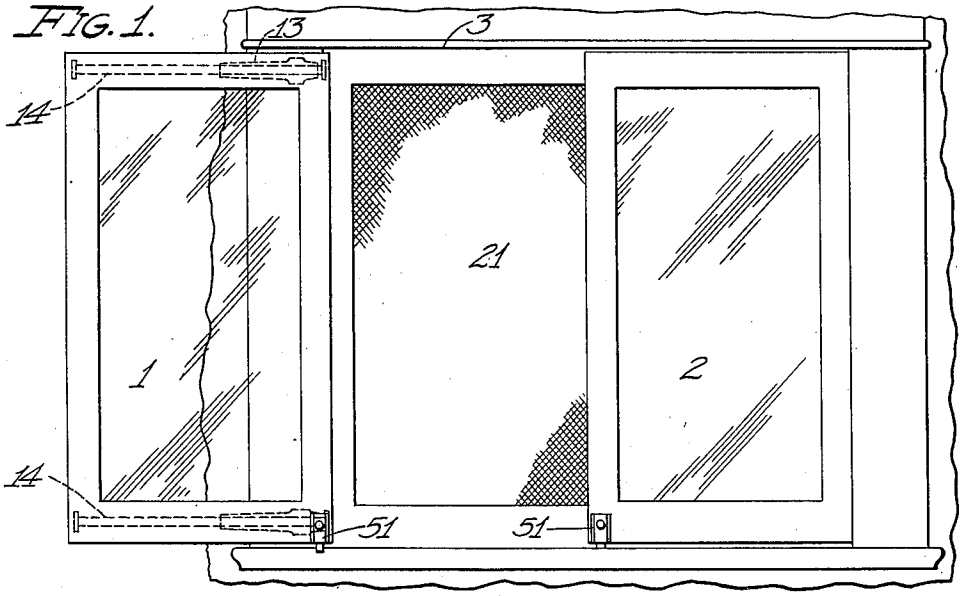
Jan. 12, 1937. F. E. SONGER 2,067,798

WINDOW HINGE

Filed Nov. 30, 1935 2 Sheets-Sheet 1

FIG. 1.



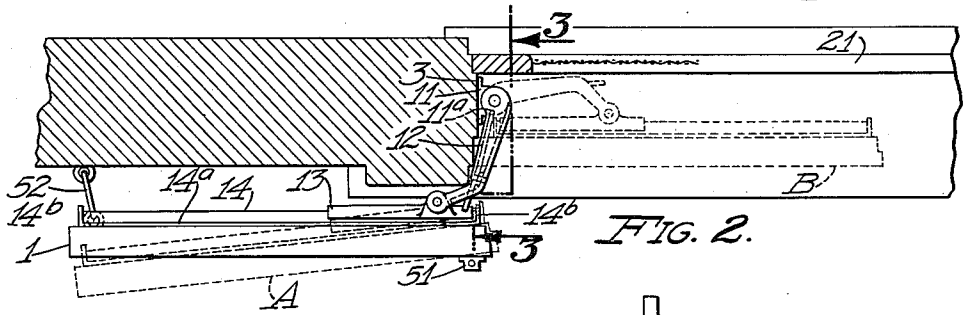


FIG. 2.

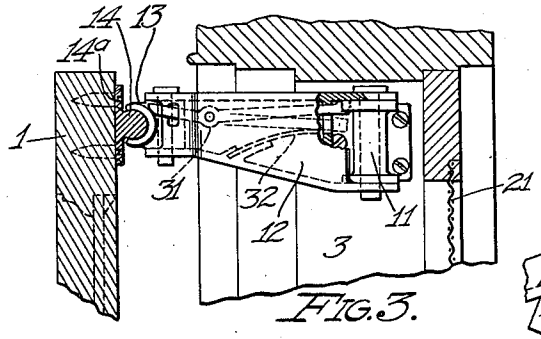


FIG. 3.

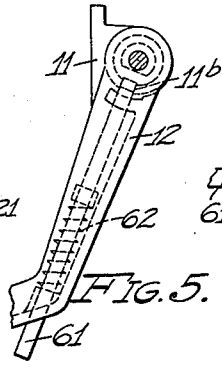


FIG. 5.

FIG. 6.

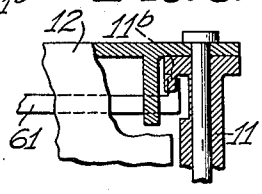




FIG. 4.

