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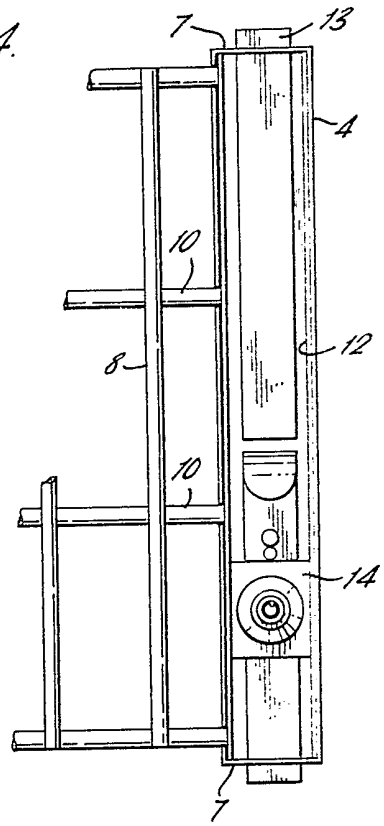
(54) Security Gate

(57) A security gate for a window or other aperture of a building in which a grille 8 is hingedly mounted at one side to a frame member which is secured within the aperture. The ends of the bars of the grille opposite the hinge enter slots 5 in part of the frame and are secured therein by a locking bar 11. The arrangement provides a secure closure for the opening yet permits egress from the interior of the building in the event of fire or other hazard.

FIG.4.



The drawings originally filed were informal and the print here reproduced is taken from a later filed formal copy.

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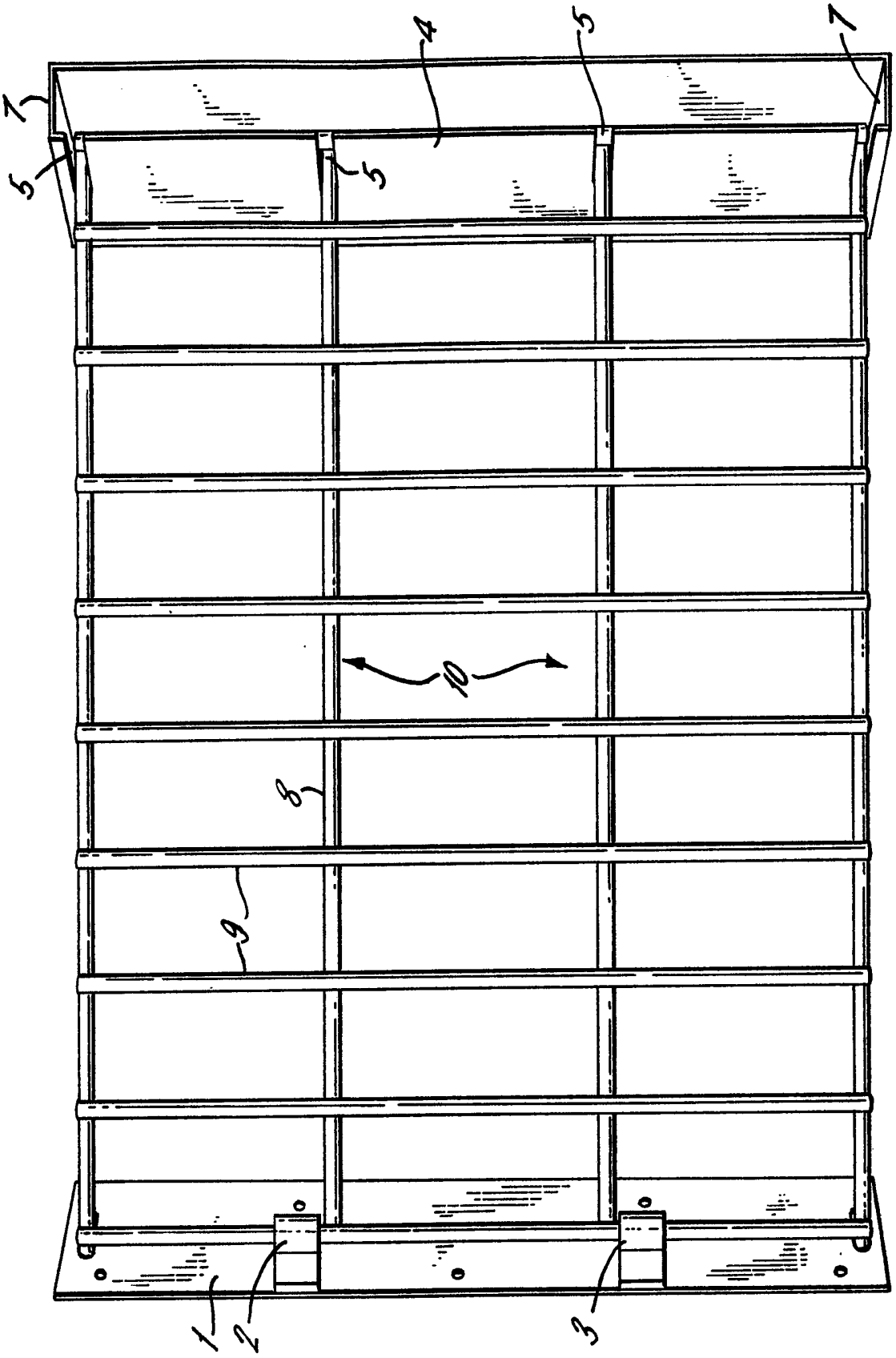


