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A. J. DRAPEAU

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SAFETY CATCH FOR WINDOWS AND THE LIKE

Filed Jan. 28, 1930

Fig. 1.

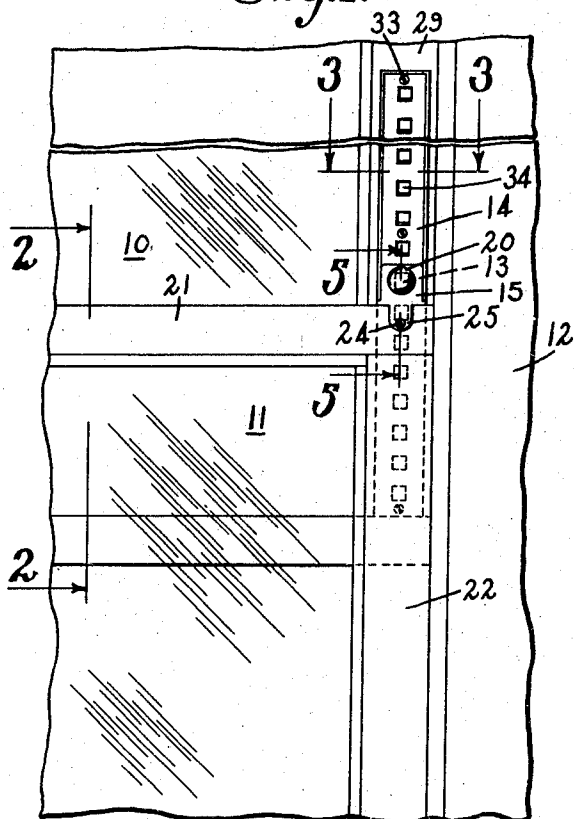


Fig. 2.

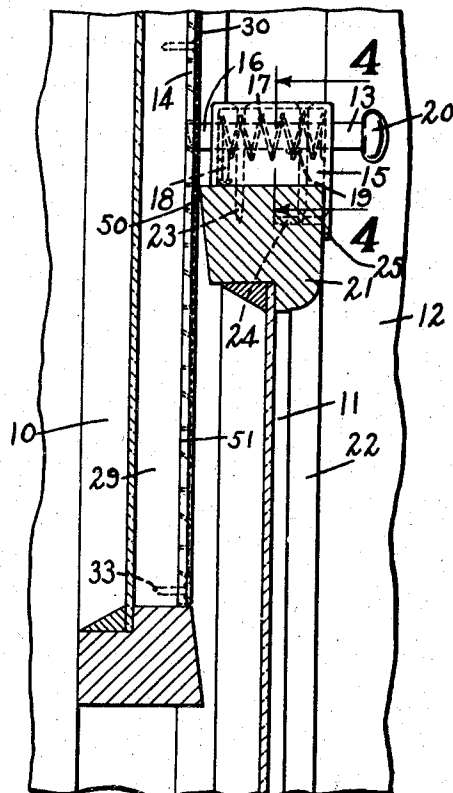


Fig. 3.



Fig. 5.

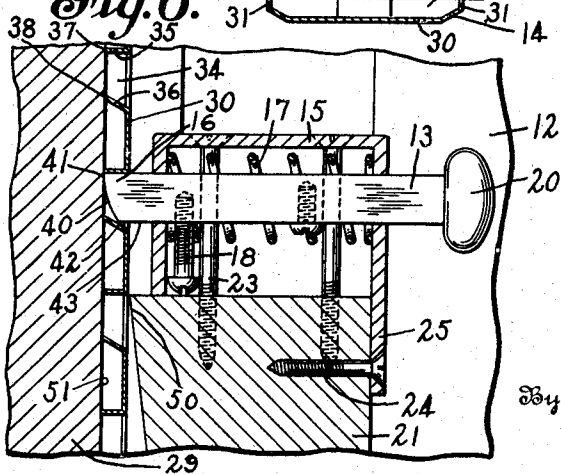
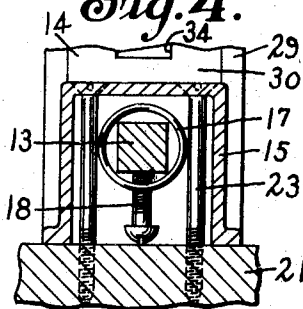


Fig. 4.



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SAFETY CATCH FOR WINDOWS AND THE LIKE

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This invention relates to safety catches for windows or the like, and especially to a type of catch for use with that type of windows in which the sashes are adapted to be raised or lowered.

