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SPECIFICATION

Half-glazed hinged doors

5 Description:-

The present invention relates to a hinged door and in particular, to a half-glazed hinged door installed in a doorway leading outdoors.

There are widely employed half-glazed hinged doors having a glass pane in the opening provided in the upper half of the door body. An important problem of such a half-glazed door is, when it is used as installed in a doorway leading outdoors, that it is not safe from burglary because any intruder can easily break into the room by breaking the glass pane from outside of the room and putting his hand through the opening to reach the lock handle on the inboard side of the door and unlock the lock for freely opening the door.

According to the invention there is provided a half-glazed hinged door having a glass pane in an opening provided in the upper half thereof which comprises a shielding panel capable of covering and uncovering the glass pane in the opening of the door at the inboard side thereof, wherein the shielding panel is vertically movable by sliding up and down along the plane of the door so as that the glass pane is covered by the shielding panel at the uppermost position but uncovered when the shielding panel is at the lowermost position, and wherein the shielding panel is lockable by means of a locking device at the position covering the glass pane, the locking device being mounted to the shielding panel and being positioned below said opening even when the shielding panel is at the uppermost position, the locking device comprising at least one slidable bolt, at least one spring and a handle.

The present invention will now be described by way of example with reference to the accompanying drawings, wherein:-

Figures 1 to 4 illustrate a first embodiment of the invention; and

Figure 5 illustrates a second embodiment.

As is shown in *Figures 1 to 4*, the half-glazed hinged door forming the first embodiment comprises a body 1 with an opening 11 in the upper half thereof, a glass pane 2 fitted in the above opening 11, a panel frame 3 fixed on the inboard side of the body 1 of the door, a shielding panel 4 fitted in the panel frame 3 and capable of vertically moving within the panel frame 3, a locking device 5 for the shielding panel 4 and a locking device 17 for the door.

The shielding panel 4 is made of a material such as steel plate with sufficient strength to resist an intended intruder and is fitted in the panel frame 3 in advance before the panel frame 3 is mounted to the body 1 of the door and fastened with screws 13. When the shielding panel 4 is pulled up to the uppermost position as is shown in *Figure 2*, the shielding panel 4 can be locked by turning the handle 6 of the locking device 5 at that position. When the locking device 5 is unlocked, the shielding panel 4 slides down freely by gravity within the panel frame 3 and rests at the lowermost position

within the panel frame 3.

The detailed structure of the locking device 5 for the shielding panel 4 is illustrated by the cross sectional view given in *Figure 3*, according to which the locking device 5 comprises a handle 6, a pair of sliding lock bolts 7, 7 and a pair of holder plates 8, 8 with which the sliding lock bolts 7, 7 are supported and engaged in such a manner as to be capable of sliding horizontally. When the shielding panel 4 is to be locked at the position covering the glass pane 2, the handle 6 of the locking device 5 is turned so that the sliding lock bolts 7, 7 are protruded horizontally to the right and left, counteracting the pulling force of springs 10, 10 and the end of each of the sliding lock bolts enters a respective hole 9 provided in the panel frame 3 whereby the shielding panel 4 is locked at the uppermost position covering the glass pane 2. When the locking device 5 for the shielding panel 4 is to be unlocked, the handle 6 of the locking device 5 is turned in the reverse direction so that the sliding lock bolts 7, 7 are retracted by the pulling force of the springs 10, 10 and freed from the holes 9, 9 in the panel frame 3, whereupon the shielding panel 4 can freely be moved downwardly to uncover the glass pane 2.

As may be understood from *Figure 4*, the locking device 5 for the shielding panel 4 is mounted to the shielding panel 4 itself and is positioned below the lower end 11a of the opening 11 even when the shielding panel 4 is at the uppermost position. In addition, there is provided a shielding plate 12 as extending from the lower end 11a of the opening 11 to the panel frame 3 so that the security of the locking device 5 for the shielding panel is increased permitting no attempt to unlock it from outside of the room by breaking the glass pane 2 and further to unlock the door lock 17.

Figure 5 shows in cross-section another embodiment of the invention, in the form of a half-glazed hinged door in which the panel frame 3 is inlaid within a recess provided in the body 1 of the door to such a depth that the inboard surface of the panel frame 3 is approximately coplanar with the inboard surface of the body 1 of the door, giving a very pleasant appearance of the whole door as viewed from the inside of the room.

As may be understood from the above description, the half-glazed hinged doors described above embodying the invention can give high degree of security against intrusion by breaking the glass pane 2 from outside of the door by virtue of effective prevention of unlocking the door lock 17 when the shielding panel 4 is in the uppermost position covering the glass pane 2 as is shown in *Figure 2* whilst the advantages of a half-glazed door in lighting and vision are not impaired at all when the shielding panel is in the lowermost position to uncover the glass pane 2 as shown in *Figure 1* when a person is present in the room.

CLAIMS

1. A half-glazed hinged door having a glass pane in an opening provided in the upper half thereof which comprises a shielding panel capable of



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The present invention relates to a hinged door and in particular, to a half-glazed hinged door installed in a doorway leading outdoors.