FIG. 1.

FIG. 2.

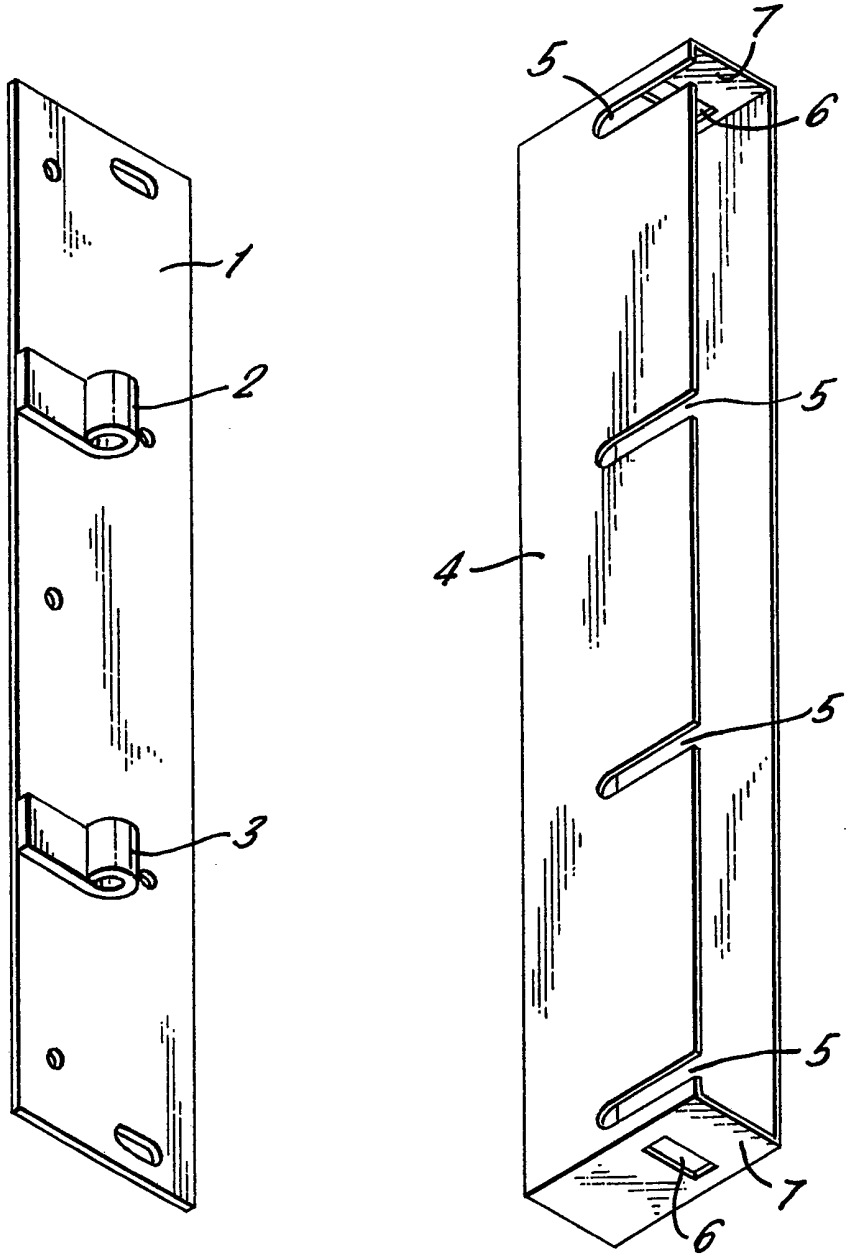


FIG. 3.

