Aug. 11, 1936. G. S. HILLS 2,050,322

WINDOW GUARD

Filed Aug. 28, 1935 2 Sheets-Sheet 1

Fig. 1.

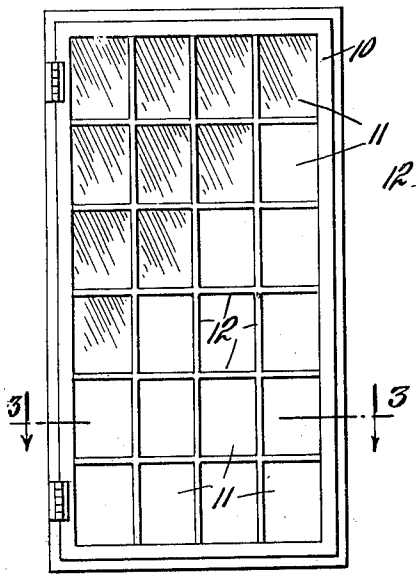


Fig. 2.

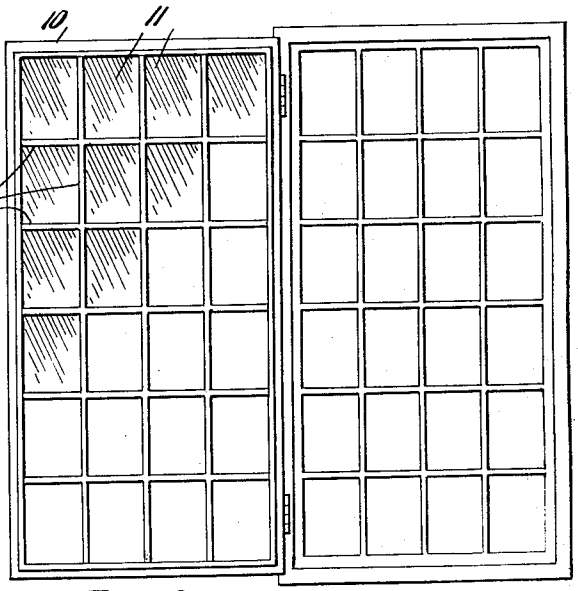


Fig. 4

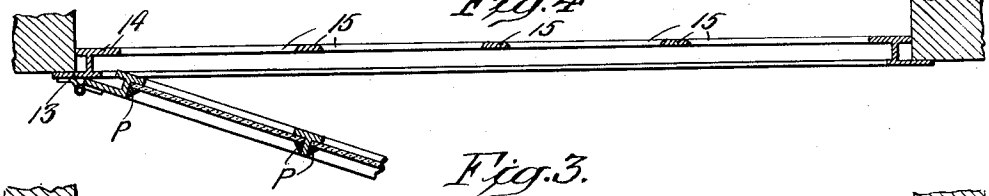
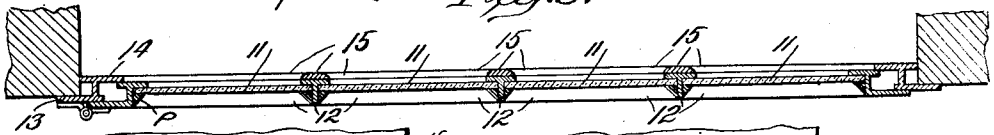


Fig. 3.



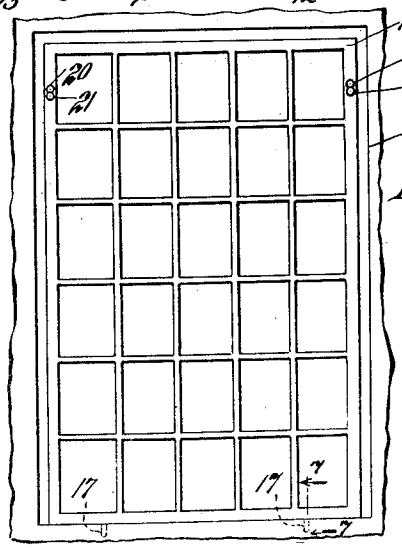


Fig. 5.

