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G. PITRONE

SAFETY WINDOW LATCH

Filed March 5, 1923

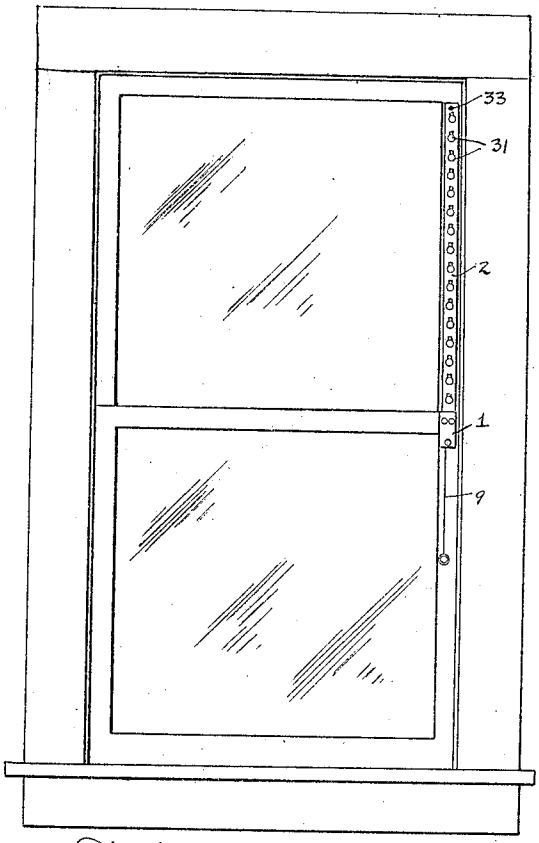


Fig. 1

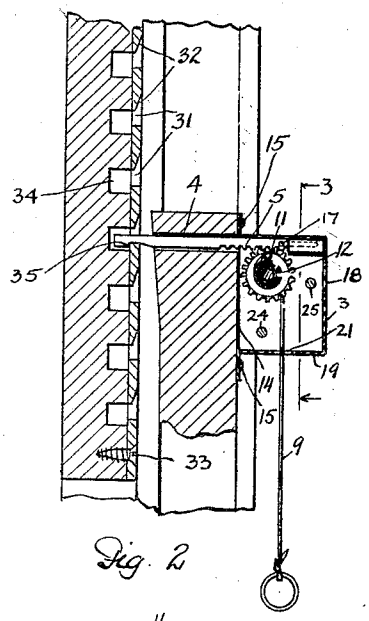


Fig. 2

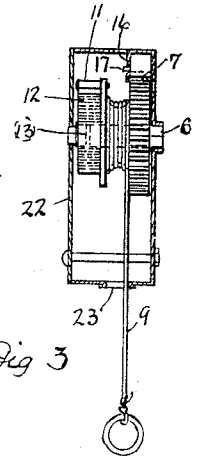


Fig 3

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SAFETY WINDOW LATCH.

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To all whom it may concern:

Be it known that I, GIUSEPPE PITRONE, a citizen of the United States, and a resident of Cleveland, county of Cuyahoga, and State of Ohio, have invented a new and useful Improvement in Safety Window Latches, of which the following is a specification, the principle of the invention being herein explained and the best mode in which I have contemplated applying that principle, so as to distinguish it from other inventions.

This invention relates to a safety window latch. More particularly it comprises a latch secured to one sash member of a window and adapted to engage apertures in a latch plate secured to the other sash of the window.

The usual type of window latch is ordinarily adapted to lock the window only when it is in entirely closed position and such fastening devices as are adapted to hold a window in semi-raised position are, in many instances, of a light construction permitting the ready adjustment of the window to other positions by merely exerting sufficient pressure. Such devices would not prevent unauthorized entrance into a house through the window.

The object of the present invention is to improve window fasteners in general and to provide a device of that type which will be, in a large measure, burglar proof and at the same time very easily controlled. Another object of the invention is to provide an apparatus of this character which may be cheaply manufactured and which will have adequate strength for use both as a window fastener and a burglar proof latch.

A further object is to provide an automatically engaging window fastener which will prevent a window, if accidentally released, from falling to the bottom of the frame and fracturing the glass. Other objects of the invention will appear in the course of the following description. To the accomplishment of the foregoing and related ends, said invention, then, consists of the means hereinafter fully described and particularly pointed out in the claim.

The annexed drawing and the following description set forth in detail certain mechanism embodying the invention, such disclosed means constituting, however, but several of various mechanical forms to which the principle of the invention may be used.

In said annexed drawings:—

Fig. 1 is an elevation of a window showing the safety window latch applied thereto; Fig. 2 is a vertical sectional elevation in enlarged detail showing the locking bolt in engagement with the apertured latch plate; and Fig. 3 is an enlarged sectional detail view taken along the line 3—3 shown in Fig. 2, looking in the direction of the arrows.