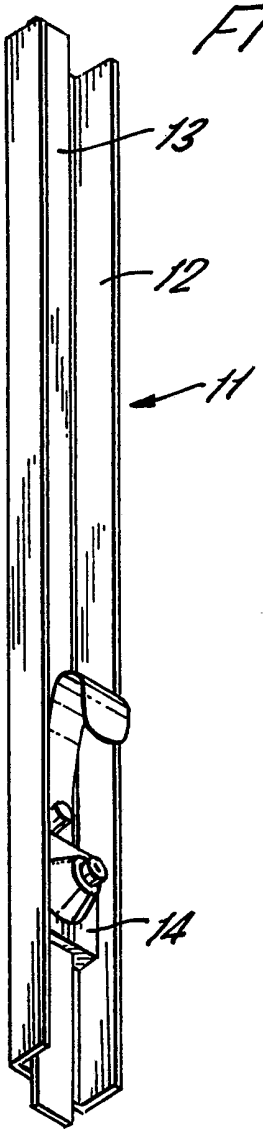
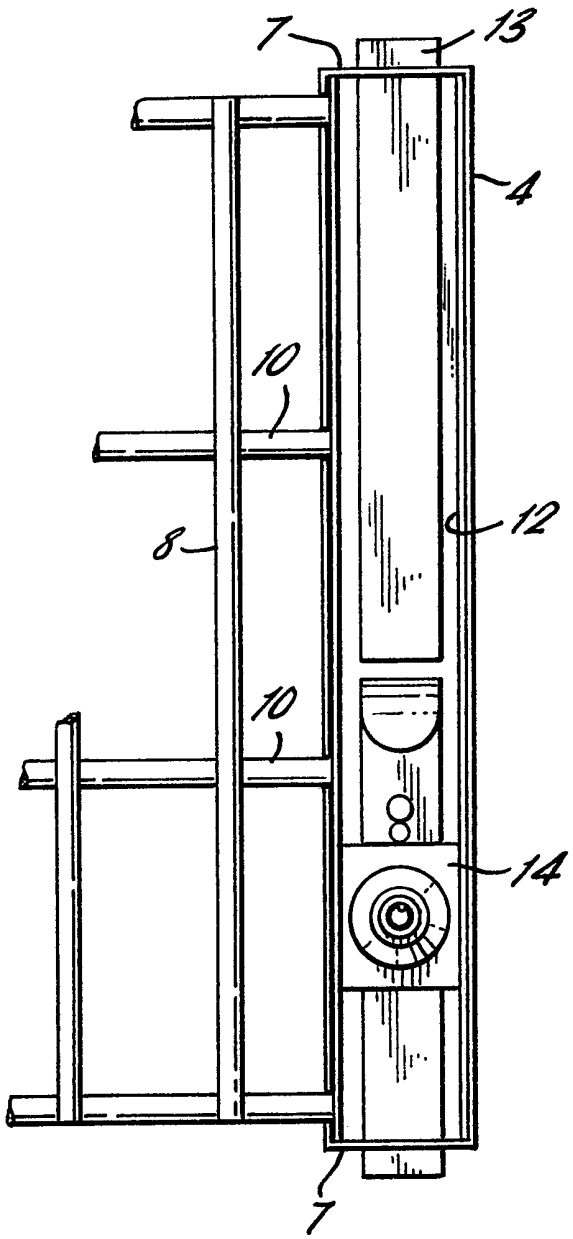


FIG. 4.