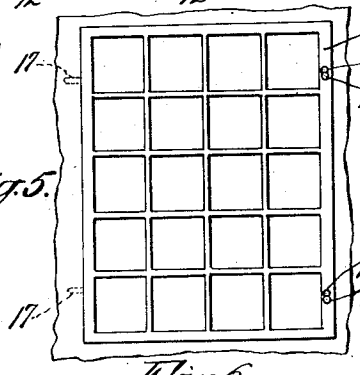


Fig. 6.

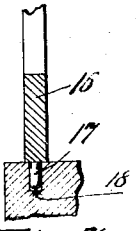


Fig. 7.

INVENTOR
George S. Hills

BY

John W. Hoag
ATTORNEY

Aug. 11, 1936. G. S. HILLS 2,050,322

WINDOW GUARD

Filed Aug. 28, 1935 2 Sheets-Sheet 2

Fig. 8.

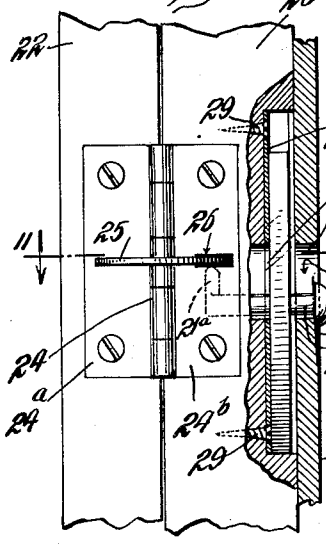


Fig. 9.

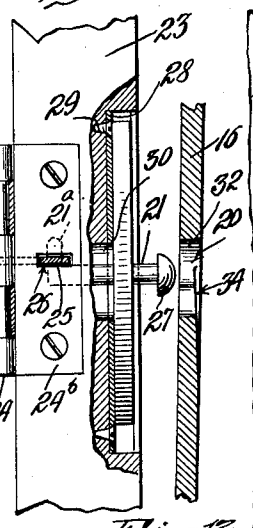


Fig. 10.

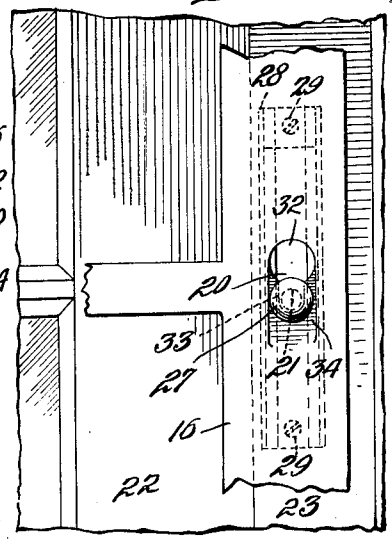


Fig. 13.

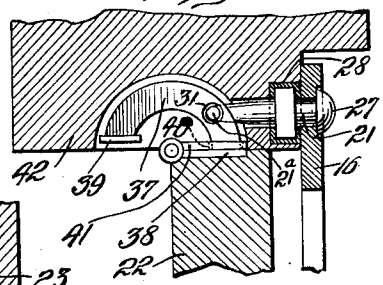


Fig. 16.

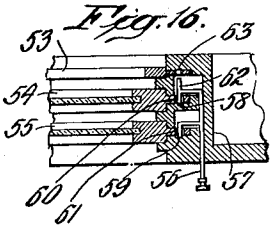


Fig. 11.

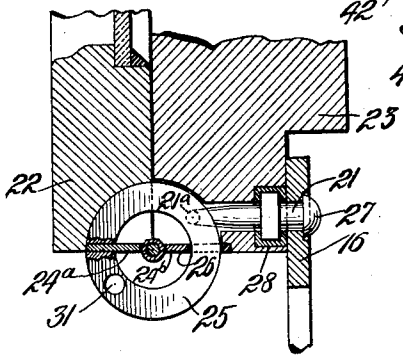


Fig. 14.