As is clearly shown in Figs. 1, 2, and 3, of the drawing, my preferred form of window fastener comprises a latch member 1 and an apertured latch plate 2. The latch member comprises a casing 3 of a box-like form, within the upper portion of which a bolt 4, having a toothed lower section 5, is positioned. Extending transversely of the latching bolt a fixed shaft or fastening bolt 6 is secured at its ends to the casing and carries upon its central portion a pinion 7, having secured thereto a pulley wheel 8. The pinion is provided with teeth of the proper size to mesh with the toothed under section of the bolt with which it is held in permanent engagement. Upon the pulley a cable 9 is wound, one end of said cable being secured to one flange of the pulley and the other end extending downwardly in a vertical direction through the base of the casing. Upon the outer side of the pulley a pin 11 is provided over which is slipped a loop formed on one end of a flat metal spring 12 of the clock spring type. At the other end of said spring a terminal element is provided to be engaged over the shaft and be held in non-rotatable relation thereto by any suitable means shown in the drawing as a transverse pin 13.

The casing for the window latch is preferably formed of a base member and a cover member. The base member comprises a single piece of sheet metal provided with extension sections about each of its sides. The extension edge 15 at the left hand side of said plate is adapted to be turned at right angles to the main body portion thereof and is provided with means for securing it to the front face of the lower sash. Such means may comprise upper and lower apertures through which screws 15 may be secured to hold said plate against the sash. The upper extension 16 of the base plate is provided with a slot and when folded into spaced parallel relation with the upper

margin of the body provides means within which the locking bolt may be received. A projecting pin 17 is secured to the rearward end of the locking bolt and is received within said slot and serves to limit the forward and rearward motion of said bolt. The right hand and bottom extensions 18, 19, of the base plate are turned upwardly to provide flanges against which the cover member may seat. The lower flange is cut away adjacent the left hand side to provide an aperture 21 through which the operating cable, heretofore described, is extended.

The cover member 22 of the device comprises a sheet of metal, the body portion of which is adapted to be positioned opposite the body of the base plate and the flanges of which are adapted to engage the flanges of the base plate. The lower flange of the cover member is provided with a slot 23 to permit the operating cable to extend through the wall of the casing. The cover member is preferably held in position against the base member by means of a plurality of bolts 24, 25, secured to the base member and extending through apertures formed in the body of said cover. Upon the ends of the several bolts the usual threaded nuts are adapted to be tightened to firmly secure the base and cover members together. One of said bolts, as has been indicated, serves as the shaft upon which the combined pinion and pulley are rotatably supported.

The latch plate 2 of the device comprises a strip of sheet metal provided with a series of spaced apertures 31 of a size adapted to be engaged by said latching bolt and having beveled sections 32 upon its outer face above each of said apertures and merging therewith. Through appropriate means such as apertures for wood screws 33, which are provided adjacent each end of the locking plate, the same may be fastened to one of the inner side faces of the upper window sash. Before said plate has been securely affixed to the side of the sash, enlarged recesses 34 are formed in said sash at points registering with the apertures of said plate. The purpose of said enlarged recesses is to permit of the locking engagement of said bolt with the inner face of the locking plate adjacent one of said apertures. This locking engagement is produced by forming the forward end of the bolt with a projecting tooth 35 at its under side by beveling the portion of said bolt adjacent thereto.

This construction permits of the ready adjustment of the window to any desired position, the operator retracting the bolt by putting tension upon the cable and then moving the window to approximately the position in which it is desired to lock the same. By lowering the window slightly, the spring pressed bolt will ride against the beveled section of the latch plate and be guided into one of the apertures of said plate. The spring within the casing then forces the bolt into said aperture and upon lowering the window a slight additional distance the tooth on the forward end of the bolt will be engaged behind the apertured plate. When the window is in the position last described, the bolt cannot be retracted from engagement with the locking plate by merely pulling on the cable, as the tooth of said bolt will be brought into engagement with the inner face of said locking plate. Thus accidental unlatching of the window by pulling upon said cable is avoided. When it is desired to change the position of the window it is necessary to raise it slightly before putting tension on the cable. This form of the invention is of particular utility in places where windows having fixed upper sashes and having no cords and sash weights connected with the lower window sash are installed, as is usual in many small country houses. It will be noted that the usual central latch upon the window may be dispensed with and inasmuch as the locking bolt is preferably positioned at a point below the upper edge of the lower sash, there is no obstruction to prevent the raising of the window to its full extent.

Other modes of applying the principle of my invention may be employed instead of the one explained, change being made as regards the mechanism herein disclosed, provided the means stated by the following claim or the equivalent of such stated means be employed.

I therefore particularly point out and distinctly claim as my invention:—

In a window latch, an apertured latch plate attached to the upper window sash, beveled sections on the outer face of said plate above each of said apertures and merging therewith, a casing secured to the upper portion of the lower window sash, a spring pressed bolt having its rearward end housed within said casing and its forward end normally held in engagement with said latch plate, a rack formed on the under side of the inner end of said bolt, a pinion engaging said rack, a spring normally turning said pinion to a position to project said bolt, a pulley wheel secured to said pinion and a cable having one end fastened to said pulley wheel and its adjacent section wound over said pulley wheel so that when its free end is placed under tension it will revolve said pulley and pinion to retract said bolt from engagement with the apertures of said latch plate.

Signed by me, this 28th day of February, 1923.

GIUSEPPE PITRONE.