It is often desirable to raise the lower sash or to lower the upper sash of a window to open the same for ventilating purposes, and in such instances, it is especially desirable that the sashes be secured in such position against further opening in order to prevent unauthorized entering therethrough. It is also desirable that the open window be readily closed in an emergency. A catch for securing the sashes for the above purpose should be readily releasable for further opening from the inside and protected against release from the outside of the window.

One object of this invention is to provide an improved catch for windows or the like.

Another object is to provide a window catch that may be operated to permit the raising or lowering of a window sash a desired amount, and will then prevent further and unauthorized movement thereof.

Another object is to provide a window catch that, while preventing further and unauthorized opening of the window, will readily permit the lowering or raising of a window sash to close the window.

Still another object is to provide a window catch of such construction that it cannot be readily tampered with in such a manner as to cause it to become inoperative.

Further objects of this invention are to provide a window catch that may be readily attached to a window without alteration thereof, that will be inexpensive to manufacture and efficient in use.

To these and other ends, the invention consists in the novel features and combinations of parts to be hereinafter described and claimed.

In the accompanying drawings:

Fig. 1 is a front view of a window catch

embodying the features of this invention, and shown applied to a window;

Fig. 2 is a section on line 2—2 of Fig. 1;

Fig. 3 is a section on line 3—3 of Fig. 1;

Fig. 4 is a section on line 4—4 of Fig. 2, and

Fig. 5 is a section on line 5—5 of Fig. 1.

The window catch embodying the features of this invention is shown applied to a window comprising an upper sash 10 and a lower sash 11 that are relatively movable in parallel planes in a window frame 12. The catch comprises a catch bolt 13 and a catch plate 14. The catch bolt 13 is slidably mounted in a casing-like supporting member 15 and its catch plate engaging end 16 is urged outwardly and toward plate 14 by a spring 17 that acts against the rear end wall of member 15, and a downwardly projecting member 18 secured to the bolt 13. The member 18 is disposed in proper position in respect to the length of the bolt 13 to engage the front end wall of the member 15 to limit the outward movement of the bolt 13. A stop member 19 is also provided on the bolt 13 and adapted to engage the rear end wall of member 15 to limit the inward movement of the bolt 13 when the same is drawn in or retracted by suitable means such as the knob 20. The depending member 18 projects downwardly sufficiently to engage the upper surface of bar 21, to support the bolt 13 in alignment with the openings in the ends of member 15, through which it is adapted to slide. The supporting member 15 is secured to the upper cross-bar 21 of the lower sash 11, in vertical alignment with one of the side bars 22 thereof, by means of screws 23 that extend downwardly into the cross-bar 21 and by a screw 24 that extends laterally through a depending part 25 formed on the member 15 and into the cross-bar 21.

The catch plate 14 is preferably of sheet material pressed outwardly to provide a forwardly spaced face portion 30, and rearwardly directed sides 31 and ends 32. Suit-

able screw openings are provided to permit the passage of screws 33 therethrough to secure the plate 14 upon a side bar 29 of the upper sash 10 of the window. The plate 14 is provided with a series of openings 34 that are spaced apart lengthwise of the plate and which are adapted to receive the end 16 of the bolt 13 when the same is in protracted position.

Preferably the openings 34 will be formed by striking out material from the face portion 30, and in this instance, the material so struck out is separated into two parts 35 and 36, part 35 being bent rearwardly substantially at right angles to the face portion 30 to form an upper wall for the opening 34 and being of proper length so that its free edge 37 will lie in the plane of the rear edges of the sides 31 and ends 32, and engage the surface of the sash bar 29. Part 36 is bent rearwardly at an angle to the base portion 33 to form a lower wall for the opening 34, and its free edge 38 is also disposed in the plane of the rear edges of the sides 31 and ends 32, and engage the surface of the sash bar 29. Part 36 forms an inclined wall that inclines downwardly from the rear of plate 14 to the face portion 30 thereof. By being in engagement with the surface of the sash bar 29 in the plane of the rear edges of the sides 31 and ends 32, the free edge of the lower wall 38 of opening 34, or part 36, will be supported by the sash part 29 and retained in inclined position.

