ANTI-TAMPER DEVICE FOR PANIC-PROOF DOORS
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ABSTRACT OF THE DISCLOSURE

To prevent panic-proof doors from being opened from the outside by insertion of a wire through the opening between the doors to pull down the horizontal door-opening bars, a blocking plate is used. One form of blocking plate is an easily breakable piece fitting on the inside of the doors across the opening and extending above and below the level of the unlocking bars. When the door is to be opened, the plate may be quickly removed or alternatively it will easily fracture upon pressure applied to the bars. In another form a plate is inserted at right angles to the door between the door and the bar.

This invention relates to a new and improved anti-tamper device for use with panic-proof doors presently used in schools and public buildings. A primary feature of this invention is to provide a locking device effectively preventing the opening of panic-proof doors from the outside while permitting the doors to be opened from the inside. Many schools, auditoriums and other public structures are equipped with double panic-proof doors opened by pushing or pulling a horizontal, waist-level bar on the inner side of the door. Doors of this type even when locked from the outside are always able to be opened from inside by depressing or raising the horizontal bar. Panic-proof doors of this construction have proved to be vulnerable to vandals and thieves, who have found that a wire inserted through the vertical opening between the double doors may be used to pull down the horizontal bar and unlock the door. Schools suffer considerable vandalism damage from this cause. The present device effectively prevents an unauthorized opening of panic-proof doors by this method.

Another advantage of the present device is the fact that it is of the utmost simplicity of construction, is low in cost, and can be inserted and removed from the door with ease.

Another advantage of the present invention is the fact that it is of a size sufficient to insert, in a panic-proof door having exposed lock rods, between the inwardly exposed lock rods and the door surface at the level of the opening bar, thereby preventing the insertion of a wire from the outside of the door to open the door. In such a form, the thickness of the anti-tamper device is such that it will break or give way and permit opening of the door from the inside if an emergency should arise while the device is in place.

A further feature and advantages of one form of the invention is that it may be used in conjunction with a panic-proof door having concealed lock rods, with the anti-tamper device being inserted between the horizontal opening bar and the inner door surface to prevent the bar from being depressed and the door from being unlocked by means of a wire inserted from the outside. In such a form the device is inserted between the bar and the door at right angles and may be easily knocked aside from the inside if an emergency should arise while the device is inserted.

Other objects of the present invention will become apparent upon reading the following specification and referring to the accompanying drawings in which similar characters of reference represent corresponding parts in each of the several views.

In the drawings:

FIG. 1 is a plan view of panic-proof double doors with exposed lock rods, with an anti-tamper device inserted which is constructed in accordance with the present invention.

FIG. 2 is an enlarged fragmentary plan view of the area designated by the line 2—2 of FIG. 1, showing the insertion of an anti-tamper device constructed in accordance with the present invention.

FIG. 3 is a sectional view taken substantially along the line 3—3 of FIG. 2.

FIG. 4 is a plan view of panic-proof double doors with concealed lock rods with an anti-tamper device inserted which is constructed in accordance with the present invention.

FIG. 5 is an enlarged fragmentary plan view of the area designated 5—5 of FIG. 4.

FIG. 6 is a sectional view taken substantially along the line 6—6 of FIG. 5.

FIG. 7 is a view similar to FIG. 6, of a modification.

Panic-proof double doors are widely utilized in schools, auditoriums and other public structures. Such doors do not have central mullions in many public buildings because of interference with rapid evacuation of the building. A disadvantage of such doors is that they are vulnerable to persons wishing to break into the building by the use of a wire inserted in the opening between the doors, which is then used to depress the opening bar, thus opening the door and allowing entry into the building. The present invention solves this problem and overcomes this disadvantage of such doors by providing an inexpensive and easily inserted anti-tamper device.

In the embodiment of FIGS. 1 to 3, door assembly 11 is composed of left-hand door 13 and right-hand door 15, each provided with horizontal unlocking bars 17 and 19. When these bars are raised or pushed, vertically extending locking rods 21, 23, 25 and 27 are retracted toward central locking assemblies 29 and 31, thereby allowing doors 13 and 15 to be opened outwardly. Until horizontal bars 17 and 19 are pressed or raised, horizontal locking bars 21, 23, 25 and 27 protrude at the upper and lower extremities of the doors into locking apertures in the upper and lower door jambs. In case of emergency, doors 13 and 15 may be quickly and easily opened outwardly merely by pushing outwardly, in the direction of the door, bars 17 and 19, which is the advantageous feature of panic-proof doors of this type.

When doors 13 and 15 are closed and locked, a small crack or opening 33 remains between the two doors. A person wishing to break into the building may insert a small diameter wire with a hook at one end in aperture 33, hook one end of the wire on unlocking bar 17 or 19 and pull downwardly along the length of aperture 33, thus depressing the opening bar and unlocking the door. Anti-tamper device 35 prevents breaking into the building by this means by preventing insertion of a wire in aperture 33 in the vicinity of unlocking bars 17 and 19. In this embodiment, device 35 has a small thickness, shown in FIG. 3, and is generally in the shape of a "block," in plan view, as shown in FIG. 2. Device 35 has an upper rectangular shaped portion 37 connected to lower rectangular shaped portion 39 by a long, narrow neck portion 41. The vertical height of device 35 when inserted, as shown in FIG. 2, is such that it extends for substantially the entire vertical distance along aperture 33 between upper rod guide 43 and lower rod guide 44.

