

C. J. HAGSTROM.
CASEMENT ADJUSTER.
APPLICATION FILED OCT. 16, 1918.

1,344,507.

Patented June 22, 1920.

Fig. 1.

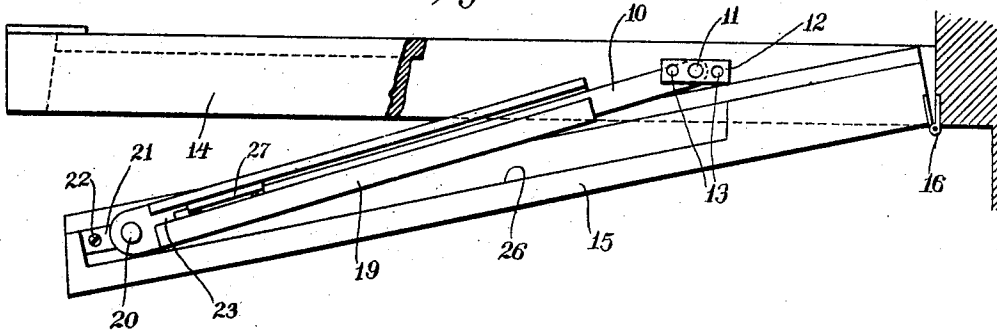


Fig. 2.

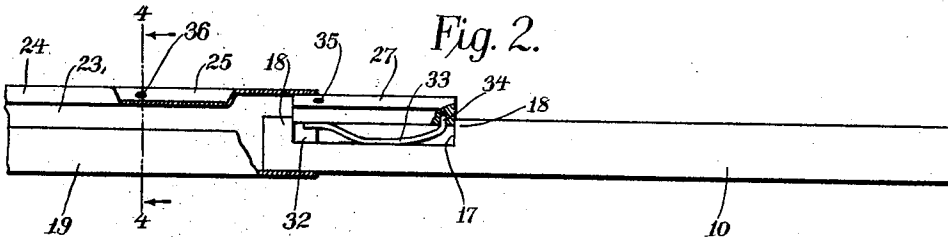


Fig. 3.

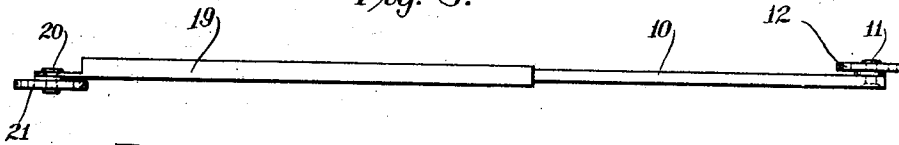


Fig. 4.

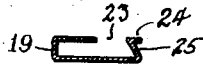


Fig. 5.

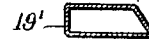
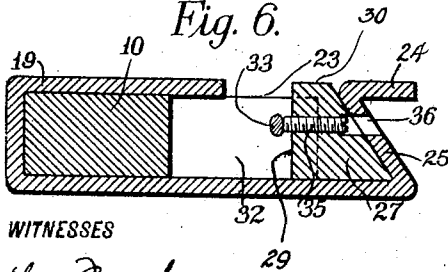


Fig. 6.

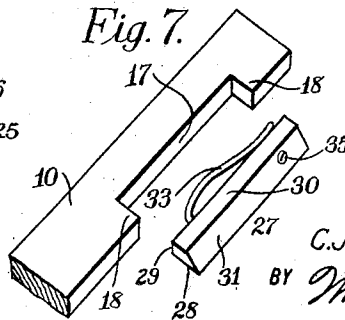


WITNESSES

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Fig. 7.



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CASEMENT-ADJUSTER.

1,344,507.

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To all whom it may concern:

Be it known that I, CARL JOHN HAGSTROM, a citizen of the United States, and a resident of Glen Cove, in the county of Nassau and State of New York, have invented a new and Improved Casement-Adjuster, of which the following is a full, clear, and exact description.

This invention relates to builders' hardware, and has particular reference to adjusters or holders for casement windows, doors, or other swinging objects.

Among the objects of the invention is to provide a casement adjuster so constructed as to be adapted readily to practically any door or window of the nature indicated, and which is invisible in the closed position of the window.

Another object of the invention is to provide an improved adjuster which will occupy a minimum amount of space in the edge portion of the window or door.

A still further object is to provide an adjuster comprising two relatively movable members between which there is sufficient friction to hold said two parts at any desired effective length so as to hold the window frictionally, but substantially at any desired angle of adjustment with respect to the wall.

With the foregoing and other objects in view the invention consists in the arrangement and combination of parts hereinafter described and claimed, and while the invention is not restricted to the exact details of construction disclosed or suggested herein, still for the purpose of illustrating a practical embodiment thereof reference is had to the accompanying drawings, in which like reference characters designate the same parts in the several views, and in which—

Figure 1 is a top plan view of a casement window partially open, and indicating the manner of attaching my improvement thereto.

Fig. 2 is an enlarged plan view of the meeting end portions of my improvement, portions of the sleeve member being broken away to show the construction.

Fig. 3 is a rear edge view of the device indicating the relative thinness thereof.

Fig. 4 is a vertical transverse section on the line 4—4 of Fig. 2.

Fig. 5 is a vertical transverse section of a modified form of sleeve member.

Fig. 6 is a vertical transverse section indicating the relation of the friction shoe

and its adjustable spring to the form of sleeve member shown in Fig. 4; and

Fig. 7 is a detail perspective view of the outer or swinging end of the bar portion of the device, and the friction shoe spaced therefrom.