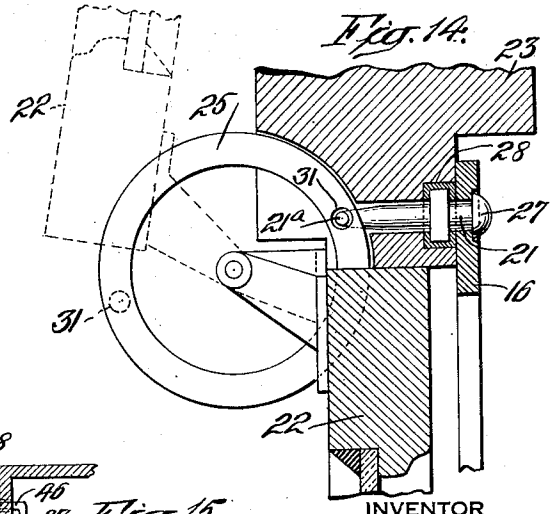


Fig. 12.

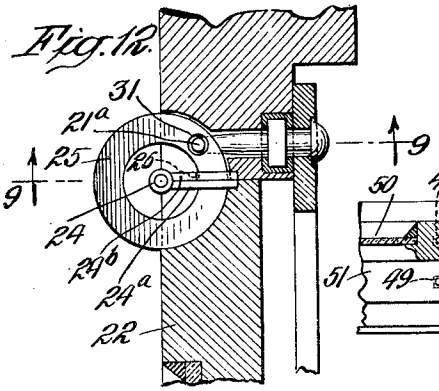
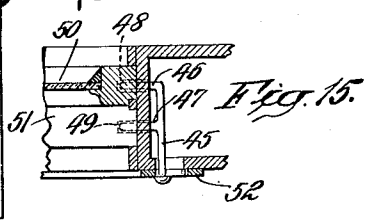


Fig. 15.



INVENTOR
George S. Hills
BY
John W. Hoag
ATTORNEY

Patented Aug. 11, 1936 2,050,322

UNITED STATES PATENT OFFICE

2,050,322

WINDOW GUARD

George S. Hills, New Rochelle, N. Y.

Application August 28, 1935, Serial No. 38,192

11 Claims. (Cl. 189—64)

This invention relates to an improved combination of a window and grill, and to means applicable to a demountable grill for preventing the grill from being removed while the window forming part of the combination is open.

Under modern conditions of living there is an increasing demand, both from house and apartment dwellers, for effective window guards which will at the same time prevent entry from without and safeguard the occupants, including children and domestic pets, from within when the window is open for ventilation or for any reason. Guards or grills of the kind which have heretofore been used for windows are ordinarily unsightly and the observer from either the inside or the outside of the window is made aware of their presence even while the window is closed.

In carrying out my invention, I provide window guard means which will not be obvious to the casual observed either from within or without when the window is closed. I also provide means on the window frame or buck cooperating with a member movable with the window to prevent the grill from being opened or removed while the window is open. It will be understood that the means disclosed herein is capable of a variety of other applications and may be used, for example, for screens and storm windows without departing from the scope of my invention.

The invention will best be understood if the following description is read in connection with the accompanying drawings in which

Fig. 1 is a front elevation of a window of the casement type and grill, as seen from the outside;

Fig. 2 is a similar view with the window in open position illustrating the unitary window frame and grill;

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

Fig. 4 is a view similar to Figure 3 party broken away, illustrating the window in open position;

Figs. 5 and 6 illustrate modifications of a demountable grill;

Fig. 7 is a detail view of a demountable grill positioning means;

Fig. 8 is is a longitudinal section showing means preventing the window and grill from being open at the same time;

Fig. 9 shows the position of the members illustrated in Figure 8 when the grill is being demounted;

Fig. 10 is a front plan view of the combination of means shown in Figure 8 with a grill bar and window cross-member partly broken away;

Fig. 11 is a detail view of a window hinge and cooperating grill locking means when the window is open;

Fig. 12 is similar to Figure 11 showing the position of the members when the window is closed;

Fig. 13 illustrates my invention applied to a hinge having a modified form of flange;

Fig. 14 illustrates the application of my invention to a hinge of the extension type; and

Figs. 15 and 16 are detail views of modified forms of locking means.

In the drawings Figures 1 to 4 a window 10 of the casement type is illustrated having a number of panes 11 separated by cross-members 12. The panes may be secured to the cross-members in any well known manner as by the putty indicated at P. The window 10 is hinged to the rear portion 13 of the buck or frame 14 which is integrally formed with a plurality of guards or bars 15 forming a grill. The bars 15 of the grill are positioned so that they each overlie and abut against a cross-member 12, as illustrated in Figures 3 and 4.