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Jan. 12, 1937. F. E. SONGER 2,067,798

WINDOW HINGE

Filed Nov. 30, 1935 2 Sheets-Sheet 2

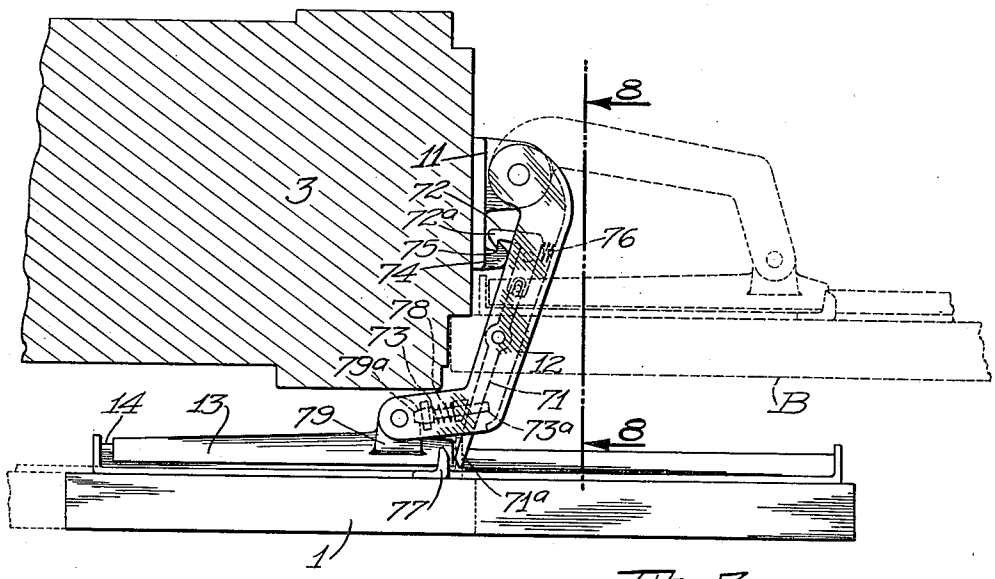


FIG. 7.

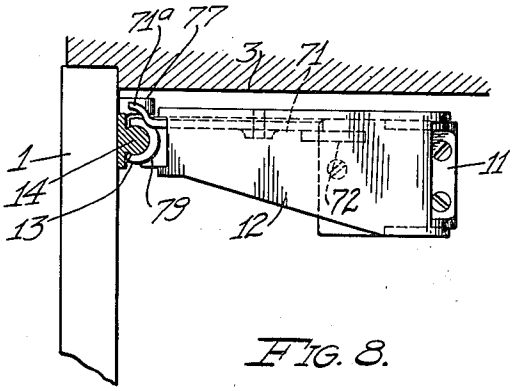


FIG. 8.

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Patented Jan. 12, 1937 2,067,798

UNITED STATES PATENT OFFICE

2,067,798

WINDOW HINGE

Frederick E. Songer, Los Angeles, Calif.

Application November 30, 1935, Serial No. 52,384

13 Claims. (Cl. 16—179)

My invention relates to a window hinge, or to supports or mountings for windows, or other closures.

The objects of this invention are:

First, to provide a mounting for windows, or other closures, whereby the same may be easily opened and shifted to the side, and out of the way, without swinging wide into the room;

Second, to provide a means of this class, whereby substantially the same appearance is presented when the closure is wholly open or wholly closed, as in other closure mounting means;

Third, to provide a means of this class whereby the closure may be only partly opened without swinging into the room and thus being in the way;

Fourth, to provide novel means for locking the closure in an open position; and,

Fifth, to provide a window, or other closure mounting, of this class which is relatively ample and very durable and which will not readily get out of order.

With these and other objects in view, as will appear hereinafter, I have devised a novel window hinge, support or mounting, having certain novel features of construction, as will be hereinafter described in detail and particularly set forth in the appended claims, reference being had to the accompanying drawings and to the characters of reference thereon which form a part of this application, in which:

Fig. 1 is an elevation taken from the inside of a room, showing casement windows incorporating my window hinge or mounting, one window being closed and the other being open;

Fig. 2 is an enlarged view in plan, showing my invention, certain shifted positions being shown by dotted lines;

Fig. 3 is an elevation thereof taken at 3—3 of Fig. 2;

Fig. 4 is a section of a modified form of track for the outer side of the window;

Figs. 5 and 6 are respectively fragmentary plan and elevations of slightly modified means for locking the window in open position; and,

Figs. 7 and 8 are respectively plan and elevational views of invention showing a modified means of locking the hinged joints.

