Nov. 2, 1926. 1,605,883

A. C. WHEELOCK

WINDOW FASTENER

Filed August 2, 1923

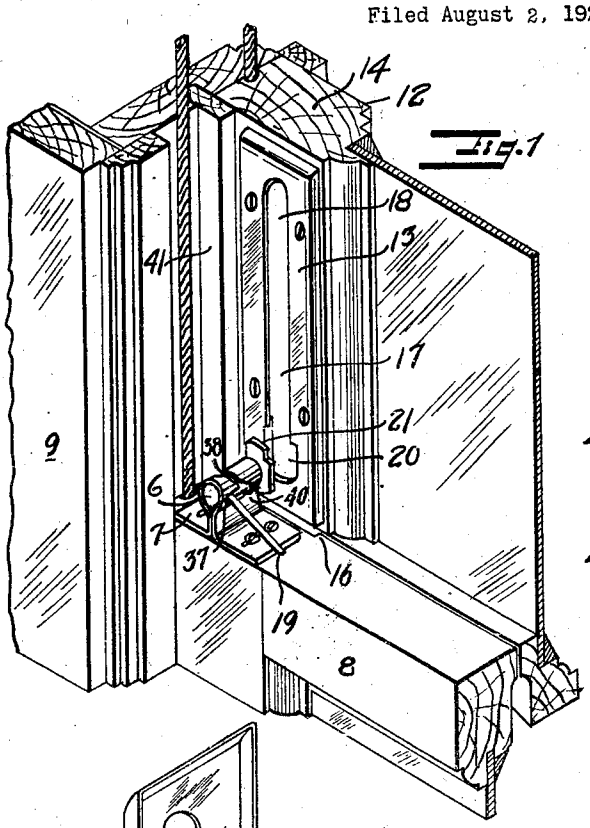


Fig. 1

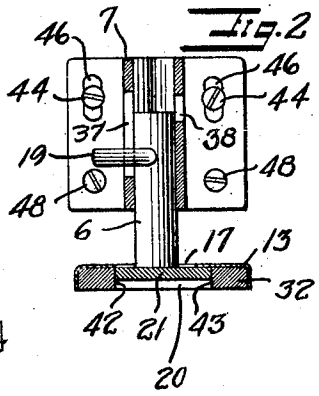


Fig. 2

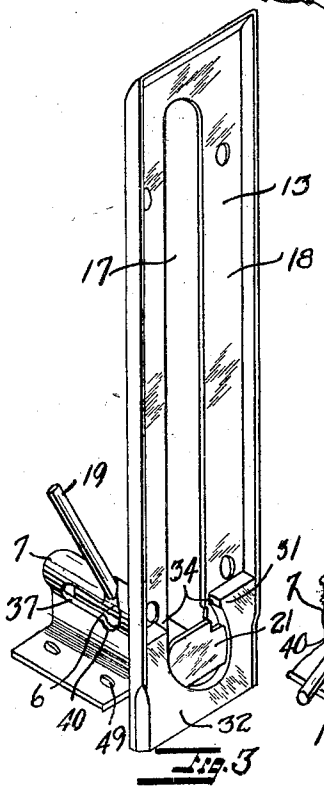


Fig. 3

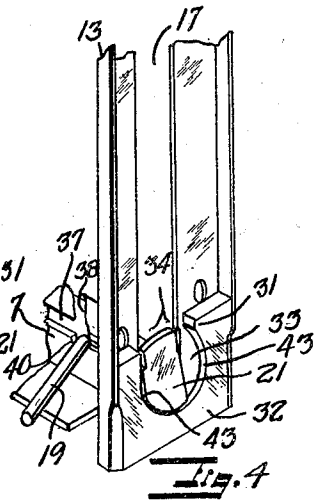


Fig. 4

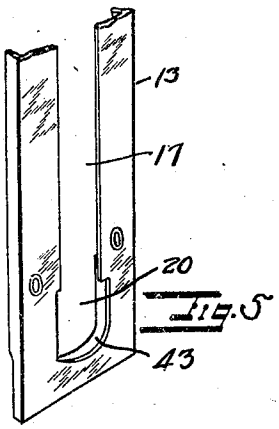


Fig. 5

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Patented Nov. 2, 1926. 1,605,883

UNITED STATES PATENT OFFICE.

ARTHUR C. WHEELOCK, OF OAKLAND, CALIFORNIA.

WINDOW FASTENER.

Application filed August 2, 1923. Serial No. 655,258.