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According to the invention there is provided a half-glazed hinged door having a glass pane in an opening provided in the upper half thereof which comprises a shielding panel capable of covering and uncovering the glass pane in the opening of the door at the inboard side thereof, wherein the shielding panel is vertically movable by sliding up and down along the plane of the door so as that the glass pane is covered by the shielding panel at the uppermost position but uncovered when the shielding panel is at the lowermost position, and wherein the shielding panel is lockable by means of a locking device at the position covering the glass pane, the locking device being mounted to the shielding panel and being positioned below said opening even when the shielding panel is at the uppermost position, the locking device comprising at least one slidable bolt, at least one spring and a handle.

The present invention will now be described by way of example with reference to the accompanying drawings, wherein:-

Figures 1 to 4 illustrate a first embodiment of the invention; and

Figure 5 illustrates a second embodiment.

As is shown in Figures 1 to 4, the half-glazed hinged door forming the first embodiment comprises a body 1 with an opening 11 in the upper half thereof, a glass pane 2 fitted in the above opening 11, a panel frame 3 fixed on the inboard side of the body 1 of the door, a shielding panel 4 fitted in the panel frame 3 and capable of vertically moving within the panel frame 3, a locking device 5 for the shielding panel 4 and a locking device 17 for the door.

The shielding panel 4 is made of a material such as steel plate with sufficient strength to resist an intended intruder and is fitted in the panel frame 3 in advance before the panel frame 3 is mounted to the body 1 of the door and fastened with screws 13. When the shielding panel 4 is pulled up to the uppermost position as is shown in Figure 2, the shielding panel 4 can be locked by turning the handle 6 of the locking device 5 at that position. When the locking device 5 is unlocked, the shielding panel 4 slides down freely by gravity within the panel frame 3 and rests at the lowermost position

within the panel frame 3.

The detailed structure of the locking device 5 for the shielding panel 4 is illustrated by the cross sectional view given in Figure 3, according to which the locking device 5 comprises a handle 6, a pair of sliding lock bolts 7, 7 and a pair of holder plates 8, 8 with which the sliding lock bolts 7, 7 are supported and engaged in such a manner as to be capable of sliding horizontally. When the shielding panel 4 is to be locked at the position covering the glass pane 2, the handle 6 of the locking device 5 is turned so that the sliding lock bolts 7, 7 are protruded horizontally to the right and left, counteracting the pulling force of springs 10, 10 and the end of each of the sliding lock bolts enters a respective hole 9 provided in the panel frame 3 whereby the shielding panel 4 is locked at the uppermost position covering the glass pane 2. When the locking device 5 for the shielding panel 4 is to be unlocked, the handle 6 of the locking device 5 is turned in the reverse direction so that the sliding lock bolts 7, 7 are retracted by the pulling force of the springs 10, 10 and freed from the holes 9, 9 in the panel frame 3, whereupon the shielding panel 4 can freely be moved downwardly to uncover the glass pane 2.

As may be understood from Figure 4, the locking device 5 for the shielding panel 4 is mounted to the shielding panel 4 itself and is positioned below the lower end 11a of the opening 11 even when the shielding panel 4 is at the uppermost position. In addition, there is provided a shielding plate 12 as extending from the lower end 11a of the opening 11 to the panel frame 3 so that the security of the locking device 5 for the shielding panel is increased permitting no attempt to unlock it from outside of the room by breaking the glass pane 2 and further to unlock the door lock 17.

Figure 5 shows in cross-section another embodiment of the invention, in the form of a half-glazed hinged door in which the panel frame 3 is inlaid within a recess provided in the body 1 of the door to such a depth that the inboard surface of the panel frame 3 is approximately coplanar with the inboard surface of the body 1 of the door, giving a very pleasant appearance of the whole door as viewed from the inside of the room.

As may be understood from the above description, the half-glazed hinged doors described above embodying the invention can give high degree of security against intrusion by breaking the glass pane 2 from outside of the door by virtue of effective prevention of unlocking the door lock 17 when the shielding panel 4 is in the uppermost position covering the glass pane 2 as is shown in Figure 2 whilst the advantages of a half-glazed door in lighting and vision are not impaired at all when the shielding panel is in the lowermost position to uncover the glass pane 2 as shown in Figure 1 when a person is present in the room.

CLAIMS

1. A half-glazed hinged door having a glass pane in an opening provided in the upper half thereof which comprises a shielding panel capable of



- covering and uncovering the glass pane in the opening of the door at the inboard side thereof, wherein the shielding panel is vertically movable by sliding up and down along the plane of the door so
- 5 as that the glass pane is covered by the shielding panel at the uppermost position but uncovered when the shielding panel is at the lowermost position, and wherein the shielding panel is lockable by means of a locking device at the position covering
- 10 the glass pane, the locking device being mounted to the shielding panel and being positioned below said opening even when the shielding panel is at the uppermost position, the locking device comprising at least one slidable bolt, at least one spring and a
- 15 handle.
2. A half-glazed hinged door as claimed in claim 1 wherein the or each said slidable bolt is horizontally slidable.
3. A half-glazed hinged door as claimed in claim
- 20 1 or 2 wherein a panel frame is fixed in the body of the door, the shielding panel being vertically movable by sliding in the panel frame, and wherein the inboard surface of the shielding panel is approximately coplanar with the inboard surface of
- 25 the panel frame.

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