May 1, 1934. L. A. CADORET 1,956,891

WINDOW

Filed June 22, 1933 2 Sheets-Sheet 1

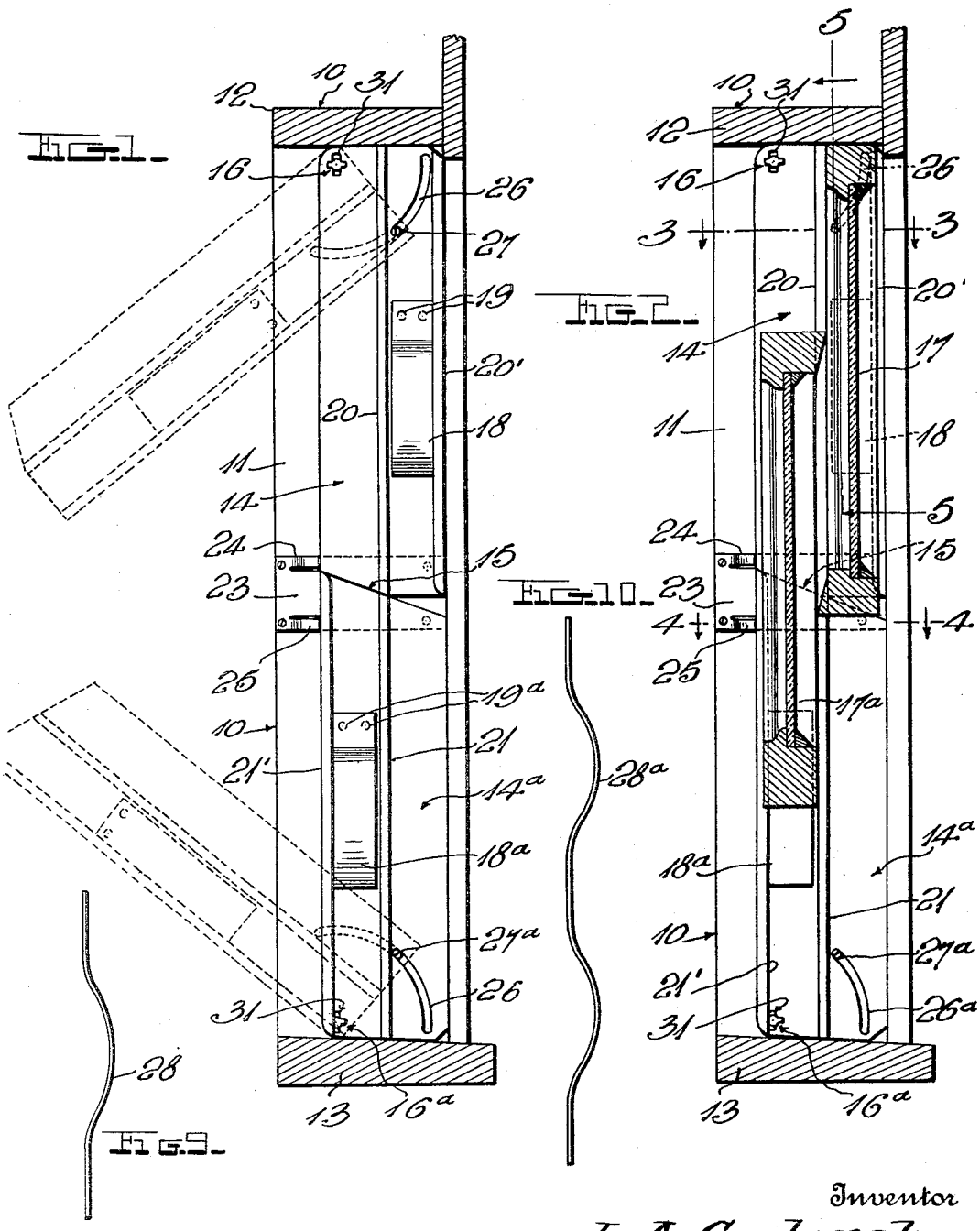


Fig. 1

Fig. 2

Fig. 10

Fig. 9

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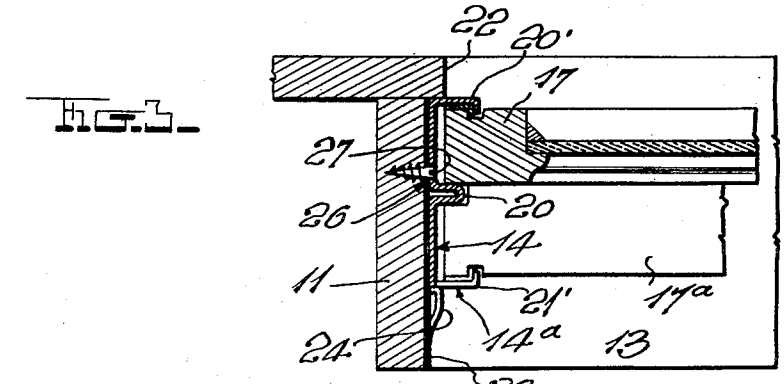


FIG. 1.

