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Description

This invention relates to a door system suitable for use in protecting doorways and entrances in temporarily unoccupied premises.

Property which is temporarily vacant for one reason or another for example during building renovation or between tenants, is being increasingly subject to damage due to theft and extensive vandalism. Since conventional doors offer relatively little protection against a determined attack it is necessary to protect them on the outside with an additional door system which is highly resistant to attack and is simple and economic in construction and installation whilst at the same time affording access to authorised persons. CH—A—47 370 discloses a window system comprising a window surround structure formed and arranged to define a window opening and a window panel hingedly mounted in said window opening so as to be pivotally movable between a closed position and an open position said window panel and window surround structure being provided with an interengaging retaining means formed and arranged for retaining the window panel against pivotal movement from its closed position in a first position of the window said window being hingedly mounted so as to be vertically movable through at least a limited distance and having a height relative to the door opening such as to permit vertical movement through a limited distance in its closed position, and in said retaining means being formed and arranged for retaining door panel against pivotal movement from its closed position in a first position of the window, and for permitting pivotal movement of the window in a second position of the window vertically displaced from said first position.

In this known system the retaining means is provided on the outside. In addition the window panel is readily breakable. Thus the system provides little resistance to an attack from the outside for gaining unauthorized entry to the interior side of the window. Furthermore the window cannot be opened from the outside without damage.

It is an object of the present invention to avoid or minimize one or more of the above disadvantages.

The present invention provides a security door system suitable for use in providing a high level of security against which door system comprises a door surround structure formed and arranged to define a door opening and a door panel hingedly mounted in said door opening so as to be pivotally movable between a closed position and an open position said door panel and door surround structure being provided with an interengaging security lock means for substantially securing said door at least against vertical movement and interengaging retaining means formed and arranged for retaining the door panel against pivotal movement from its closed position in a first position of the door characterized in that said door is hingedly mounted so as to be vertically movable through at least a limited distance and has a height relative to the door opening such as to permit vertical movement through a limited distance in its closed position, and in that said retaining means is disposed substantially, at the restricted access side of the door and is formed and arranged for retaining the door panel against pivotal movement from its closed first position of the door, and for permitting pivotal movement of the door in a second position of the door vertically displaced from said first position.

Preferably the door is hingedly mounted so that in its closed pivotal position and its first vertical position its lower edge in the plane of the door surround structure is supported immediately above, for example not more than about 6 mm, preferably not more than about 3 mm, the inner bottom edge of the door opening.

Desirably the door surround is provided at the upper edge of said door opening on its outer face with a shield means extending downwardly therefrom by a distance greater than the separation between the upper edge of the door in the plane of the door surround structure and the inner top edge of the door opening in the closed pivotal position and first, vertical, position of the door so as to cover the gap therebetween.

In a preferred form of the invention for use in protecting an opening having a predetermined size and defined by a lintel, jambs and a threshold the door opening and door panel are dimensioned so that their respective edges are disposed in overlapping relating in a closed position of the door with said door on the rear face of the door surround structure, said door surround structure being provided on its rear face with securing means for securing of said door surround structure, in use of the system, to at least the jambs of said opening in said building, with the outer edges of said door surround structure disposed in overlapping relation with said lintel, jambs and threshold on the outside faces thereof in use of the door system.

In use of the door system of the invention, the door panel is held securely in its closed position against pivotal opening movement by the retaining means and must first be lifted vertically to disengage the retaining means. This however will only be possible when the security lock means are unlocked. Since the security lock means are required to function only to prevent lifting of the door panel then can be of relatively lightweight and simple construction as the main resistance to an opening force will be borne by the retaining means. Since the respective parts of these can be fixedly secured and need not be movable in any respect they can readily be made to be of a strong construction which can contribute to the strength of the door structure itself, in a relatively simple and economic manner.

In general the door system of the present invention is of relatively economic construction and can be easily secured in an opening in a building by securing the door surround structure to the existing jambs with a high degree of security and

resistance to attack due *inter alia* to the overlapping between the door and door surround and between the door surround and jambs, lintel and threshold, while at the same time screening the securing means used to fix the door surround in place. In practice the precise extent of overlap between the door surround and jambs, lintel and threshold is not critical so that by varying the extent of overlap it is possible to use a single size of door system with a range of different opening sizes.

Furthermore by using a securing means in the form of an adjustable clamping means it is possible to readily accommodate different jamb thicknesses.

Further preferred features and advantages of the invention will appear from the following description given by way of example of a preferred embodiment illustrated with reference to the accompanying drawing in which:

Fig. 1 is a rear perspective view of a security door system with some of the surround securing means;

Fig. 2 is a front elevation of a door system for an appartment doorway; and

Figs. 3 and 4 are respectively horizontal and vertical sections through the door systems of Figs. 1 and 2.

Fig. 5 is a perspective view of a door opening tool for use with the door of Figs. 1 to 4;

Fig. 6 is a perspective view of an optional door support suitable for use with the door of Figs. 1 to 4, and

Fig. 7 is a perspective view of a modified form of bolt system for use in the door of Figs. 1 to 4.