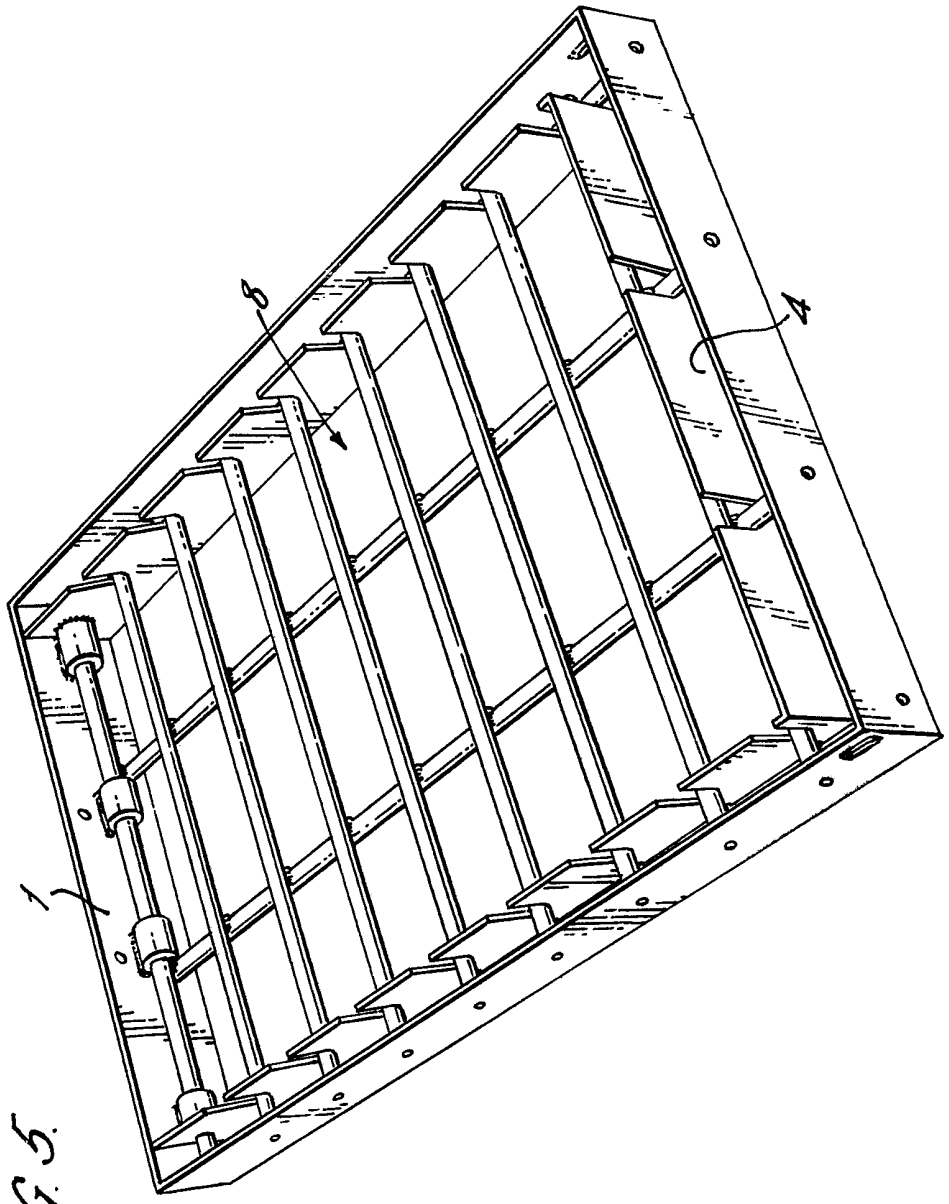


FIG. 5.

SPECIFICATION
Security Gate

This invention relates to a security gate for a window or other aperture of a building. It is well known to render a window or other aperture of a building more secure against intrusion by the disposition in the window of a frame which serves as a fixture for a grille. It is usual for the bars of the grille to be firmly secured against removal. We have appreciated however that the security of such a grille may be hazardous if, for example, there is a fire or other hazard which requires rapid escape from the building. It is the object of the present invention to alleviate this danger.