My invention relates to devices which will permit one or both sashes of a window to be opened a limited amount and which can be rendered inoperative only when the window is fully closed.

An object of the invention is to provide a device of the character described which, in the closed position of the window, will lock the sashes together against relative movement in any direction.

Another object of the invention is to provide a device of the character described in which the sashes may be held against relative movement when in any relative position or locked in closed position by exactly the same operation.

A further object of the invention is to provide means which will prevent the fastener from being rendered inoperative by shaking or jarring the sashes when the window is closed.

My invention possesses other objects and features of advantage, some of which, with the foregoing, will be set forth in the following description of the preferred form of my invention which is illustrated in the drawings accompanying and forming part of the specification. It is to be understood that I do not limit myself to the showing made by the said drawings and description, as I may adopt variations of the preferred form within the scope of my invention as set forth in the claims.

Referring to said drawings:

Figure 1 is a perspective view of a portion of a window closed and equipped with my device, showing the latter inoperatively disposed.

Figure 2 is a horizontal section of my device in position for locking the window shut and holding the sashes against any relative movement.

Figure 3 is a perspective view of the device viewing the same from the rear and shown in the position indicated in Figure 2.

Figure 4 is a view similar to Figure 3, but showing the device in a different position.

Figure 5 is a fragmentary perspective view of the lower portion of the plate member viewing it from the front.

As hereinbefore mentioned, the device of my invention is adapted to prevent the opening of a window beyond a predetermined limit unless the window is first shut and the device is then manipulated from the inside to render it inoperative. In connection with such devices, difficulty has been encountered in utilizing them in locking the windows in shut position without complicating the structure and operation of the device. In the present invention, the foregoing difficulty is not only overcome, but in such locked position relative movement of the sashes in any direction is entirely eliminated and rattling of the sashes thereby entirely prevented.

In the present form of the invention, the device is applied to a window having two slidably mounted sashes, and comprises a bolt 6 which is slidably and rotatably mounted in a bearing 7 arranged to be fixed to the top of the lower sash 8 of the window 9. Fixed to the other sash 12 of the window is a plate 13 preferably arranged on the stile 14 thereof. On account of the slight protrusion of the plate, a portion of the weather strip 16 is recessed to permit the plate to pass the same during relative movement of the sashes. The necessity for recessing the weather strip may be dispensed with by mortising the stile to receive the plate.

Formed in the plate 13 and aligned with the bolt 6 is a longitudinally extending slot 17 which is of substantially the same width as the bolt and is adapted to be engaged thereby when the device is in operative position. The plate is provided with side flanges which serve to space the plate from the surface on which it is mounted and thereby define a pocket 18 therebetween. The bolt is provided with a handle 19 by which it may be moved into or out of the slot. When the bolt is engaged in the slot, the extent to which the window may be opened is limited by the length of the slot. The lower end 20 of the slot is enlarged and is of substantially the same form and size as a head 21 formed on the cooperating end of the bolt. The portion 20 is arranged to be in direct line with the head of the bolt when the window is fully closed thereby preventing the insertion or withdrawal of the bolt from the slot except when the window is in other than in closed position. The head is of different widths in different axial planes so that it can be passed through the slot into the pocket only when the bolt head is disposed in complementary relation to the portion 20. Thus the bolt head, when so

inserted and partly rotated, will prevent the withdrawal of the bolt, and relative movement of the sashes will be limited whether the window is partly open or fully closed.

Means are provided for locking the window in closed position while the head of the bolt is disposed in the pocket. As here shown, said means comprises a shoulder 31 so positioned in the pocket that the head of the bolt will engage the same when given a slight turn after being inserted in the pocket and while the window remains shut. The shoulder 31, in the present embodiment, is formed on a block 32 rigidly held in the base of the pocket and suitably recessed, as at 33, to allow the bolt head to be inserted and rotated therein while the window is shut. An opening 34 is formed at the top of the recess and is wide enough to permit the passage of the head therethrough in a direction longitudinally of the slot, provided that the head is positioned with its narrowest width arranged to lie across the opening. It will be thus understood that should the bolt head be positioned with other than its narrowest width presented to the opening, a portion of the head will abut against the shoulder 31 and positively prevent the opening of the window.

