Oct. 4, 1932. C. W. BREWER 1,880,312

CASEMENT WINDOW LOCK

Filed March 25, 1931 2 Sheets-Sheet 1

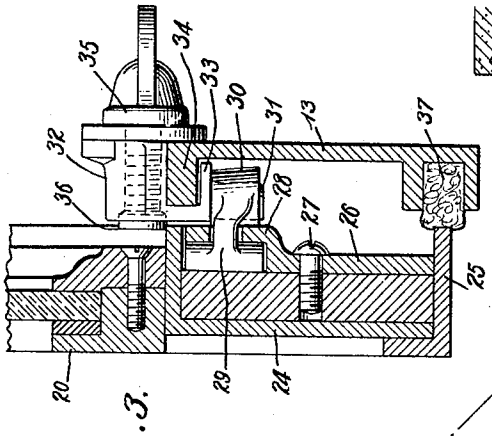


Fig. 3.

Fig. 1.

Fig. 2.

Fig. 4.

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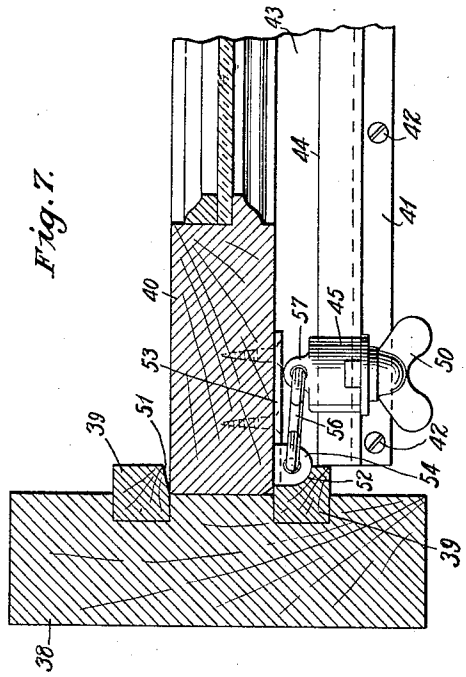


Fig. 7.

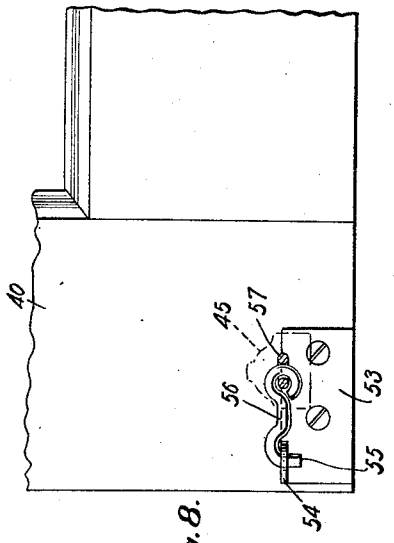


Fig. 8.

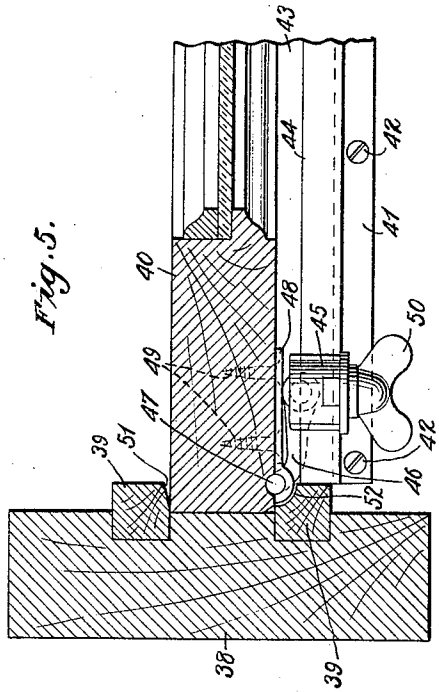


Fig. 5.