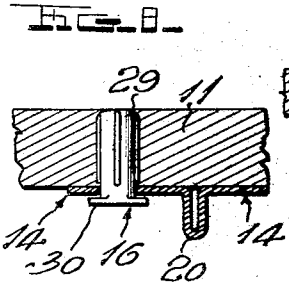


FIG. 8.

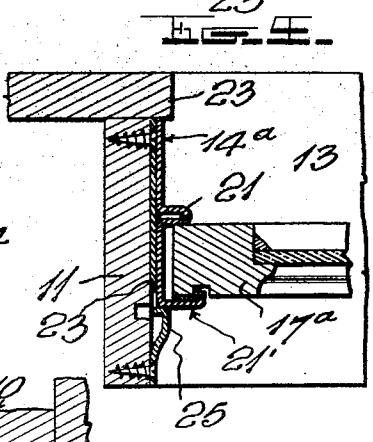


FIG. 4.

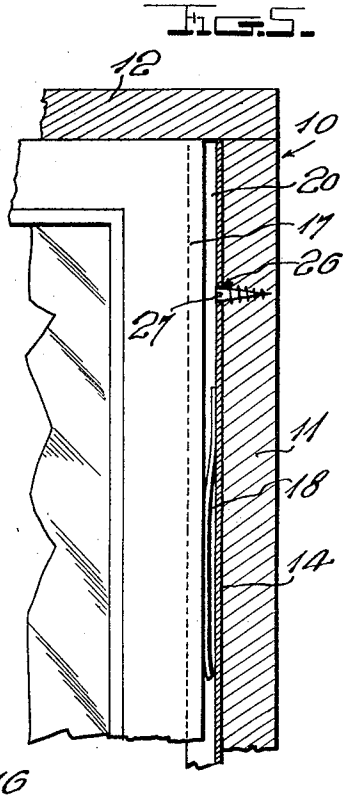


FIG. 5.

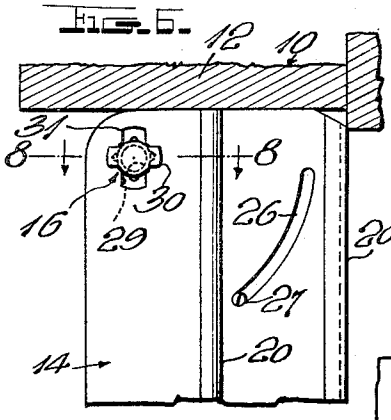


FIG. 6.

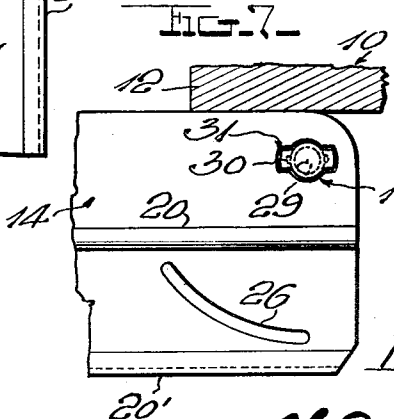


FIG. 7.

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UNITED STATES PATENT OFFICE

1,956,891

WINDOW

Louis Alexandre Cadoret, Pawtucket, R. I.

Application June 22, 1933, Serial No. 677,109

6 Claims. (Cl. 20—45)

The invention relates to a new and improved window having pivotally mounted tracks for guiding the upper and lower sashes, said sashes being removable from their guiding means when said tracks are swung out of the plane of the frame.

One object of the invention is to provide a window of the class set forth which may be constructed with fewer parts and hence at considerably less expense than the conventional window, the simplified and cheapened structure however, being nevertheless greatly advantageous.

A further object of the invention is to provide resilient means which performs the two-fold function of holding the sashes in adjusted position when slid along the tracks, and pressing said tracks against the stiles of the window frame, with sufficient friction to hold said tracks when they are swung about their pivots.