A preferred embodiment of the present invention comprises a security gate including a frame which fits into and is preferably secured within, a corresponding aperture, large enough for personal egress, in a wall; a grille which is hingedly mounted at one side, at least one channel or rebate formed in or constituted by the frame, having apertures for the reception of the ends of bars of the grille along another side thereof; and a lockable bar for securing said another side against opening.

In one embodiment of the invention, the frame is secured to the inside of the window or other opening and one side of the grille is hingedly connected to the frame at that side; the ends of the bars of the grille along, preferably, the opposite side enter slots in the corresponding member of the frame as the grille is closed and the ends of the frames are securable by means of a locking bar which preferably engages slots in the frame. In a modified embodiment of the invention, the grille and the frame are fixed together and can swing as a unit into and out of the window or other aperture.

Reference will hereinafter be made to the accompanying drawings, in which:—

Figure 1 illustrates part of a first embodiment of the invention;

Figures 2, 3 and 4 illustrate details of the first embodiment of the invention; and

Figure 5 illustrates part of a second embodiment of the invention.

Reference will first be made to the embodiment illustrated by Figures 1 to 4. The essential parts of a frame member comprise a wall fixing plate 1, which fits into and is secured to one side of a window opening. The wall fixing plate may be made of 10 SWG mild steel sheet and carriestwo $1\frac{1}{2}''\times3/8''$ mild steel hinges 2 and 3. To the other side of the window would be secured a further frame member comprising an open box 4 having slots 5 extending from one longitudinal edge partly across the adjacent broad face. The box has a slot 6 in each narrow end face 7.

The grille 8 is constituted by $\frac{1}{2}''$ diameter mild steel bars, bearing the reference 9 for the vertical bars and 10 for the horizontal bars in Figure 1. The left-hand bar (shown in the drawing) is received in the hinges and the various bars are welded as required at the crossing points. The ends of the horizontal bars remote from the hinge are received in the slots 5 of the box 4 when the gate is closed. The ends of these bars can be securely retained in the closure boxs by means of a locking bar 11 which comprises a channel member 12 and an operating bar 13 securable relative to the channel by a lock 14. The ends of the locking bar may be inserted in one or other of the slots 6 and the other slot engaged by sliding movement of the bar.

The purpose of the embodiments so far described is to provide a secure grille across the window opening but enable the grille to be opened as necessary from the inside of the buildings so that the window may be used for an exit if there is a fire or other grave danger within the building. It will be appreciated that it is desirable for the lock to be inaccessible from the exterior of the building. In the embodiment just described the lock is within a channel which cannot be directly reached from the exterior but it is readily possible to make the lock more inaccessible by appropriate modification of the grille.

Various modifications to the embodiment shown in the first four figures may be made. For example, the frame may have members extending along the top and bottom of the grille and these members may be slotted as is the box 4 so that the ends of the vertical bars enter the box frames along the top and bottom of the grille. The respective ends of the bars of the grille may be secured in position by locking bars as described previously. It would be possible to provide locking only along one side, whether adjacent or opposite the hinge.

The frame including the hinge plate and three closure boxes may be formed in one piece, such a frame is shown with the grille closed, but no locking bar, in Figure 5.

In a modification of the invention, the frame may be made to move as one unit with the grille. For this embodiment, the frame, which is made of four angle irons will swing into so as to fit within a window aperture and may be closed by suitable locking bars engaging channel members on the angle iron opposite the angle iron which bears the hinge.

The hinge could be at one side or at the top or bottom of the window opening.

Claims

1. A security gate comprising a frame which fits into a corresponding aperture, large enough for personal egress, in a wall; a grille which is hingedly mounted at one side, at least one channel formed in or constituted by the frame and having slots for the reception of the ends of bars along another side of the grille; and a locking bar which locks into a position within the channel for the securing of the ends of the said bars within the slots.

2. A security gate according to claim 1 wherein

the channel is formed in the frame opposite the hinge.

3. A security gate according to claim 1 or claim 2 wherein a channel as aforesaid is formed in a frame member extending along a side of the grille adjacent the side at which the grille is hingedly mounted.

4. A security gate according to any foregoing claim, in which the locking bar fits into a slot at each end of the channel or respective channel.

5. A security gate according to claim 1, modified in that th grille is mounted in the frame which is hinged at the said side and the aforementioned locking bar engages part of the said frame.

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