Fig. 1 shows a door system 1 comprising door surround structure 2 defining a door opening 3 at which is hingedly mounted 4 a door panel 5. The door surround structure 2 is of a generally rectangular C-shaped section with the main upright 6 of the C-shape forming the front outside face 7 of the door surround structure 2.

As may be seen in Figs. 2 to 4 the door surround structure 2 is provided with a plurality of securing means 8 for securing of the structure 2 to the jambs 9, threshold 10 and lintel 11 at an opening 12 in a building 13 normally closed by an existing door 14.

In general the securing means 8 comprise a clamping plate 20: a clamping bolt 21 for clamping the clamping plates 20 towards anchor plates 15 secured to the door surround 2 at the inside and outside faces of the jambs 9 etc.; and a spacer bolt 22 fixed to the clamping plate 20 with a spacer nut 23 spaced from the anchor plate at distance such that a substantially even clamping force is exerted across the anchor plate and clamping plate and the respective opposed faces of the jambs etc. It will be appreciated that with the abovedescribed form of securing means it is readily possible to accommodate various different thickness of a jamb, threshold and lintel whilst providing a substantially secure and strong fixing of the door surround structure 2 around the opening 12.

The door panel 15 is of generally Z-shaped section at its outer edges 24 with an outwardly extending circumferential flange 25 set back from the principal plane of the door panel 5 at the rear of a shoulder 26. In the closed position of the door panel 5 the flange 25 abuts the radially inward hooked end 17 part of the door frame structure section 2 to overlap the latter on its rear face whilst the principal plane of the door panel is substantially flush with the front outside face 7 of the door surround structure 2, the door panel 5 in effect nesting radially inwardly inside the door surround structure 2 so as to be substantially supported against horizontal lateral displacement in the plane of the door system.

The door panel is hung in the door surround structure on hinge means 4 comprising respective hinge parts 27, 28 secured to respective ones of the door surround structure and the door panel, so as to permit at least a limited degree of vertical movement of the door on said hinges.

The structural strength and rigidity of the door panel 5 and surround 2 are reinforced at their rear with the aid of horizontal reinforcing or bracing members 30 which have at the free side 31 of the door panel 5, retaining plates 32 which project laterally behind the door surround 2. At their lower edges the retaining plates 32 have notches 33 which engage retaining pins 34 behind their heads 35 to prevent pivotal movement of the door on its hinges in an opening direction, said retaining pin and plate constituting a strong and secure retaining means for the door.

As may be seen in Fig. 4 the door panel 5 has a height in the plane of the door slightly less (e.g. about 20 mm less) than that of the opening 3 in the surround 2 so that it can be vertically displaced on its hinges in its pulled-to closed pivotal position. More specifically the structure is formed and arranged so that in a first position of the door wherein the retaining means interengage there is only a narrow clearance 36 of some 3 mm or so between the bottom edge 37 of the door 5 and the inner bottom edge 38 of the door opening 3. Between the upper edge 39 of the door 5 and the inner top edge 40 of the door opening 3 there is a larger gap 41 of up to 20 mm. This gap 41 is however concealed from view and protected against insertion of tools by a shield means in the form of a cover plate 42.

In order to prevent any vertical displacement of the door panel 5 from its first position a security lock means 43 which may be of any conventional form e.g. key operated, combination-type or card-operated, is provided on the door panel 5 for engagement with a suitable keeper means 44 on the door surround 2 in its locks condition. When the security lock means 43 is unlocked the door panel 5 may be lifted vertically with the aid of a suitable tool through a small distance (e.g. 12 mm) sufficient to disengage the retaining means 32, 34 whereupon, and only then, the door panel can be swung open.

It will be appreciated that due to the very small clearance (which incidentally need not extend

across the full width of the door but could merely be a small elongate recess in either or both of the door bottom edge and door surround) between the bottom of the door panel 5 in the plane of the surround and the surround, only a relatively thin bladed tool can be inserted. When the security lock is in its locked condition rotation of such a thin blade would tend to result merely in its deformation. On the other hand in the unlocked condition the tool will be of sufficient strength to lift the door on its hinges, the clearance having been made to be sufficient to accommodate a blade with a strength adequate but not substantially more than that required to lift the door.

A suitable form of tool which can as shown be very simple is shown in Fig. 5 and comprises a thin blade 45 extending at right angles from a lever arm 46 towards one end 47 remote from a hand grip portion 48 thereof. In use the blade is inserted into the clearance and then pressure applied on the lever to tend to rotate the lever parallel to the plane of the door thereby raising one side 49 of the blade up as the other side 50 bears down on the surround 2 at the bottom of the opening 3.