Device 35 is inserted between vertical locking rods 21, 23, 25, 27 and inner surface 51 of doors 13 and 15 so...
as to block the ingress of any object from the outside into opening 33, thus preventing the insertion of a wire to unlock the doors from the outside. Device 35 may be constructed of thin, rigid, plywood-type material, thin flexible plastic material, or the like. If device 35 is constructed of thin wood, it is inserted by partially outwardly opening doors 13 and 15, inserting device 35 as previously described, and then fully closing doors 13 and 15 with device 35 being held between rods 21, 23, 25, 27 and doors 13 and 15. When so held, device 35 will be vertically supported by the upper edge of locking assemblies 29, 31, as shown in FIG. 2. Although device 35 will normally be inserted when the building is not in use, if an emergency should arise, persons within the building who wish to go out quickly, without stopping to remove device 35, may do so. Device 35 is of such a thickness as to split or break away when any substantial outward pressure is put on doors 13 and 15. If device 35 is formed of thin, flexible material, such as plastic, it may be inserted while doors 13 and 15 are fully closed by warping extending portions 37 and 35. A plastic device 35 will easily give way if a person within the building wishes to quickly gain exit simply by pushing outwardly on doors 13 and 15.

A modification is shown in FIGS. 4 to 6, in which similar elements are designated by the same characters of reference distinguished by the addition of the letter a. In this modification panic-proof double doors 13a and 15a are provided with lock rods 21a, 23a and 25a, 27a, which are concealed within the structure of the doors themselves. In all other respects, doors 13a and 15a operate in exactly the same manner as heretofore described. Anti-tamper device 35a is of a substantial thickness, as shown in FIG. 5, and is substantially triangular in shape, as shown in FIG. 6. Notch 47 is formed along the hypotenuse of device 35a, as shown in FIG. 6. Device 35a is inserted between horizontal bar 19a and the inner surface 51a of door 15a, with flat edge 49 resting against inner door surface 51a. Doors 13a and 15a may be provided with glass inserts 52a, and if so, device 35a is placed against door surface 51a between glass 52a and locking assembly 45a, as shown in FIG. 5. Anti-tamper device 35a is inserted in place by placing surface 49 flat against door surface 51a above rod 19a and sliding device 35a downwardly until notch 47 engages unlocking bar 19a, which is held firmly therein. When so inserted, device 35a prevents unlocking bar 19a from being depressed and unlocking door 15a, thereby preventing the opening of the door from the outside by means of a wire inserted in aperture 33a. Device 35a may be quickly and easily removed during hours of use of the building, or when an emergency should arise, simply by pushing or knocking sideways in a horizontal direction and allowing it to fall to the floor.

Side 55 of notch 47 is substantially parallel to upper surface 57 of device 35a, with wall 59 of notch 47 being substantially parallel to horizontal edge 49 of device 35a. Apex 61 of notch 47 is rounded so as to fit firmly against circular unlocking bar 19a of door 15a.

A modification is shown in FIG. 7, in which similar elements are designated by the same characters of reference distinguished by the addition of the letter b. In this modification, device 35b is essentially of the same thickness as for the previous modification described, but is substantially rectangular in shape, but with outwardly extending rounded side 65, culminating in upper outer apex 67. Device 35b is inserted from above between bar 19b and door surface 51b, as previously described. Device 35b is pressed downwardly until its width 69 matches the distance between bar 19b and door surface 51b, thereby allowing device 35b to be snugly fitted and preventing bar 19b from being depressed to open the door. Device 35b may be easily and quickly removed by knocking it to the side in the manner described.

Although the foregoing invention has been described in some detail, by way of illustration and example for purposes of clarity of understanding, it is understood that certain changes and modifications may be practiced within the spirit of the invention and scope of the appended claims.

What is claimed is:

1. In combination with panic-proof double doors with an opening between adjacent meeting edges of said doors, a horizontal unlocking bar on each said door, an anti-tamper device comprising a flat, thin, trianglular blocking plate fitting tight against the inside of said doors across said meeting edges and above and below the level of said unlocking bars preventing the unlocking of said doors by inserting a device from the outside of said doors through said opening to depress said bar and unlock one of said doors, said plate further comprising extended ears at each end, and a connecting web between said ears, said ears being of a size sufficient to be held between the inner surface of said doors and exposed lock rods running along and above said surface.

2. In combination with panic-proof double doors with an opening between adjacent meeting edges of said doors, a horizontal unlocking bar on each said door, an anti-tamper device comprising a blocking plate, said blocking plate being of an extended length and a width sufficient to be inserted at right angles to said door between said door and said bar to prevent said bar from being depressed and to prevent the unlocking of said doors by inserting a device from the outside of said doors through said opening to depress said bar and unlock one of said doors, said locking plate being flat and triangular in shape, the hypotenuse of said plate bearing against said bar, said hypotenuse being formed with a notch to receive a portion of said bar and restrain said bar against either upward or downward movement while said plate is in position.

3. In combination with panic-proof double doors with an opening between adjacent meeting edges of said doors, a horizontal unlocking bar on each said door, an anti-tamper device comprising a blocking plate, said blocking plate being of an extended length and a width sufficient to be inserted at right angles to said door between said door and said bar to prevent said bar from being depressed and to prevent the unlocking of said doors by inserting a device from the outside of said doors through said opening to depress said bar and unlock one of said doors, said locking plate being flat and substantially rectangular in shape, the edge of said plate bearing against said bar being curved upward and outward to provide a smaller length of said plate at the bottom than at the top so that said plate to be slid downwardly between said bar and said door until said plate is firmly engaged between said bar and said door to prevent said bar from being depressed.

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