

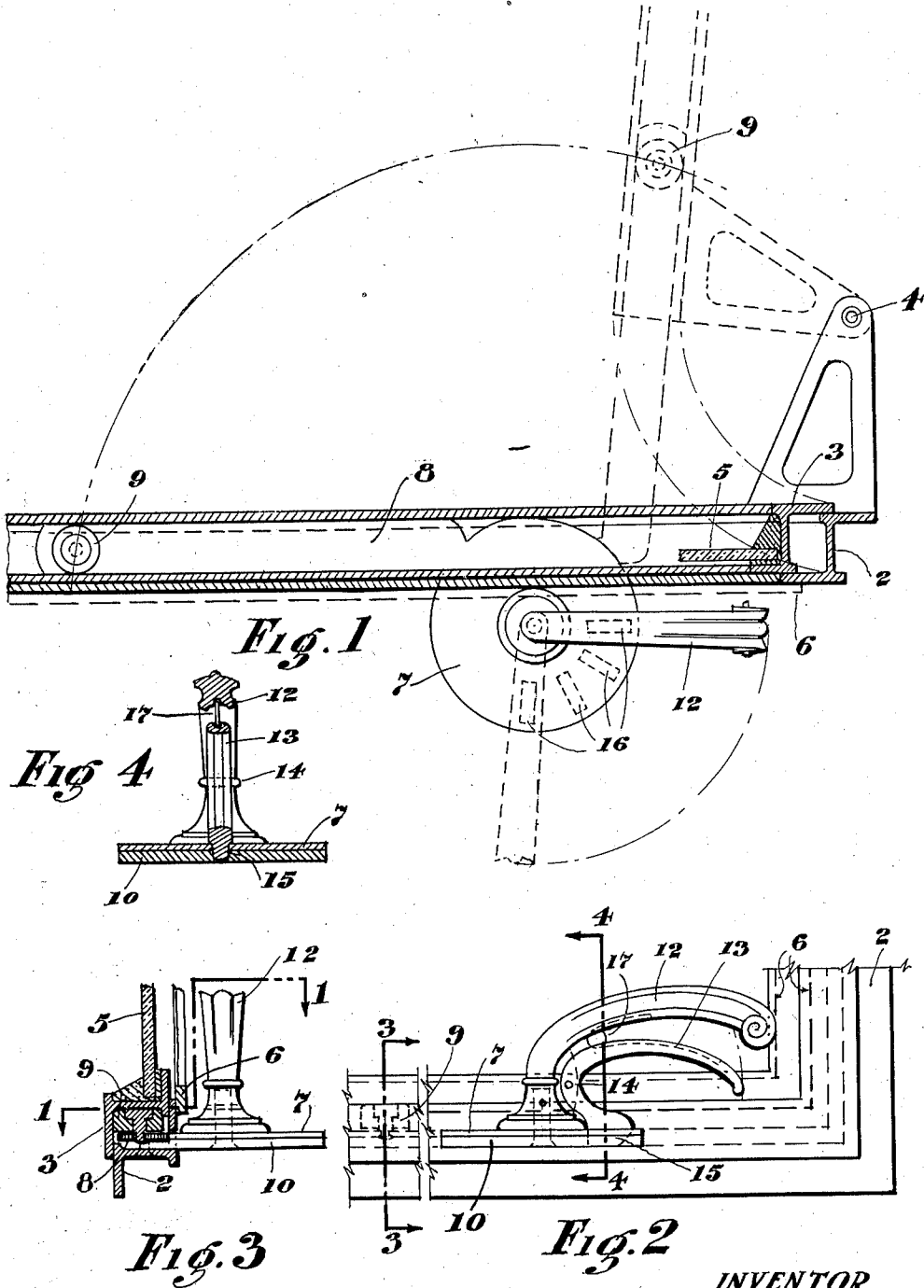
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CASEMENT WINDOW OPERATOR

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CASEMENT WINDOW OPERATOR

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2 Claims. (Cl. 268—118)

This invention relates to casement windows and is more especially concerned with mechanisms for adjusting and locking windows of this type.

The invention aims to devise a mechanism for operating or adjusting windows of this character which will be convenient to operate, can be manufactured economically, and which will not interfere with the screens for the windows. It is also an object of the invention to improve the means for locking windows of this character, both to hold them securely in their closed positions and also in various open positions.

The nature of the invention will be readily understood from the following description when read in connection with the accompanying drawing, and the novel features will be particularly pointed out in the appended claims.