With the abovedescribed form of construction it will be appreciated that in its locked condition the door system provides strong and secure protection to an opening with the fixings used to install the system well protected against outside interference. Whilst at the same time permitting installation and removal of the system in a quick and simple manner. Naturally the door hinge mounting can be arranged to permit sufficient vertical displacement to lift the door panel entirely off the hinge in the open position of the door to permit easier handling of the door panel and surround separately from each other.

Fig. 6 is a detail view of the bottom corner 51 on the hinged side of the door opening 3. As may be seen in the drawing the corner 51 is provided with a generally lazy-'Z' shaped section elongate door support member 52 having a lower web 53 connected along its outer edge 54 to the door opening bottom edge 38, and an upper web portion 55 extending rearwardly behind the door surround structure 2 above the door opening bottom edge 38. The height of the upper web portion 55 above the door opening bottom edge 38 is selected to be such that when the door is lifted to its second, raised, vertical position from its fully closed position and then swung open, it will swing out over and onto the door support member 52 and be supported at or above the level of its second position. With this arrangement it will be appreciated that the door, when open, may be closed by simply swinging it to without the need for first lifting it into a raised position in order to allow the respective parts of the retaining means 32—35 to clear each other prior to engagement when the door drops down on its hinges as it clears the support member upper web portion 55.

Fig. 7 shows a modified form of retaining means 56 comprising a substantial plate-form nose 57 projecting outwardly of the free side edge 58 of the door panel 5 to which it is secured, and a keeper 59 secured to the opposed edge 60 of the door surround structure 2. In more detail the keeper 59 comprises a horizontal rearwardly extending plate 61 and a vertical plate 62 extending rearwardly alongside it. The vertical plate 62 is notched 63 at its upper corner 64 immediately adjacent the door surround structure 2 to provide a recess in which the nose 57 is received and captively held against horizontal movement corresponding to pivoting open of the door (without first raising it).

Claims

1. A security door system (1) suitable for use in providing a high level of security against which door system comprises a door surround structure (2) formed and arranged to define a door opening (3) and a door panel (5) hingedly mounted (4) in said door opening (3) so as to be pivotally movable between a closed position and an open position said door panel (5) and door surround structure (3) being provided with an interengaging security lock means (43) for substantially securing said door at least against vertical movement and interengaging retaining means (32—35) formed and arranged for retaining the door panel (5) against pivotal movement from its closed position in a first position of the door (5) characterized in that said door (5) is hingedly mounted so as to be vertically movable through at least a limited distance and has a height relative to the door opening (3) such as to permit vertical movement through a limited distance in its closed position, and in that said retaining means (32—35) is disposed substantially, at the restricted access side of the door and is formed and arranged for retaining the door panel (5) against pivotal movement from its closed position in a first position of the door (5), and for permitting pivotal movement of the door (5) in a second position of the door (5) vertically displaced from said first position.

2. A door system according to claim 1 wherein said door(s) is hingedly mounted (4) so that in its closed pivotal position and its first vertical position its lower edge (37) in the plane of the door surround structure (2) is supported not more than 6 mm above the inner bottom edge (38) of the door opening (3).

3. A door system according to claim 1 or claim 2 wherein the door surround structure (2) is provided at the upper edge (4) of said door opening on its outer face with a shield means (42) extending downwardly therefrom by a distance greater than the separation between the upper edge (39) of the door in the plane of the door surround (2) and the inner top edge (40) of the door opening (3) in the closed pivotal position and first, vertical position of the door (5) so as to cover the gap (41) therebetween.

4. A door system according to any one of claims 1 to 3 for use in protecting an opening (12) having a predetermined size and defined by a lintel (11),

jambs (9) and a threshold (10) wherein the door opening (2) and the door panel (5) are dimensioned so that their respective edges (17, 24) are disposed in overlapping relation in a closed position of the door (5) with said door (5) on the rear face of the door surround structure (2), said door surround structure (2) being provided on its rear face with securing means (8) for securing of said door surround structure (2), in use of the system, to at least the jambs (9) of said opening (12) in said building, with the outer edges of said door surround structure (2) disposed in overlapping relation with said lintel (11), jambs (9) and threshold (10) on the outside faces thereof in use of the door system (1).

5. A door system according to any one of claims 1 to 4 wherein said door surround structure (2) is provided behind the inner bottom edge (38) of the door opening (3) with a door support member having a support surface at a height above said door opening bottom edge (38) not lower than lower edge (37) of the door (5) in the plane of the door surround structure (2) when said door (5) is in its second position, so as to support said door (5) in said second vertical position when said door (5) is open.

6. A door system according to any one of claims 1 to 5 wherein at least one of said door panel (5) and door surround structure is provided with reinforcing rib or strap means (30).

7. A door system according to any one of claims 1 to 6 wherein the door surround panel structure (2) has a generally 'C' shaped section which section continues around the door opening (3) defined by said door panel structure (2).

8. A door system according to any one of claims 1 to 7 wherein the door panel (5) is of generally 'Z' shaped section at its outer edges (24) with an outwardly extending circumferential flange (25) set back from the principal plane of the door panel at the rear of a shoulder (26) extending rearwardly from said principal plane.

