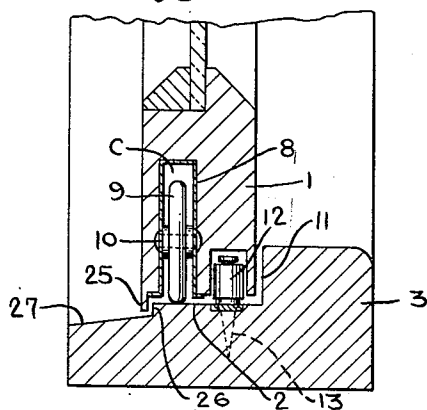


FIG. 4



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2,834,069

WINDOW CONSTRUCTION

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Application November 29, 1954, Serial No. 471,768

2 Claims. (Cl. 20—52)

This invention relates to a device to mount slidingly window sashes in frames and it is an object of this invention to provide a mounting device which performs the operative function of permitting the free lineal sliding in either direction with respect to the frames.

These and other objects shall be described hereinafter with reference to the accompanying drawings in which:

Figure 1 is an elevational view partly in section showing, by way of example, the embodiment of the device in connection with a pair of window sashes;

Figure 2 is a sectional view of the assembly of Figure 1 taken on the plane A—A of the latter;

Figure 3 is a sectional view of the assembly of Figure 1 taken on the plane B—B of the latter;

Figure 4 is a plan view of a fragmentary detail of the locking member of both opening surfaces in closed position.

In these drawings the same reference numbers and letters indicate equal or corresponding parts.

With reference to the accompanying drawings, these illustrate a pair of window sashes *a*, which operate on a sliding system each with their lower rail 1 adjusted slidingly in a step 2 formed by a recess made in the sill 3 of frame *b* made up by said sill; the jambs 4 and the lintel 5. Said window sashes have an upper rail 6 partially inserted in a groove 7 formed in the lower edge of lintel 5. Thus is established the mounting relation of both window sashes *a*, to the frame *b* in free sliding movement with lineal displacements in both opposite directions; the following is a description of the arrangement of the sliding mounting of this invention, to wit:

The lower rail 1 of both windows *a* has in both end zones respective recesses 8, made in its thickness, leading to the lower edge of said rails. Said recesses form adjustment zones for individual adjustment in free rotation of corresponding wheels 9, whose shaft 10 is fixed at both ends to the opposed lateral walls of a support *c*, Figure 3. These wheels constitute the contact surfaces with step 2, without contact being established between said step and the lower edge of the rail 1 of the respective window, thereby rendering the window sash easily movable in either direction.

The sill 3 has in its step 2, and at points of the latter near to back 11, a plurality of vertical rollers 12, connected with said step in a freely rotating way by means of bolts 13 which constitute at the same time guide shafts for the free rotation of said rollers 12 conveniently distributed along step 2. The rollers 12 engage the rails 1 of the windows provided for said purpose with a groove 14 made from the lower edge of the rail 1 of said windows. Said rollers 12 constitute guide members for the lineal displacement of the window sashes, with respect to the sill 1, without lateral displacement and in correct lineal alignment.

Both window sashes *a* have towards both ends of their rail 6 individual pairs of vertical rollers 15, freely rotating on shafts 16, which extend from both ends of respective supporting plates 17 fixed in transverse alignment to both ends of rail 6. Said rollers 15 constitute guide members for the lineal displacement of the window sash, in correct alignment and they offer no frictional resist-

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ance to the internal lateral surfaces of the groove 7 with which said rollers 15 are in constant contact.

In the central point of step 2, corresponding to the farthest advance of the window sashes *a* when pulling same to closed position, is fixed a plate 18 of rhombic form, whose divergent sides which start from respective peaks 19 form male wedging surfaces for individual plates 20 fixed to the front end of the lower edge of the rails 1. Said plates have in their front ends respective angular notches 21, Figure 4, which constitute female wedging zones for coaction with the male wedging surfaces of the plate 18. There is provided a latch 22, operated manually by handle 23, of one of the window sashes in tie 24 of the opposed window sash.

Both window sashes *a* have on the front face of their rail 1 a flange 25, Figure 3, resulting from a recess made in the lower edge of said rail. Said flange forms a surface in parallel displacement to projection 26 which results from a recess 27 made in sill 3 and which defines the end of step 2, opposed to the coincident one with back 11, the flange 25 acting as a lid joint forming a surface interposed to the filtration of foreign matter towards said step 2, which could interfere with the free displacement of the windows.

I claim:

1. In a structure for a window or the like, the combination of a sill, a lintel, said sill having a straight horizontal surface, at least one sash frame including upper and lower rails disposed above, and movable laterally in opposite directions along, said sill, the lower rail having recesses and including wheels journaled for turning in said recesses and engaging said horizontal surface of said sill as a track surface and supporting the major portion of the base surface of the lower rail above the track surface of the sill, a plurality of freely rotatable guide elements journaled to said sill along a straight line parallel of said sill, adjacent guide elements being spaced apart from each other for substantially the same distance, said lower rail having a straight groove open on the bottom of said lower rail throughout its horizontal length, said distance between the guide elements being sufficiently smaller than the length of said groove whereby at least some of said guide elements will protrude into said groove in all positions of said sash frame for jam-free guiding of the sash frame during its movement in either direction, said lintel having a recess opposite said track surface of said sill, said upper rail protruding into said recess, and rollers connected to said upper rail and disposed in said recess adjacent the opposite front and rear surfaces of said recess for guiding of said upper rail.

2. In a structure, as claimed in claim 1, said sill having adjacent said track surface a shoulder defining a front face, said lower rail including an extension projecting along said front face and reaching below the track surface of said sill thereby concealing the exposed portions of the wheels.

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