Fig. 1 shows two casement windows 1 and 2 mounted in the same window frame 3. Both windows are similarly mounted and operated. I shall, therefore, describe only one.

At the upper and lower end of each window is a separate hinge or mounting. They are preferably identical except that they are of opposite hand.

Each hinge consists of a bracket 11 which is secured to the upright at one side of the frame 3. On the bracket is pivotally mounted one end of a hinge member 12, the free end of which is reduced. A slide 13 is slidably mounted on a track 14 which extends substantially across the whole outer side of the window sash 1 and is rigidly secured thereto, such as by flanges 14a. This slide is pivotally supported intermediate its ends and at its outer side on the free end of the hinge member. There are stops 14b at the ends of the track or rail 14 to prevent the window from sliding beyond the slide 13.

The track is preferably secured to the upper rail of the window and is thus substantially hidden from the inside of the building. The screen 21 substantially hides the track, slide and hinge member from the outside.

On the inner side, or on the left-hand side as shown, of the hinge member, is pivoted a latch in the form of a lever 31. One end of the lever is adapted to enter a notch 11a when the window is open, that is, when the hinge member is swung into the room. The lever is urged into and held in the notch by a suitable spring 32. The opposite or outer end of the lever is adapted to be engaged by the slide 13 for lifting said end and ejecting the opposite end from the notch when the window and slide are in the dotted line position indicated by A in Fig. 2.

The track may be constructed as a channel 41 shown in Fig. 4.

The operation of my device is briefly, as follows:

When desiring to open the window from the closed position, as indicated by the dotted line position B in Fig. 2, the window is unlatched by a latch 51 and drawn into the room parallel to the wall which causes the hinge member to be swung to the solid line position. The window is then pushed to one side of the window opening, the tracks or rails at the top and bottom sliding in the slides 13. If desired the window may be temporarily secured in this position by any suitable means such as a hook 52.

To close the window, the same is released by the hook 52, and the window shifted to the dotted line position A, thereby causing the slide to engage and lift the outer end of the latch lever 31 and withdrawing it from the notch 11a and permitting the window again to be shifted to the dotted line position B.

In the modified structures shown in Figs. 5

and 6, the latch consists of a reciprocable bolt 61 which is normally urged into a notch 11b, at the underside of a peripheral flange at the upper end of the bracket 11, by a spring 62. The operation is similar to that described above.

In Figs. 7 and 8, the bracket 11, hinge member 12, slide 13, and track 14 are substantially the same as described above. The latch means here, however, though more complicated, is such that the two hinge joints may be locked against rotation or swinging when the window is open.

The mechanism in the form disclosed consists primarily of a rocker arm 71 pivoted intermediate its ends on the inner side of the hinge member 12, a bellcrank shaped latch 72 also pivoted on the inner side of the hinge member near its pivotal mounting on the bracket 11, and a bolt 73 for locking the slide 13 against rotation on the hinge member. On the base plate of the bracket is a stop 74, for limiting swinging of the hinge member about the bracket, and a stationary hook 75 adapted to engage and retain a catch 72a at one end of the bell-crank shaped latch 72 when the hinge member is swung as stated. The catch is urged behind the hook 75 by a spring 76. The opposite end of latch 72 is pivotally and slidably connected to one end of the rocker arm. The opposite end 71a of this arm extends beyond the free end of the hinge member and is adapted to be engaged by a stop or lug 77 on the window, or preferably constructed as a lateral extension on the edge of the track, as shown. On the free end of the hinge member is reciprocally mounted the bolt 73, which is urged by a spring 78 into a peripheral notch 79a of the lug 79 which pivotally supports the slide 13 on the free end of the hinge member. The outer end of the bolt has an upturned ear 73a which freely engages the far side of the arm 71, as shown.

As the window is opened and pushed to the left (as shown in the drawings), the latch 72 hooks behind the hook 75 and the bolt 73 enters the notch 79a. This is not done until the window is shifted slightly to the left with respect to the slide and the lug 77 clears the outer end 71a of the arm 71, which occurs when the hinge member engages the stop 74. (It will be noted that the full line position of the window, in Fig. 7, shows the window shifted only slightly to the left from its extreme right position with respect to the slide 13.) Only a slight pivotal shifting of the window will cause the bolt 73 to enter the notch, such action being aided by tapering the end of the bolt. When the window is shifted in the opposite or closing direction to near the end of its movement with respect to the slide, the lug 77 engages and rotates the lever or arm 71, withdrawing the bolt 73 from the notch 79a and shifting the latch free of the hook 75, thus permitting the window freely to be shifted to its closed position.