9. A door system according to any one of claims 1 to 8 wherein the retaining means (56) is in the form of spaced apart projections (57) extending outwardly of the free side edge (58) of the door panel (5) engageable with keeper means (59) on the opposed edge (60) of the door surround structure (2) in the closed position of the door panel (5) in its first position.

10. A door opening device suitable for use with a security door according to any one of claims 1 to 6 which device comprises an elongate lever (46) having a substantially planar first side and a tongue portion (45) projecting from said first side at or in proximity to a first end portion and extending obliquely across said lever, said lever having a handle means (48) projecting outwardly of its opposite side at or in proximity to its other end.

Patentansprüche

1. Sicherheitstürsystem (1), welches geeignet ist für die Schaffung einer hohen Sicherheitsstufe, wobei das Türsystem eine Türumrahmungsstruktur (2) aufweist, die so ausgebildet und angeordnet ist, um eine Türöffnung (3) und ein Türblatt oder Türpaneel (5) zu bilden, das um ein Scharnier (4) drehbar in der Türöffnung (3) angeordnet ist, um schwenkbar zwischen einer Schließstellung und einer öffnungsstellung bewegbar zu sein, wobei das Türpaneel (5) und die Türumrahmungstruktur (2) mit einer ineinandergreifenden Sicherheitsschließvorrichtung (43) versehen ist um die Tür im wesentlichen wenigstens gegen Vertikalbewegungen zu sichern, und mit einer ineinandergreifenden Rückhaltevorrichtung (32 bis 35), welche zum Zurückhalten des Türpaneels (5) gegen Schwenkbewegungen aus seiner Schließstellung in eine erste Stellung der Tür (5) ausgebildet und angeordnet ist, dadurch gekennzeichnet, daß die Tür (5) so in Scharnieren angeordnet ist, um vertikal über wenigstens eine begrenzte Strecke bewegbar zu sein und eine zu der Türöffnung (3) derartige relative Höhe aufweist, um eine Vertikalbewegung über eine bestimmte Strecke in ihrer Schließstellung zu erlauben, und daß die Rückhaltevorrichtung (32 bis 35) im wesentlichen an der beschränkten Zugangsseite der Türe angeordnet ist und zur Zurückhaltung des Türpaneels (5) gegen eine Schwenkbewegung aus seiner Schließstellung in eine erste Stellung der Türe (5) ausgebildet und angeordnet ist, und um eine Schwenkbewegung der Türe (5) in eine zweite Stellung der Türe (5) zu erlauben, die gegenüber der ersten Stellung vertikal versetzt ist.

2. Türsystem nach Anspruch 1, wobei die Tür (5) in Scharnieren (4) drehbar gelagert ist, so daß in ihrer Schwenkschließstellung und ihrer ersten vertikalen Stellung ihr unterer Rand (37) in der Ebene der Türumrahmungsstruktur (2) nicht mehr als 6 mm oberhalb des inneren unteren Randes (38) der Türöffnung (3) gehalten ist.

3. Türsystem nach Anspruch 1 oder Anspruch 2, wobei die Türumrahmungsstruktur (2) am oberen Rand (40) der Türöffnung an deren Außenfläche mit einer Schildeinrichtung (42) versehen ist, welche sich davon nach unten in einem Abstand erstreckt, der größer ist als der Abstand zwischen dem oberen Rand (39) der Tür in der Ebene der Türumrahmung (2) und der inneren Oberkante (40) der Türöffnung (3) in der Schwenkschließstellung und ersten vertikalen Stellung der Tür (5), um so den Spalt (41) dazwischen abzudecken.

4. Türsystem nach einem der Ansprüche 1 bis 3 zur Verwendung der Abschirmung einer öffnung (12), die eine vorbestimmte Größe aufweist und definiert ist durch einen Sturz (11), Pfosten (9) und eine Schwelle (10), wobei die Türöffnung (2) und das Türblatt (5) so dimensioniert sind, daß ihre entsprechenden Ränder (17, 24) in einer überlappenden Beziehung in einer Schließstellung der Tür (5) mit der Tür (5) an der Rückseite der Türumrahmungsstruktur (2) angeordnet sind, wobei die Türumrahmungsstruktur (2) an ihrer Rückseite mit einer Sicherheitsvorrichtung (8) versehen ist zur Sicherung der Türumrahmungsstruktur (2) bei Betrieb des Systems mit wenigstens den Pfosten

(9) der öffnung (12) in dem Gebäude, wobei die äußeren Ränder der Türumrahmungsstruktur (2) überlappend mit dem Sturz (11), den Pfosten (9) und der Schwelle (10) an deren Außenseiten im Betrieb des Türsystems (1) angeordnet sind.