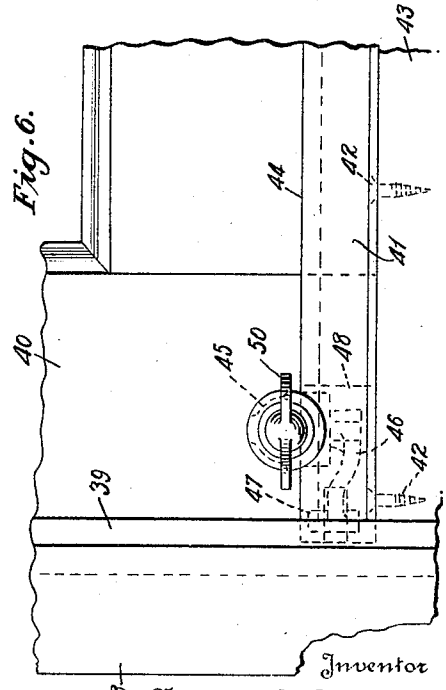


Fig. 6.

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Patented Oct. 4, 1932

1,880,312

UNITED STATES PATENT OFFICE

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CASEMENT WINDOW LOCK

Application filed March 25, 1931. Serial No. 525,212.

The present invention relates to casement windows, and particularly to sash manipulating and adjusting mechanisms and enclosures therefor.

It has for its object to provide a window of the casement or similar type in which convenient and efficient means for adjusting, and securing in adjusted position, the sash, is provided, the development being such that the mechanism parts are few in number, easy of manipulation, and are so disposed and housed as to not detract from the dress or appearance of the window to which they are applied.

In the drawings herewith I have illustrated one embodiment of my invention, although it will be understood that this is illustrative and not restrictive, as mechanical expedients other than those specifically shown may be used and still be within the purview of my invention.

In the drawings,

Figure 1 is a view in plan, parts of the structure being in section for clearness of illustration, showing the sash members in two different positions of adjustment.

Figure 2 is a view in horizontal section, on an enlarged scale, of one end of a sash in closed position.

Figure 3 is a view, on an enlarged scale, on substantially the line 3—3 of Figure 1, looking in the direction of the arrows.

Figure 4 is a detail view of the clamping member.

Figure 5 is a cross sectional view showing the casement closed, and showing a slightly modified form.

Figure 6 is a view in elevation of the construction shown in Figure 5.

Figure 7 is a view in section, similar to Figure 5, showing a slightly modified form of clamping and sash connection, and

Figure 8 is a view in elevation showing the connector illustrated in Figure 7.

Referring to the drawings by numerals, like numerals indicating like parts in the several views, 10 indicates the sides of the window frame or opening, 11 is the outside ledge of the window, and 12 is the window sill, all of which may be of any desired or suitable construction.

Extending transversely of the window sill is a vertically disposed plate member 13 supported at each end by the vertical members 14 mounted in the sides of the window casing, and also having, as here shown in connection with the double casement window illustrated, a centrally disposed vertical stanchion 15. In the form shown in Figures 1 to 4, inclusive, the vertical members 14 are L-shaped in cross section, and disposed parallel with respect to these L-shaped vertical members are metal strips, preferably elastic or yielding, to form seats to receive the ends of the windows as they are brought to their closed position and effectively seal them, there being preferably provided a cushioning strip 17, as best shown in Figure 1, to receive the impact of the window. The edge of the window is provided with a plate member 18 having a shoe 19 which engages and rides along the edge of the upper rail, hereinafter to be described, of the plate 13 so as to reduce the friction and guide the sash in its movements.

As here shown, two sashes 20 are provided, as is customary with casement windows, these being hinged at their inner ends at 21 and provided with toggle bars 22 connected with the sash midway their lengths at one end and with a central pivot member 23 disposed in line with the stanchion 15, as shown in Figure 1.

Referring now to Figure 3, the sash 20 is made up in a not unusual manner so far as the glass mounting is concerned, but the bottom of the sash is provided, as shown, with a backplate member 24, a bottom plate 25, and a front plate 26 set into the sash and forming an anchor plate permanently carried by, and

moving with, the sash, the plate 26 being removably held by means of the screw 27, or other suitable fastening means.