Referring now more specifically to the drawings, I show my improvement as comprising a flat bar 10 of any suitable strength or design, the same being pivoted at 11 to an anchor plate 12 having holes 13 through which fasteners are adapted to pass to secure the same to the top bar of the window frame 14, and with which frame a window 15 hinged around a vertical axis 16, is adapted to cooperate in any well known manner. The bar 10 is straight and smooth throughout its length and with its opposite sides and edges parallel except for a long notch or cutaway 17 adjacent to the end remote from the pivot 11, the same having square ends or shoulders 18.

19 indicates a sleeve member formed preferably of sheet metal, and essentially of tubular form, the ends of which are open. One end of this sleeve member is pivoted at 20 to an anchor plate 21 adapted to be secured to the window sash, as by means of screws 22. Along the upper side of the sleeve may be formed an open slot 23 the metal which by its removal provides that the slot may be turned over forming a lip or flange 24 lying in the same plane as the top portion of the sleeve and formed with an inclined edge wall 25 forming a very stiff edge structure. The bar 10 is adapted to substantially fill the internal space between the sleeve vertically between the main top flange thereof and the bottom, but there is left a material space between the notched edge of the bar 10 and the inclined wall 25. The sleeve member, constituting the thickest or deepest portion of the structure, is adapted to lie freely and easily in a shallow rabbet 26 formed in the upper part of the window frame.

If desired the sleeve member 19' may be made as a closed tube as indicated in Fig. 5, but having otherwise the same characteristics as just described.

The bar 10 is fitted with an easy sliding fit in the main portion of the sleeve so far as the upper and lower walls of the sleeve are concerned. To provide for the necessary amount of friction, however, between the bar and the sleeve in the practice of the

invention I provide a shoe 27 having a form in cross section of a square ended trapezoid. In other words it has a flat bottom surface 28 bearing directly upon the bottom wall of the slit adjacent to the inclined wall 25, a flat surface 29 along the inner edge perpendicular to the bottom surface, an upper flat surface 30 parallel to the bottom surface 28, and an inclined outer friction surface 31 bearing flat against the inner surface of the wall 25. The shoe may be of the same vertical thickness as the bar 10 especially with reference to the structure indicated in Fig. 5, but where the slot 23 is provided the shoe preferably extends upward into it. In any event, however, there is observed a rectangular space 32 between the surface 29 and the bottom of the notch 17. The shoe is fitted in the notch, however, and bears at its ends against the shoulders 18 so that the shoe is always dragged positively by means of the bar to and fro along the sleeve when the window is swung on its hinges.

Any suitable resilient means may be provided in the space 32 for the purpose of holding the shoe with its friction surfaces 28 and 31 in snug contact with the adjacent walls of the sleeve. To this end I provide a spring 33 having one end anchored in a hole 34 adjacent to one end of the shoe, the spring extending thence longitudinally along the space 32 toward the other end of the shoe. A screw 35 tapped horizontally through the shoe is adapted to bear at its inner end at any desired pressure against the free end of the spring. Access may be had to this screw at any time without disconnecting the parts from the window structure through a hole 36 formed in the inclined wall 25 of the sleeve.

With the parts constructed and then attached as indicated it will be appreciated that the window or the like may easily be swung on its hinges to any desired position by grasping the striking edge thereof in the usual manner. After the window is started to move on its hinges toward open position the distance between the pivots 11 and 20 increases and thereby the bar portion of the adjuster is drawn accordingly outward along the sleeve from the pivot 20. As above stated the shoe 27 crowding against the wall 25 of the sleeve sets up a certain amount of friction at such surface, and at the same time the effect of the crowding against the inclined surface is to insure the crowding of the shoe downward against the bottom of the sleeve, whereby the shoe is given a frictional grip against the two surfaces of the sleeve. The amount of friction desired for any particular window or the like construc-

tion will be determined by the adjustment of the screw 35. The device is relatively simple in construction, and is not likely accordingly to get out of order.

I claim:

1. In a casement adjuster, the combination of a flat bar having a square shouldered notch in one edge thereof adjacent to one end, said bar being otherwise smooth, a sleeve in which the notched end of the bar is slidably fitted, a shoe fitted in said notch movable longitudinally with the bar because of said shoulders and having frictional contact with the two adjacent side walls of the sleeve, and means within the notch to cause the shoe to hug said side walls with a substantially uniform degree of friction.

2. In a casement adjuster, the combination of a straight flat bar having adjacent to one end a longitudinal notch, a shoe fitted in said notch and movable longitudinally with the bar, a flat sleeve in which the bar and shoe are longitudinally movable, said sleeve having an inclined edge wall and the shoe having a similarly inclined edge cooperating therewith, and means acting in said notch between the shoe and the bar serving to cause the shoe to bear against the inclined wall of the sleeve.

3. In a casement adjuster, the combination of a straight flat bar having a notch formed in one edge thereof adjacent to its end, a sleeve in which the notched end of the bar is slidably fitted, a shoe fitted in said notch and movable longitudinally of the bar, a bowed spring located in said notch and acting between the shoe and the bottom of the notch and serving to cause the shoe to grip the edge portion of the sleeve with a substantially uniform friction, and a screw carried by the shoe and cooperating with the spring to vary the tension of the spring.

4. In a casement adjuster, the combination of a straight flat bar having a notch formed in one edge thereof adjacent to its end, a sleeve in which the notched end of the bar is slidably fitted, a shoe fitted in said notch and movable longitudinally of the bar, a bowed spring having one end fixed in the inner edge of the shoe and extending thence along the notch between the shoe and the bottom of the notch, the free end of the spring bearing against the shoe while the intermediate portion thereof bears against the bottom of the notch, and a screw carried in the shoe and adjustable against the free end of the spring to vary the tension thereof.

CARL JOHN HAGSTROM.