5. Türsystem nach einem der Ansprüche 1 bis 4, wobei die Türumrahmungsstruktur (2) hinter dem inneren unteren Rand (38) der Türöffnung (3) mit einem Türstützteil versehen ist, welches eine Stützfläche auf einer Höhe über dem unteren Türöffnungsrand (38) aufweist, der nicht niedriger ist als der untere Rand (37) der Tür (5) in der Ebene der Türumrahmungsstruktur (2), wenn die Tür (5) in ihrer zweiten Stellung ist, um die Tür (5) in der zweiten vertikalen Stellung zu stützen, wenn die Tür (5) geöffnet ist.

6. Türsystem nach einem der Ansprüche 1 bis 5, wobei wenigstens eines der Elemente, Türpaneel (5) und Türumrahmungsstruktur, mit Rippen oder einer Verstrebungseinrichtung (30) versehen ist.

7. Türsystem nach einem der Ansprüche 1 bis 6, wobei die Türumrahmungsstruktur (2) einen im wesentlichen C-förmigen Abschnitt aufweist, wobei der Abschnitt sich um die Türöffnung (3), die durch die Türpaneelenstruktur (2) gebildet ist, herum erstreckt.

8. Türsystem nach einem der Ansprüche 1 bis 7, wobei das Türpaneel (5) eine im wesentlichen Z-förmigen Abschnitt an seinem Umfangsrand (24) aufweist mit einem nach außen sich erstreckenden Umfangsflansch (25), der von der Hauptebene des Türpaneels an der Rückseite einer Schulter (26) zurückgesetzt ist, die sich von der Hauptebene nach hinten erstreckt.

9. Türsystem nach einem der Ansprüche 1 bis 8, wobei die Rückhaltevorrichtung (56) in Form von örtlich getrennten Vorsprüngen (57) gebildet ist, die sich von dem freien Seitenrand (58) des Türpaneels (5) nach außen erstrecken und in Eingriff bringbar sind mit einer Haltevorrichtung (59) an dem gegenüberliegenden Rand (60) der Türumrahmungsstruktur (2 in der Schließstellung des Türpaneels (5) in seiner ersten Stellung.

10. Türöffnungsvorrichtung zur Verwendung mit einer Sicherheitstür nach einem der Ansprüche 1 bis 6, welche einen länglichen Hebel (46), der eine im wesentlichen planare erste Seite und einen zungenförmigen Bereich (45) aufweist, der von der ersten Seite oder in der Nähe zu einem ersten Endbereich vorspringt und sich schräg über den Hebel erstreckt, wobei der Hebel eine Handbetätigungsvorrichtung (48) aufweist, die sich von seiner gegenüberliegenden Seite nach außen an oder in der Nähe seines anderen Endes erstreckt.

Revendications

1. Système de porte de sécurité (1) pouvant être utilisé afin d'assurer un niveau élevé de sécurité, lequel système de porte comprend une structure d'encadrement de porte (2) formée et agencée de façon à définir une embrasure de porte (3) et un panneau de porte (5) monté de façon articulée (4) dans l'embrasure de porte (3) pour être mobile de façon pivotante entre une position fermée et une position ouverte, le panneau de porte (5) et la structure d'encadrement de porte (3) étant munis d'un verrou de sécurité d'interengagement (43) destiné à protéger sensiblement la porte au moins contre le mouvement vertical et des moyens de retenue d'interengagement (32—35) formés et agencés pour empêcher le mouvement pivotant du châssis de porte (5) depuis sa position fermée dans une première position de la porte (5), caractérisé en ce que la porte (5) est montée de façon articulée pour être mobile verticalement sur au moins une distance limitée et possède une hauteur par rapport à l'embrasure de porte (3) permettant le mouvement vertical sur une distance limitée dans sa position fermée, et en ce que les moyens de retenue (32—35) sont sensiblement disposés, sur le côté d'accès interdit de la porte et sont formés et agencés de façon à empêcher le mouvement pivotant du panneau de porte depuis sa première position fermée de porte (5), et pour permettre le mouvement pivotant de la porte (5) dans une seconde position de la porte (5) déplacée verticalement depuis sa première position.

2. Système de porte selon la revendication 1, caractérisé en ce que la porte est montée de façon articulée (4) de façon que dans sa position pivotante fermée et dans sa première position verticale, son bord inférieur (37) dans le plan de la structure d'encadrement de porte (2) n'est pas supporté plus de 6 mm au-dessus du bord inférieur intérieur (38) de l'embrasure de porte (3).

3. Système de porte selon la revendication 1 ou 2, caractérisé en ce que la structure d'encadrement de porte (2) est munie sur le bord supérieur (40) de l'embrasure de porte sur sa face extérieure d'un moyen de blindage (42) s'étendant vers le bas à partir de celle-ci sur une distance supérieure à la séparation entre le bord supérieur (39) de la porte dans le plan de l'encadrement de porte (2) et le bord supérieur intérieur (40) de l'embrasure de porte (3) dans la position pivotante fermée et d'abord la position verticale de la porte (5) de façon à combler l'espace vide entre ceux-ci.