When the window 10 is closed the bars 15 of the grill will hide the cross-members 12 which they overlie and will themselves appear to be cross-members 12, it being understood that for this purpose the cross-members 12 and the bars 15 will accordingly only be noticeable during the period when the window 10 is open, which investigation shows is ordinarily only a small part of the average day, and even when the window is open the grill will present an image similar to that which the eyes have become accustomed to see in the window and will attract a minimum of attention.

While in Figures 1 to 4 of the drawings a casement window has been illustrated it will be obvious that the combination described may comprise any form of window having a plurality of cross-members.

The demountable grills 16 shown in Figures 5 and 6 are provided with positioning and supporting projections 17 adapted to be received in sockets 18 in the window buck or frame 19. The demountable grills are also provided with slots 20 adapted to receive slide-bolts 21 which cooperate with means on the window to prevent the grill from being removed while the window is open as will hereinafter be more fully described.

In Figures 8 to 13 a window sash 22 is shown mounted on a window buck or frame 23 by one or

more hinges 24. The hinge 24 comprises two leaves 24a and 24b. The leaf 24a is attached to the window sash and is movable therewith. The leaf 24b is attached to the window frame 23 and is stationary. Secured to the movable leaf 24a is a flange 25, which in the embodiment described herein is a circular disc having an open center. The flange or disc 25 passes through a slot 26 provided in the stationary hinge leaf and through channels provided therefor in the window frame 23 and sash 22, as illustrated in Figures 11 and 12. Mounted in the window frame is one of the slide-bolts 21 mentioned above having an enlarged head 27 by which it may be operated and which serves to retain the grill from being opened or demounted as will hereinafter be more fully explained. The slide-bolt 27 has an upturned portion or extension 21a positioned in abutting relation with the flange or disc 25. The slide-bolt 21 may be mounted in any suitable way, a bracket 28 secured to the frame by the screws 29 and having a slide-way 30 being illustrated herein.

The flange or disc 25 is provided with an aperture 31 adapted to receive the upturned portion 21a of the slide-bolt 21 when the window is in closed position, as illustrated in Figures 9 and 12.

Each slot 20 of the grill has a portion 32 larger than the head 27 of the slide-bolt 21, permitting the latter to be readily positioned in said slot, and permitting the grill to be disengaged from the said slide-bolt when it is positioned in the said enlarged portion. Opening from the said enlarged portion 32 of the slot is an elongated portion 33 of smaller width than the head 27 of the slide-bolt, and when the slide-bolt is in this portion of the slot the grill cannot be disengaged therefrom. The grill and slide-bolt are so arranged that when the grill is in position the slide-bolt will engage the narrow portion 33 of the slot 20, and cannot be moved into the larger portion 32 while the window is open because the upturned portion 21a of the slide-bolt will abut against the flange or disc 25. However, when the window is closed the aperture 31 in the flange or disc 25 will be in register with the upturned portion 21a of the slide-bolt permitting the slide-bolt to be moved into the enlarged portion 32 of the slot 20 and making it possible to remove the grill, as illustrated in Figure 9.

The face of the slot 20 may be somewhat bevelled, as illustrated at 34 in Figure 9, to more firmly engage the head 27 of the slide-bolt 21, when it is positioned in the portion 33 of the slot.

In Figure 13, I have illustrated a hinge having a semi-circular flange 37 joined to the hinge leaf 38 and provided with a stop 39 to prevent the flange from being withdrawn from the slot 40 in the stationary hinge leaf 41. As illustrated the flange 37 is wholly contained within the window frame 42.

In Figure 14, I have illustrated my device applied to an extension type of hinge.

In the modified form of my invention illustrated in Figure 15 a locking means is shown for preventing a grill from being removed unless both sashes of a window having two weighted sashes which move vertically in opposite directions are in closed position. In this embodiment a slide-bolt 45 is provided with a plurality of extensions 46 and 47 adapted to enter sockets 48 and 49 respectively, in the side of the sashes 50 and 51 when said sashes are in closed position. The slide-bolt cannot be operated to permit demounting of the grill 52 except when both sashes are in a predetermined position such that the sockets 48 and 49 will register with the extensions 46 and 47 respectively of the slide-bolt 45.