The catch plate engaging end 16 of the bolt 13, is provided with an inclined end surface 40, the angle of inclination thereof starting at the upper extreme end edge 41 thereof and being directed downwardly and forwardly with respect to and away from the plate 14, to the lower extreme end edge 42 of the bolt end 16. The edge 42 is disposed forwardly with respect to plate 14 an amount slightly less than the amount the front face portion 30 is spaced forwardly from the side bar 29, that is, less than the thickness of plate 14 so that it will lie below or to the rear of the surface of the front face portion 30, when the bolt 13 is in protracted position and in one of the openings 34. The inclined end surface 40 is illustrated as being slightly crowned whereby smoother movement is caused while the same is riding upon the surface of the inclined wall or part 36. The under surface 43 of the bolt 13, in this instance, is flat, the bolt 13 being square in cross-section but though the cross-sectional shape be changed it is preferable to so arrange the parts that the surface 43 will be disposed substantially at right angles to the front face portion 30 of the plate 14 for a purpose to be hereinafter pointed out.

The device of this invention is preferably mounted as shown, the bolt 13 with its casing 15 being secured to the lower sash 11

adjacent one edge thereof, and the plate 14 being secured to the upper sash 10 upon the side bar 29 thereof, that is adjacent and in alignment with the edge of the lower sash adjacent which the bolt is secured and with the openings 34 therein in vertical alignment with the bolt end 16 to permit cooperation thereof. Either sash may be opened, that is, the lower one may be raised or the upper one lowered by withdrawing the bolt 13 to free its end from an opening 34, and moving the sash as desired. Release of the bolt 13 will, due to the spring 17, cause it to snap into an adjacent opening 34 whereby, due to the cooperation of the bolt end 16 with the upper wall 35 of this opening and which forms an abutment, the sashes 10 and 11 cannot be relatively moved in one direction and an unauthorized person cannot further open the window from the outside. The sashes may be moved in a direction tending to close the window and in so doing the bolt end 16 will be cammed into its retracted position by the action of inclined wall 36 and the inclined end face 40 of the bolt end 16, the bolt, under the urge of spring 17, snapping successively into each opening as it passes by the same.

Preferably the thickness of plate 14 is such that it substantially equals the amount of space generally provided between the edge 50 of the upper bar 21 of lower sash 11 and surface 51 of the side bar 29 of the upper sash 10. This is to prevent the insertion of a strip of material between the front face portion 30 and the upper bar 21, by an unauthorized person from the outside of the window to cover the openings 34 in order to hold the bolt 13 in retracted position. Due to the tight fit thus provided between the front face of the plate 14 and the upper bar 21, the insertion of a strip of material will cause the sashes to bind and prevent further movement thereof. The disposition of the edge 42 of bolt end 16 below the surface of the plate 14, prevents sufficient engagement of this edge by a thin tool or the like from the outside of the window to pry the bolt end 16 out of the opening 34 wherein it rests. Any attempt toward this end will result in the end of the tool being used coming into engagement with the under surface 43 of bolt 13, which by being straight, flat and disposed at substantially right angles to the face of plate 14 presents no means engageable by the tool whereby the bolt can be retracted.

While I have shown and described a preferred embodiment of my invention, it is understood that it is not to be limited to all of the details shown, but is capable of modification and variation which will lie within the spirit of the invention and the scope of the appended claims.

What I claim is:

1. In a catch, a catch bolt, means to slidably mount said bolt upon one of a pair of members that are disposed to slide relatively past each other, a sheet metal catch bolt plate secured upon a face of the other of the pair of relatively slidable members, said plate having a series of spaced apart openings in the face thereof, each opening being formed by displacing portions of the material of said plate, one portion of the displaced material being of a length substantially equal to the thickness of said plate and directed inwardly substantially at right angles to the face of said plate to engage the face of the slidable member to which it is secured and to form, an upper wall for each of the aforesaid openings a support for the face of said plate and an abutment engageable by said bolt to prevent relative movement of the members in one direction, and the other portion of the displaced material being directed inwardly at an angle to form, a lower inclined wall for each of the aforesaid openings, and an abutment engageable by said bolt to retract the same when the relatively slidable members are moved relatively to each other in another direction.

2. In a catch, a catch bolt, a sheet metal catch bolt plate therefor and a supporting member for said catch bolt plate, said catch bolt plate comprising a strip of material having inturned flanges along its edges adapted to seat against the surface of said supporting member, fastening means extending through the body portion of said strip and into said supporting member, said plate having a series of spaced apart openings in the face thereof, each opening being formed by displacing portions of the material of said plate, one portion of the displaced material being of a length substantially sufficient to be directed substantially at right angles with the body portion of said strip and engage said supporting member to support the body portion of said strip in spaced relation thereto and forming an upper wall for each of the aforesaid openings and an abutment engageable by said bolt, and the other portion of the displaced material being directed toward said supporting member at an angle to form a hollow inclined wall for each of the aforesaid openings.

In witness whereof, I have hereunto set my hand this 25th day of January, 1930.

ALEXANDER J. DRAPEAU.