The plate 26 has an upper offset end 28 to provide a socket for a hammer-headed linkage member 29, the arm of which projects through a slot in the offset portion 28 of the plate 26 and has at its outer end a perforated lug 30 engaging a downwardly extending pin 31 carried by a clamp 32 which slides upon the upper rail of the plate 13, the clamp 32 having a lower flange 33 engaging the underside of the rail 34 of the front plate 13. The hammer-headed link 29 gives a two point stable bearing in plate 26 and ensures steadiness of movement. The clamp 32 is provided with a flanged thumb nut 35 threaded in the socket of the clamp 32 and preferably headed at its inner end, as at 36, so as to prevent accidental removal, this flanged thumb nut 35, together with the clamp 32, acting to clamp the rail 34 of the plate 13 when the parts are set up, to hold the sash in any adjusted position.

It will be seen that when the clamp is released, the sash may be moved by grasping the thumb nut and sliding the clamp along the rail 34, the connection 29 between the clamp and the sash serving to slide and swing the sash to any position of adjustment from full closed to full open, and then, by tightening the clamping members, hold it in such adjusted position.

It has been pointed out that the shoe 19 steadies the movements of the sash and reduces friction by taking its bearing on the inner edge of the rail 34 of the plate 13 and in order that when the windows are closed there may be a proper sealing of the window and casement the plate 25 of the housing for the swivel connection is extended so as to engage a cushioning strip 37, here shown as mounted in a channel in the lower edge of the front plate 13. With this construction, when the window is closed and the parts brought to the position shown in Figure 3, there will be an effective sealing and weatherstripping of the window by reason of the engagement of the plate 25 with the cushion 37.

It will be observed that the front plate 13 gives a finished front, and the relative wide top rail 34 of the plate 13 gives a wide bearing surface on which the clamps 32 will run smoothly without danger of yawing or jamming as they are moved, resulting in a smoothness of operation which is desirable in fixtures of this kind.

The foregoing description and the illustration referred to discloses my invention applied to metallic windows and window casings, but it is equally applicable, with but slight modification, to constructions in which the casings and frames are made of wood.

Referring to Figures 5 to 8, inclusive, 38 indicates a window casing of wood having the usual rabbet strips 39 to receive the edges of the window sash 40, there being provided the front plate 41 secured by suitable screws 42 to the sill 43, the front plate 41 serving to enclose and finish the construction as heretofore described and being provided with the top slide rail 44 on which the clamps 45 slide. The clamps are connected by the link 46, having the anchoring lugs 47, in a manner similar to that heretofore described, but the link 46 is connected to the window sash 40 by means of the plate 48 having lug receiving sockets, which plate is secured to the window sash in any suitable manner, as by the screws 49 disclosed.

The mechanism will be manipulated in the same manner as already described, the clamp 45 being controlled by the thumb screw 50 and slid along the rail 44, shifting the sash to and from its seat against the casement. The rabbet strips 39 will preferably be formed as shown at 51, where the inner side is chamfered or bevelled off to give smooth entrance, and the other rabbet strip may be recessed, as at 52, to form a seat to receive the socket portion of the plate 48.

In Figures 7 and 8 is shown a slightly different form of connecting link between the clamp and the window casing, this providing a very cheap, although very efficient, form of connector. In this form the window is provided with a plate 53 having a lug 54 in which is an aperture to receive the hook 55 of a link member 56 which, at its opposite end, engages an eye 57 carried by the clamp. With this construction the link 56 can be readily engaged and disengaged whenever necessary from the apertured lug 54, and a comparatively inexpensive construction provided.

As here disclosed the construction is applied to the bottom of the closure member or casement window, but it will be understood that it could be applied to the top of a closure member or casement window and manipulated with equal facility.

It will be understood that the construction disclosed may be varied to considerable extent by the adoption of mechanical expedients other than those disclosed and yet remain within the range of my invention.

I claim:—

1. The combination of a movable closure member, closure positioning means comprising a support at one side of and adjacent the path of movement of said closure member, a clamp movable on said support, and adapted to be secured thereto at any desired point in the length thereof, and a linkage member pivotally connecting said clamp and closure.

2. The combination of a movable closure member, closure positioning means comprising a supporting rail at one side of and adjacent the path of movement of said closure member, a clamp movable on said supporting

rail, and adapted to be secured to said rail at any desired point in the length thereof, and a linkage member pivotally connecting said clamp and closure.