4. Système de porte selon l'une quelconque des revendications 1 à 3 destiné à protéger une embrasure (12) présentant une dimension prédéterminée et définie par un linteau (11), des montants (9) et un seuil (10), caractérisé en ce que l'embrasure de porte (2) et le panneau de porte (5) sont dimensionnés de façon que leurs bords respectifs (17, 24) puissent être agencés en relation de chevauchement ou de recouvrement dans une position fermée de la porte (5) avec la porte (5) sur la face arrière de la structure d'encadrement de porte (2), la structure d'encadrement de porte (2) étant munie sur sa face arrière de moyens de fixation (8) destinés à fixer la structure d'encadrement de porte (2), dans l'utilisation du système sur au moins les montants (9) de l'embrasure (12) dans la construction, avec les bords extérieurs de la structure d'encadrement de porte (2) agencés en relation de chevauchement avec le linteau (11), les montants (9) et le seuil (10) sur les

faces extérieures de ceux-ci dans l'utilisation du système de porte (1).

5. Système de porte selon l'une quelconque des revendications 1 à 4, caractérisé en ce que la structure d'encadrement de porte (2) est munie derrière le bord inférieur intérieur (38) de l'embrasure de porte (3) d'un élément de support de porte présentant une surface de support à une hauteur située au-dessus du bord inférieur (38) de l'embrasure de porte pas plus bas que le bord inférieur (37) de la porte (5) dans le plan de la structure d'encadrement de porte (2) lorsque la porte (5) est dans sa seconde position de façon à supporter la porte (5) dans la seconde position verticale lorsque la porte est ouverte.

6. Système de porte selon l'une quelconque des revendications 1 à 5, caractérisé en ce qu'au moins soit le panneau de porte (5), soit la structure d'encadrement de porte sont munis d'une nervure de renforcement ou de moyens d'entretoise (30).

7. Système de porte selon l'une quelconque des revendications 1 à 6, caractérisé en ce que la structure d'encadrement de porte (2) comporte un profilé de façon générale en forme de C, lequel profilé se poursuit sur la périphérie de l'embrasure de porte (3) définie par la structure d'encadrement de porte (2).

8. Système de porte selon l'une quelconque des revendications 1 à 7, caractérisé en ce que le panneau de porte (5) est de façon générale profilé en forme de Z sur ses bords extérieurs (24) avec une bordure (25) circonférentielle s'étendant vers l'extérieur en retrait par rapport au plan principal du panneau de porte sur l'arrière d'un épaulement (26) s'étendant vers l'arrière à partir du plan principal.

9. Système de porte selon l'une quelconque des revendications 1 à 8, caractérisé en ce que le moyen de retenue (56) est sous la forme de saillies (57) espacées entre elles s'étendant vers l'extérieur du bord latéral libre (58) du panneau de porte (5) pouvant s'engager dans la gâche (59) sur le bord opposé (60) de la structure d'encadrement de porte (2) dans la position fermée du panneau de porte (5) dans sa première position.

10. Dispositif d'ouverture de porte pouvant être utilisé avec une porte de sécurité selon l'une quelconque des revendications 1 à 6, caractérisé en ce que le dispositif comprend un levier allongé (46) présentant un premier côté sensiblement plan et une portion de languette (45) faisant saillie depuis le premier côté au niveau de ou à proximité d'une première portion d'extrémité et s'étendant obliquement à travers le levier, ledit levier comportant une poignée (48) faisant saillie vers l'extérieur de son côté opposé au niveau de ou à proximité de son autre extrémité.