In the drawing,

Figure 1 is a plan view, partly in horizontal section, illustrating a mechanism constructed in accordance with this invention;

Fig. 2 is a front elevation of one corner of the window shown in Fig. 1; and

Figs. 3 and 4 are sectional views substantially on the lines 3—3 and 4—4, respectively, Fig. 2.

Referring first to Figs. 1 and 2, the construction there shown comprises a metal window frame 2 having the peculiar cross-sectional form shown in Fig. 1 which is commonly used in casement windows, and a sash 3 which is pivoted or hinged at a plurality of points, one being shown at 4, Fig. 1, to permit the sash to swing into either a closed or open relationship to the window frame 2. The sash as shown is made of substantially the same cross-sectional form as the frame 2 and the glass 5 is set into the channel of the sash in the usual manner. When a screen is used it is usually supported on a frame 6 which is secured to the window frame 2 in approximately the position indicated in full lines in Fig. 3 and in dotted lines in Figs. 1 and 2.

As above indicated, one of the objects of this invention is to provide means for operating the sash, or in other words, opening or closing the window, without disturbing the screen, while at the same time avoiding the presence of openings which will afford any opportunity for flies, mosquitoes, or other insects to enter. For this purpose an approximately circular plate 7 is arranged to extend through a slot formed in the inner flange of the window casing 2 and is provided with an arm 8 which is integral with or is rigidly secured to the plate 7. This arm lies under the horizontal web of the sash 3, as clearly shown in Fig. 3, and it carries at its outer end a roll 9 which

has a running fit in the groove at the lower side of the sash. Another plate 10 which is riveted or otherwise rigidly secured to the frame 2 supports the plate 7, the edges of the two plates inside the window preferably coinciding, and the upper plate 7 is pivoted centrally on the lower plate 10. The upper plate also is provided with a handle 12 which is rigidly secured to it.

It will be clear, therefore, that if this handle is swung from the full line position shown in Fig. 1 to the dotted line position there shown, the window or sash 3 will be swung into its open position, as also indicated in dotted lines in said figure.

In order to lock the window in its open position a lever 13 is fulcrumed on the handle at 14, Fig. 2, and is provided at its lower end with a cam or tapered locking portion 15 which projects through a slot in the circular plate 7 and is adapted to enter any one of several slots 16, Fig. 1, formed in the supporting plate 10. A coiled spring 17 is held between the handle 12 and locking lever 13 where it tends to press the latter downwardly and thus to hold the cam or wedge 15 in one of the slots 16. By grasping the handle 12 and lever 13 in the hand, the lever may be raised, thus releasing the lock from the plate 10, and substantially simultaneously with this movement the handle may be swung to move the window to a different position.

The invention thus provides a window operating and locking mechanism which is simple in construction, positive in operation, and is very convenient to use. Due to the fact that the plate 7 is of approximately circular form, it always fills the entire length of the slot in the window frame through which it projects so that this slot is always closed in all positions of the sash. Also because of the nature of the locking arrangement provided for the plate 7, the locking device will always find a firm seat even after considerable wear so that the plate 7, and therefore the arm 8, can always be locked rigidly in its various positions of adjustment. By making the roll 9 fit snugly in the groove in the lower side of the sash a relatively rigid connection with the sash can be provided at this point so that objectionable rattling of the window when in its open position due to the action of the wind will be avoided.

While I have herein shown and described a preferred embodiment of my invention it will be understood that the invention may be embodied in other forms without departing from the spirit or scope thereof.

Having thus described my invention, what I desire to claim as new is:

1. A casement window comprising a window frame, a sash hinged to swing into an open or closed relationship to said frame, the lower rail of said sash having a groove in the lower side thereof, a roll running in said groove, an arm carrying said roll and adapted to register approximately with said groove when the window is closed, a plate rigid with said arm, a support located inside the window and on which said plate is centrally pivoted, said frame having a slot through which said plate projects, a handle secured to said plate to swing it and the sash, said support having a series of apertures therein and a locking device associated with said handle and including a part projecting through said plate and arranged to enter any one of said apertures to lock said plate securely to said support and to hold said sash in various open positions.

2. In a casement window operator and lock, a frame, a sash hinged to swing into an open or closed relationship to said frame, the lower rail of the sash having a groove in the lower side thereof, an arm provided with means engaging the groove and adapted to register approximately with the groove when the window is closed, a plate rigid with the arm, a support located inside the window and on which the plate is centrally pivoted, the frame having a slot through which the plate projects, a handle secured to the plate to swing it and the sash, the support having a series of apertures therein and a locking device on the handle and including a part projecting through the plate and arranged to enter any one of said apertures to lock the plate securely to the support and to hold the sash in various open positions.

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