3. The combination of a movable closure member, closure positioning means comprising a support at one side of and adjacent the path of movement of said closure member, a clamp carrying rail at one edge of said support, a clamp movable on said rail and adapted to be secured to said rail at a plurality of different desired points in the length thereof, and a linkage member pivotally connecting said clamp and closure.

4. The combination of a movable closure member, closure positioning means comprising a support adjacent the path of movement of said closure member, a laterally projecting clamp carrying rail at one edge of said support, a clamp movable on said rail and adapted to be secured to said rail at any desired point in the length thereof, and a linkage member pivotally connecting said clamp and closure.

5. The combination of a movable closure member, closure supporting means comprising a plate adjacent the path of movement of said closure member, a clamp carrying rail at one edge of said plate and extending laterally toward said closure member, a clamp movable on said rail and adapted to be secured to said rail at any desired point in the length thereof, and a linkage member pivotally connecting said clamp and closure.

6. The combination of a movable closure member, closure supporting means comprising a plate adjacent the path of movement of said closure member, a clamp carrying rail at one edge of said plate and extending laterally toward said closure member, a clamp movable on said rail and adapted to be secured to said rail at any desired point in the length thereof, and a linkage member disposed between said plate and closure member and pivotally connecting said clamp and closure.

7. The combination of a movable closure member, closure means comprising a plate adjacent the path of movement of said closure member, a clamp carrying rail at one edge of said plate and extending laterally toward said closure member, a clamp movable on said rail and adapted to be secured to said rail at any desired point in the length thereof, and a linkage member below said clamp and between said plate and said closure member pivotally connecting said clamp and closure.

8. The combination of a movable closure member, closure supporting means comprising an enclosing plate adjacent the path of movement of said closure member, a clamp carrying rail at one edge of said plate and extending laterally toward said closure member, a clamp movable on said rail, and a linkage member having a two-point pivotal bearing on said closure member and pivotally connected with said clamp, said link member being disposed below said clamp and between said enclosing plate and said closure member.

9. The combination of a movable closure member, closure supporting means comprising an enclosing plate adjacent the path of movement of said closure member, a clamp carrying rail at one edge of said plate and extending laterally toward said closure member, a clamp movable on said rail, and a linkage member having a two-point bearing in an anchor plate on said closure member and engaging a pivot lug on said clamp, said linkage member being disposed below said clamp and between said enclosing plate and said closure member.

10. The combination of a movable closure member, closure supporting means comprising an enclosing plate adjacent the path of movement of said closure member, a clamp carrying rail at one edge of said plate and extending laterally toward said closure member, a clamp movable on said rail, and a hammer-headed linkage member pivotally engaging an anchor plate on said closure member and engaging at its other end a downwardly extending pivot lug on said clamp, said linkage member being disposed below said clamp and between said enclosing plate and said closure member.

11. The combination of a movable closure member, closure supporting means comprising an enclosing plate adjacent the path of movement of said closure member, a clamp carrying rail at one edge of said plate and extending laterally toward said closure member, a bearing surface at the other edge of said plate, a clamp movable on said rail, a linkage member pivotally connecting said clamp and closure and disposed below said clamp and between said plate and said closure member, and a bearing member extending from said closure member to engage the bearing surface on said plate.

12. The combination of a movable closure member, closure supporting means comprising an enclosing plate adjacent the path of movement of said closure member, a clamp carrying rail at one edge of said plate and extending laterally toward said closure member, a sealing bearing surface at the other edge of said plate, a clamp movable on said rail, a linkage member pivotally connecting said clamp and closure and disposed below said clamp and between said plate and said closure member, and a bearing member extending from said closure member to engage the sealing bearing surface on said plate.

13. The combination of a movable closure member, closure supporting means comprising a supporting front plate adjacent the path of movement of said closure member, a clamp carrying rail at one edge of said

plate and extending laterally toward said closure member, a sealing surface at the other edge of said plate, an enclosing plate carried by said closure member and opposed to said front enclosing plate, an end plate having an edge engaging the sealing surface on said front enclosing plate, a clamp movable on said rail and projecting between said front enclosing plate and said closure member, and a linkage member pivotally connecting said clamp and closure and disposed below said clamp and between said plate and closure member.

In testimony whereof I have hereunto set my hand.

CLARENCE W. BREWER.