In Figure 16 a grill 53 is shown positioned on the outside of a window having two metal sashes 54 and 55, which move in opposite directions in a vertical plane. In this embodiment a pull rod or slide-bolt 56 is mounted in the frame 57 to move in a plane at right angles to the window sashes. It is provided with extensions 58 and 59 adapted to enter sockets 60 and 61 respectively, in the outer side of the sashes when said sashes are in closed position. An extension 62 is also provided which is seated in the socket 63 in the grill 53 when either or both the window sashes 54 and 55 are in open position and can only be withdrawn from the socket 63 when the sashes 54 and 55 are in closed position, at which time the extensions 58 and 59 will be in register with the sockets 60 and 61, thus allowing the grill 53 to be removed only when both of the window sashes are closed.

The flange or disc member 25 which I have illustrated herein as attached to the window hinge may, if desired, be secured to the window itself instead of to a hinge, the hinge being illustrated herein merely as a convenient place of attachment for the member, and many other modifications may be made without departing from the scope of my invention, which is to be limited only by the following claims.

What I claim is:

1. In combination a window, a window frame and a demountable grill having a slot to receive a slide-bolt, a slide-bolt mounted in a slideway in the frame, and positioned in said slot and means movable with said window limiting the movement of said slide-bolt except when the window is in a predetermined position.

2. In combination a window, a window frame and a demountable grill having a slot to receive a slide-bolt, a slide-bolt positioned in said slot, a portion of said slot being large enough to permit removal of the grill from said slide-bolt, and means movable with said window preventing movement of said slide-bolt to that portion of the said slot permitting removal of the grill except when the window is in a predetermined position.

3. In combination a window frame, a window hinged on said frame, a slide mounted in said window frame having an extension extending at right angles to the axis about which said window turns, a member carried by said window limiting the movement of said extension when the window is open but having a cut away portion adapted to register with said extension when the window is closed.

4. In combination, a window, a demountable grill and means for locking said grill when the window is open, comprising a slot in said grill having portions of greater and less width, a slideable member mounted in said slot and means preventing movement of the said member from the narrower to the wider portion of said slot except when the window is in closed position.

5. In combination, a window, a demountable grill and means for locking said grill when the window is open, comprising a slot in said grill having portions of greater and less width, a slideable member mounted in said slot and means preventing movement of the said member from the narrower to the wider portion of said slot except when the window is in closed position, said

means comprising an abutment movable with the window limiting the movement of said slideable member except when the window is in predetermined position.

6. A locking mechanism comprising in combination a slideable member, a hinge having a flange against which said slideable member abuts, but cut away to permit further movement of said slideable member when said hinge is in a predetermined position.

7. A locking mechanism comprising in combination a slideable member, a hinge having a movable leaf and a slotted stationary leaf, a circular flange joined to said movable leaf and extending through the slot in said stationary leaf, said flange limiting the movement of said slideable member except when the movable leaf of said hinge is in a predetermined position.

8. In combination, a window frame, a grill, and a window hinged on said frame and adapted to swing outwardly at an angle to said frame, an adjustable member extending through said grill member and said window frame, and means controlled by the position of the window limiting the movement of said adjusting member.

9. In combination, a window frame, a grill and a window adapted to swing relatively to said frame, and a means inter-connecting said grill member and said window frame and adapted to assume a position locking the grill to the window frame, and an alternative position permitting the grill to be demounted from the window frame, and means controlled by the angular movement of the said window relatively to said window frame for determining which of said positions is assumed by said inter-connecting member.

10. In combination, a window frame, a grill member, and a window hinged to said frame, a slideway extending through said grill member and said window frame, a slide mounted in said slideway and having an extension, and a member carried by said window limiting the movement of said extension when the window is open, but having a cutaway portion adapted to register with said extension when the window is closed.

11. In combination, a window frame, a window adapted to swing away from said frame, and means carried partly by said frame and partly by the window comprising a moveable member and a member adapted to limit the movement of said moveable member, except when in a predetermined position.

GEORGE S. HILLS.