Though I have shown and described a particular construction, combination and arrangement of parts and portions, such as a particular hinge, track and latch construction, I do not wish to be limited to the same, but desire to include in the scope of my invention the construction, combination and arrangement substantially as set forth in the appended claims.

I claim:

1. In a closure mounting, a bracket, a hinge member pivotally mounted at one end on the bracket, a slide pivotally mounted on the opposite end of the hinge member on an axis parallel to the first axis, a shiftable member having a track slidable on said slide irrespective of the swung position of the hinge member, and a latch for automatically locking the hinge member in non-rotatable relation with respect to the bracket when the former is swung in one extreme position.

2. In a closure mounting, a bracket, a hinge member pivotally mounted at one end on the bracket, a slide pivotally mounted on the opposite end of the hinge member on an axis parallel to the first axis, a shiftable member having a track slidable on said slide irrespective of the swung position of the hinge member, a latch for automatically locking the hinge member in non-rotatable relation with respect to the bracket when the former is swung in one extreme position, said slide being constructed to engage the latch by swinging the slide with respect to the hinge member when the latter is in the opposite extreme swung position, thereby unlocking the latch.

3. In a closure mounting, a bracket, a hinge member pivotally mounted at one end on the bracket, a shiftable member pivotally and slidably mounted on the opposite end of the hinge member, a latch movably mounted on the hinge member, and a spring urging the latch in locking relation with said bracket.

4. In a closure mounting, a bracket, a hinge member pivotally mounted at one end on the bracket, a shiftable member pivotally and slidably mounted on the opposite end of the hinge member, a latch movably mounted on the hinge member, and a spring urging the latch in locking relation with said bracket, said latch being shiftable by swinging said shiftable member and thereby unlocking said latch.

5. In a closure mounting, a bracket, a hinge member pivotally mounted at one end on the bracket, a shiftable member pivotally and slidably mounted on the opposite end of the hinge member, a latch for locking the hinge member to the bracket, an arm for shifting the latch, said shiftable member having a lug for engaging the arm when the former is shifted, and a spring for urging the latch into locking relation with the bracket.

6. In a closure mounting, a bracket, a hinge member pivotally mounted at one end on the bracket, a slide pivotally mounted on the opposite end of the hinge member, a closure slidable in said slide, a latch for locking the hinge member to the bracket, a second latch for locking the slide with respect to the hinge member, an arm for shifting both latches, and spring means for urging both latches into locking positions, said closure having a lug for engaging and shifting the arm when the former is shifted.

7. In a closure mounting, a bracket, a hinge member pivotally mounted at one end on the bracket, a slide pivotally mounted on the opposite end of the hinge member, a closure slidable in said slide, a latch for locking the slide with respect to the hinge member, an arm for shifting the latch, and spring means for urging the latch into locking position, said closure having a lug for engaging and shifting the arm when the former is shifted.

8. In a closure mounting, a bracket, a hinge member pivotally mounted at one end on the bracket, a slide pivotally mounted on the opposite end of the hinge member, a latch movably mounted on the hinge member, and a spring urging the latch into locking relation with said bracket.

9. In a closure mounting, a bracket, a hinge

member pivotally mounted at one end on the bracket, a slide pivotally mounted on the opposite end of the hinge member, a latch movably mounted on the hinge member, and a spring urging the latch into locking relation with said slide.

10. In a closure mounting, a bracket, a slide, a hinge pivotally connected at its opposite ends to each of the former elements, a member slidably connected with respect to the slide, a latch for locking the hinge to one of said former elements, an arm for shifting the latch, said member having means for engaging and shifting the arm, and a spring for urging the latch into locking relation.

11. In a closure mounting, a bracket, a slide, a hinge pivotally connected at its opposite ends to each of the former elements, a member slidably connected with respect to the slide, latch means for locking the hinge to each of said former elements, an arm for operating the latch means, said member having means for engaging and shifting the arm, and spring means for urging the latch means into locking relation.

12. In a closure mounting, a hinge member adapted to be pivotally mounted at one end on a frame and adapted to swing to an open position toward one side of the frame, a member pivotally and slidably mounted on the opposite end of the hinge member, and a latch for automatically non-rotatably locking the hinge member in said swung position.

13. In a closure mounting, a hinge member adapted to be pivotally mounted at one end on a vertical axis on a frame and adapted to swing to an open position toward one side of the frame, a slide pivotally mounted on a vertical axis on the free end of the hinge member, a closure-supporting track slidably mounted on the slide, and a latch for automatically non-rotatably locking the hinge member in said swung position.

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