The handle 19 of the bolt 6 engages in a slot formed in the bearing 7 and having a straight portion 37 and a spiral portion 38 connected together at their forward ends. When it is desired to move the bolt into or out of engagement with the plate, the handle is operated in the straight portion 37, the head being then in such relation to the enlarged portion of the slot as to pass therethrough. However, when it is desired to rotate the bolt after the head is in the pocket so as to prevent the withdrawal of the bolt, the handle is operated in the portion 38. Owing to the spiral form of the latter, rotation of the bolt while engaged in the plate moves the head against or from the back face of the plate. By thus forcing the head against the plate, both sashes will be drawn together and clamped to the window stop 41 interposed between them, thereby effectively preventing any rattling. Inasmuch as the head may simultaneously be held against the shoulder 31 and forced against the rear surface of the plate while the window is shut, the latter, when in such position, can be both locked and prevented from rattling. Means are also provided for insuring against relative sidewise displacement of the sashes when the window is closed and the head, although in the pocket, is for one reason or another not pressed against the plate with sufficient force to prevent such movement of the sashes. As here shown, the foregoing is accomplished by forming the head of the bolt and sides of the recess 33 circular and curved on substantially the same radius. In this manner, when the head is disposed in the recess and turned after its insertion therein, the opposite edges of the widest portion thereof will engage the opposite surfaces 42 and 43 of the recess sides and thereby positively prevent any relative side movement of the sashes.

Means are also included for preventing the withdrawal of the bolt from the plate by jarring the sashes when the window is shut. As here shown such means comprises a notch 40 formed at the forward end of the lower side of the slot 37, and in which the handle 19 may seat. When the bolt is in the position shown in Figure 3, and a jarring of the sashes causes the bolt to rotate sufficient to remove the handle from the spiral 38, the handle due to its weight will automatically drop into the notch and prevent it from moving outward into the straight slot 37 and thereby release the bolt. It will further be noted that when the handle is seated in the notch, the head of the bolt will have been rotated as shown in Figure 4 to such position that its withdrawal from the slot is prevented.

Since the efficient operation of the device depends to a large extent on the proper initial positioning and maintaining such positioning of the parts, an effective manner of securing such positioning is here provided. Firstly, the plate is attached to the associated sash in such position that the head of the bolt may be inserted through the slot when the window is fully closed. The bearing is then secured to the sash with which it is associated by screws 44 set in a pair of slots 46 formed in the base 47 of the bearing. The operation is then tested and when satisfactory, the screws 44 are driven home and a pair of screws 48 is driven through apertures 49, also provided in the base.

Owing to the fact that after a time the window sashes frequently become loose, the portion 20 of the slot 17 is preferably made larger than the bolt head, thereby enabling the ready insertion or withdrawal of the head therethrough even though the sashes are not in alignment. However, when the head is in the recess 33 and rotated, the close engagement of the head with the surfaces 42 and 43 brings the sashes into the desired alignment.

I claim:

1. A fastening means for windows having slidable sashes, a bolt adapted to be rotatably and slidably held on one of said sashes, a head on said bolt having different widths in different axial planes and having its greatest width defined between arcuate edges, a plate arranged to be positioned on the other of said sashes provided with a slot in which said bolt is adapted to engage and having an enlarged portion through which

said head may be passed only when the window is fully closed, said bolt being arranged to move in said slot upon the relative sliding of said sashes, the extent of relative slidable movement of said sashes when said bolt is engaged in said slot being determined by the combined length of the enlarged and reduced portions of latter and means behind the enlarged portion of said slot defining spaced arcuate surfaces corresponding to and with which the said arcuate edges of the widest portion of the head are adapted to engage to prevent relative sidewise displacement of the sashes and including surfaces with which other portions of the head are adapted to engage to prevent relative longitudinal movement of the sashes.

2. In a fastening device for windows having slidable sashes, a bolt adapted to be rotatably and slidably held in one of said sashes, a head on said bolt having different widths in different axial planes, a plate arranged to be fixed to the other of said sashes provided with a slot in which said bolt is adapted to engage and be held during relative movement of said sashes and having an enlarged lower end portion substantially of the same shape as said head through which said head may be passed only when the windows are fully extended and from which the withdrawal of said bolt is arranged to be prevented by engagement of the head with rearwardly facing surfaces of the plate adjacent the slot when the bolt is inserted in the slot and rotated, stops on said plate arranged to the rear of the enlarged portion of said slot and adapted to be engaged by substantially opposite edges of the widest portion of said head upon rotation of said bolt following its insertion, and a shoulder to the rear and to one side of said slot adapted to be engaged by an edge of said head to prevent the relative longitudinal sliding of said sashes when said bolt has been inserted in said slot and rotated.

In testimony whereof, I have hereunto set my hand at Oakland, this 14th day of July, 1923.

ARTHUR C. WHEELOCK.