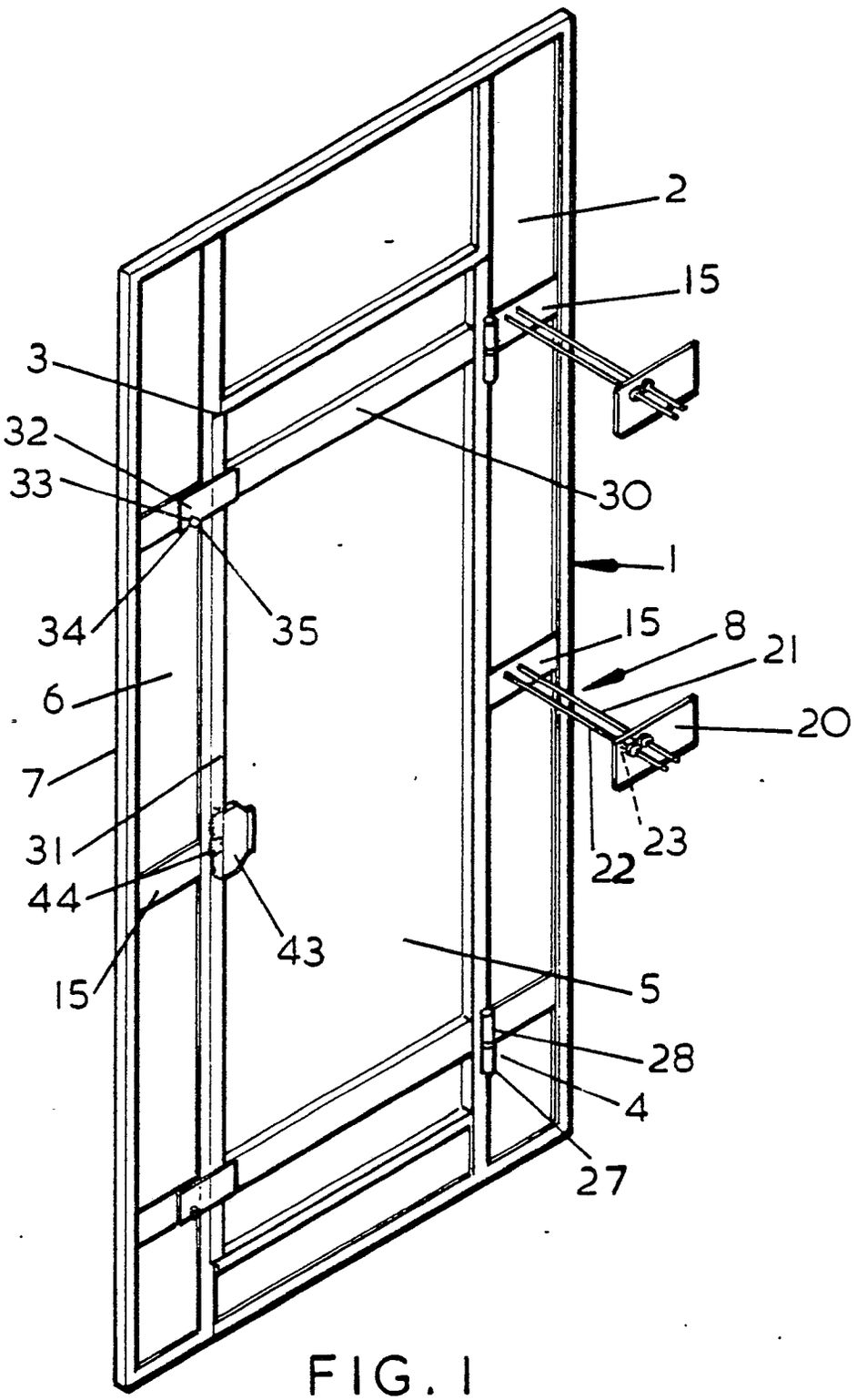

FIG. 1

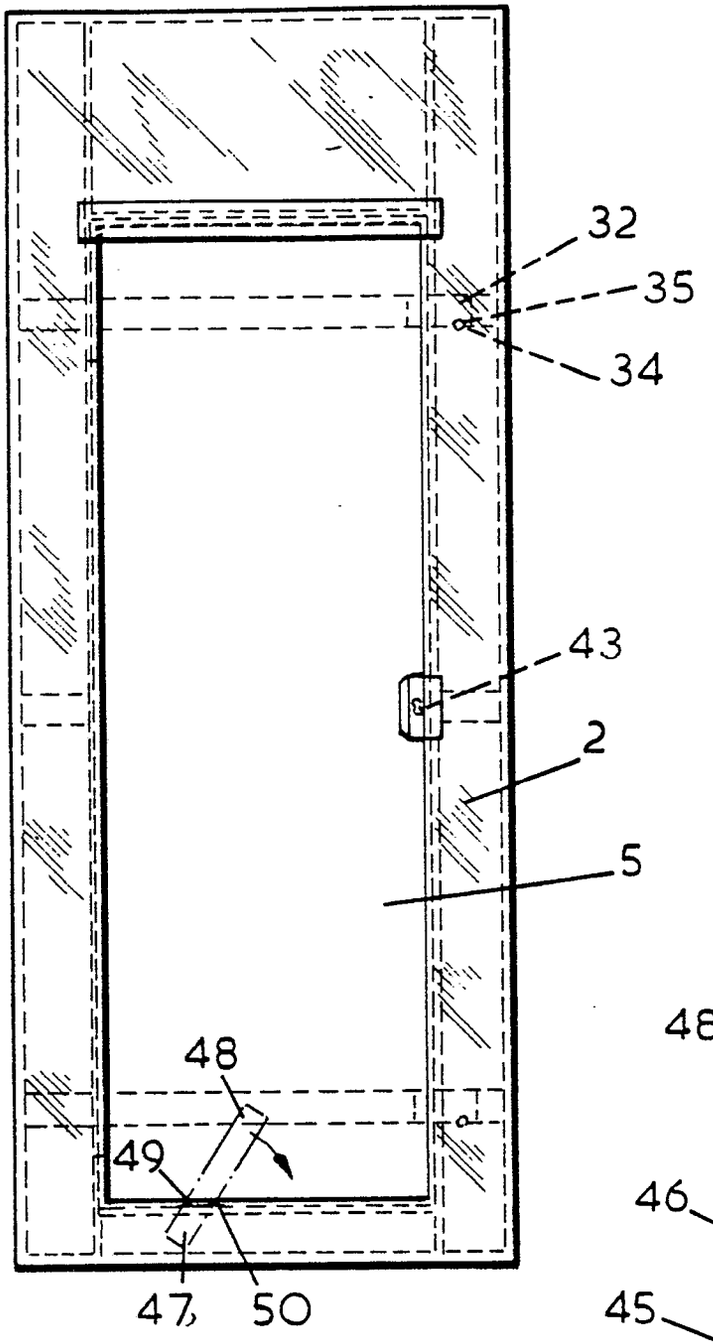

FIG. 2