Another object is to provide novel releasable means for normally holding the sash-guiding tracks in vertical position.

Yet another aim is to provide for quick and easy detachment of the sash-guiding tracks when the window frame is to be painted.

With the foregoing in view, the invention resides in the novel subject matter hereinafter described and claimed, description being accomplished by reference to the accompanying drawings.

Fig. 1 is a vertical sectional view with the sashes removed, the sash-guiding tracks being shown in vertical position in full lines and swung inwardly in dotted lines.

Fig. 2 is a view similar to Fig. 1 but showing the sashes and illustrating the lower sash partly raised.

Figs. 3 and 4 are detail horizontal sectional views on lines 3—3 and 4—4 of Fig. 2.

Fig. 5 is a detail vertical section on line 5—5 of Fig. 2.

Fig. 6 is an enlarged detail view showing the pivotal mounting for one of the upper sash-guiding tracks.

Fig. 7 is a view similar to Fig. 6 but showing the manner of detaching or attaching the sash-guiding track with respect to the pivot.

Fig. 8 is a detail horizontal section on line 8—8 of Fig. 6.

Figs. 9 and 10 are edge views of two different forms of sash-holding springs.

In the drawings above briefly described, the numeral 10 denotes a window frame whose stiles 11 are provided with flat parallel inner sides, said stiles being secured in any suitable way to a header 12 and a sill 13.

Two sash-guiding tracks 14 lie against the flat inner sides of the stiles 11 and extend throughout the lengths of the upper halves of said stiles. Two similar sash-guiding tracks 14^a lie against the inner sides of the stiles 11 and extend throughout the lengths of the lower halves of said stiles, the meeting ends of the two sets of tracks being beveled as denoted at 15. The upper ends of the upper tracks 14 are pivoted at 16 to the stiles 11, and the lower ends of the lower tracks 14^a are similarly pivoted at 16^a to said stiles.

An upper sash 17 is slidably engaged with the upper tracks 14, and a lower sash 17^a is similarly engaged with the tracks 14^a, and the adjacent ends of these sashes overlap in the usual manner and may be locked together by a conventional sash fastener. To hold the sashes 17 and 17^a in adjusted position and to frictionally hold the tracks 14 against the inner sides of the stiles 11, I provide any desired number of springs which exert an inward pressure on the sashes and an outward pressure on said tracks. In the present showing, two bowed springs 18 are spot-welded at 19 to the inner sides of the tracks 14, and two additional springs 18^a are welded at 19^a to the inner sides of the tracks 14^a. These springs bear frictionally against the vertical edges of the sashes and thus serve to hold the latter when they are slid to any desired position. Then too, when tracks and sashes are swung inwardly about the pivots 16 and 16^a, the springs 18 and 18^a press said tracks against the stiles 11 with sufficient friction to hold said tracks in the positions to which they have been swung. When either sash and the associated tracks are inwardly swung, the sash may be entirely removed from engagement with said tracks for quick and easy cleaning, and said sash may be easily re-engaged with said tracks. The swinging and sliding of the sashes is also of advantage for ventilating purposes.

Each of the tracks 14 and 14^a is preferably formed from a single vertically elongated strip either stamped or cast to provide it with parallel sash guides, the guides of the upper strip being denoted at 20 and 20', and those of the lower strip at 21 and 21'. The outer edges of the tracks or strips 14 and 14^a preferably abut shoulders 22 on the stiles 11, when in vertical position. At this time, the upper ends of the tracks 14 preferably abut the header 10 and the lower ends of the tracks 14^a similarly abut the sill 13.

In order to prevent the tracks 14 and 14^a from dragging excessively upon the inner sides of the

stiles 11 when they are swung about their pivots, I preferably inset wear plates 23 in said stiles, the track-engaging faces of said plates being a few thousandths of an inch inward of the inner sides of said stiles. Both of these wear plates carry upper and lower spring tongues 24 and 25 stamped therefrom to hold the tracks 14 and 14a normally in vertical position by abutting the inner edges of said tracks. Pressing the tongues outwardly, releases the tracks for inward swinging.