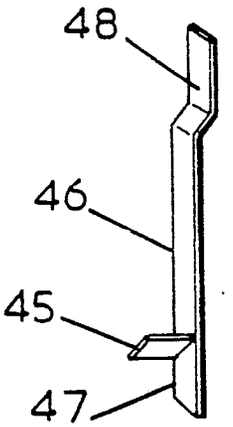

FIG. 5

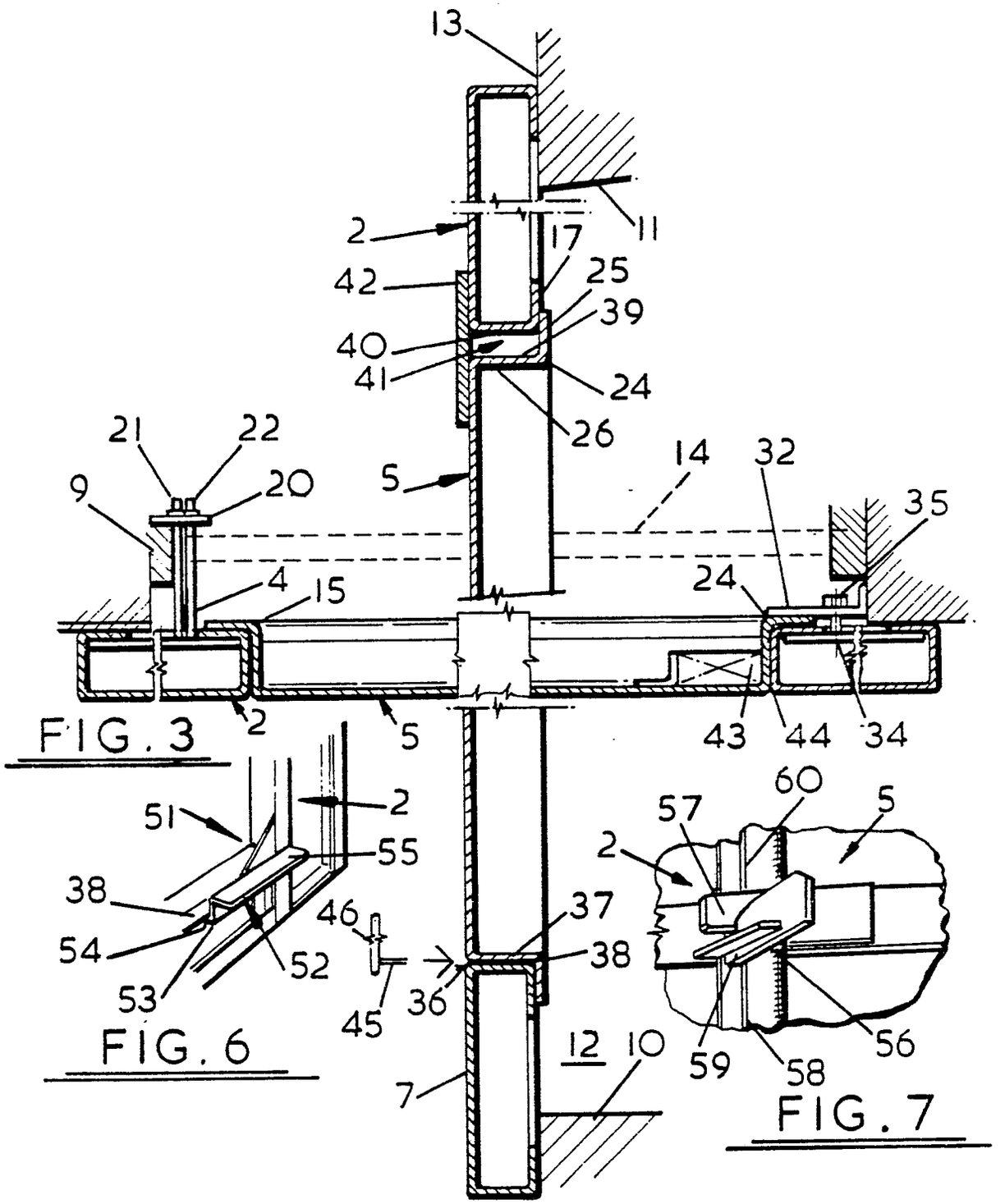

FIG. 3

FIG. 6

FIG. 7

FIG. 4