To limit the swinging of the tracks 14 and 14a, under ordinary circumstances, I preferably provide them with arcuate slots 26 and 26a which are concentric with the pivots 16 and 16a respectively, said slots receiving stops 27 and 27a carried by the stiles 11. When the sashes are slid from the tracks however, the latter may be sprung free of the stops 27 and 27a and then swung to horizontal positions, and the pivots 16 and 16a are so constructed as to then allow detachment of the tracks to give access to the frame stiles for painting. In forming each of these pivots, a short corrugated tube 29 is driven tightly into an opening in the frame stile, said tube having an elongated head 30 on its outer end, passable through a slot 31 in the sash-guiding track and normally extending across said slot. Sufficient swinging of the track however, so aligns the head and slot as to allow each detachment or attachment of said track.

In Fig. 9, I illustrate a slightly different spring 28 which may be used in place of the springs 18 and 18a. Also in Fig. 10, I illustrate a third type of spring having two bowed portions 28a, this type being particularly adaptable to use with heavy sashes.

It will be seen from the foregoing that novel and advantageous provision has been made for carrying out the objects of the invention, and while the structure shown is preferably followed, variations may, of course, be made within the scope of the invention as claimed.

I claim:—

1. A window comprising a frame, two sash guiding tracks lying against the opposed inner sides of the stiles of said frame, means pivotally mounting said tracks on said stiles, a sash between and slidably engaged with said tracks, and resilient means whose resiliency acts in a direction in the plane of the sash and at an angle to its line of travel, said resilient means exerting an inward pressure on said sash and an outward pressure on said tracks, said pressures being sufficient to frictionally hold the sash when slid to adjusted position and to press said tracks against said stiles with sufficient force to frictionally hold the tracks when swung to adjusted position about their pivots.

2. A window comprising a frame, two parallel flat vertically elongated metal strips lying against the opposed inner sides of the stiles of said frame, said strips having sash guides extending longitudinally thereof, means pivotally mounting said strips upon said stiles, a sash between said strips slidably engaged with said sash guides, and springs whose resiliency acts in a direction in the plane of the sash and at an angle to its line of travel, said springs being secured to said strips and contacting slidably with the vertical edges of said sash, said springs exerting sufficient inward pressure against the sash to frictionally hold the same when slid to adjusted position, and exerting sufficient outward pressure on said strips to press the same tightly against said stiles and frictionally hold the strips when swung to adjusted position about their pivots.

3. A window comprising a frame having stiles provided with flat parallel inner sides, an upper pair of parallel flat metal strips lying against said inner stile sides and extending throughout the length of the upper half of said stiles, a lower pair of parallel flat metal strips also lying against said inner stile sides and extending throughout the length of the lower half of said stiles, the meeting ends of the upper and lower strips being beveled, all of said strips having sash guides extending longitudinally thereof, means pivoting the upper ends of the upper strips and the lower ends of the lower strips to said stiles, upper and lower sashes slidably engaged with said sash guides, and springs whose resiliency acts in directions in the planes of the sashes and at an angle to their lines of travel, said springs being secured to said strips and bearing against the edges of said sashes, said springs exerting sufficient inward pressure on the sashes to frictionally hold them when slid to adjusted position, and exerting sufficient outward pressure on said strips to press the latter tightly against said stiles and frictionally hold said strips when swung to adjusted position about their pivots.

4. A window comprising a frame, two sash guiding tracks lying against the opposed inner sides of the stiles on said frame, means pivotally mounting said tracks on said stiles, a sash between and slidably engaged with said tracks, wear plates secured to the frame stiles and lying slidably against the outer sides of said tracks, and spring tongues stamped from said wear plates and engaging said tracks to hold the same normally vertical.

5. In a window having a swingable sash-guiding track lying against a frame stile; a pivot driven into the inner side of said stile and having its inner end projecting slightly beyond said stile, said inner end of said pivot having an elongated head, said track having an elongated opening receiving said inner end of said pivot and shaped to allow passage of said head therethrough when said track is swung to a predetermined position, said head normally lying against the inner side of said track and extending across said opening.

6. A window comprising a frame having stiles provided with flat parallel inner sides, an upper pair of parallel flat metal strips lying against said inner stile sides and extending throughout the upper half of said stiles, a lower pair of parallel flat metal strips also lying against said inner stile sides and extending throughout the lower half of said stiles, means pivoting the upper ends of the upper strips and the lower ends of the lower strips to said stiles, upper and lower sashes slidably engaged with said upper and lower strips respectively, wear plates secured to the frame stiles and lying slidably against the outer sides of both the upper and lower strips, and upper and lower spring tongues stamped from said wear plates, said spring tongues normally abutting the inner edges of said upper and lower strips to hold the latter in vertical position.

LOUIS ALEXANDRE CADORET.