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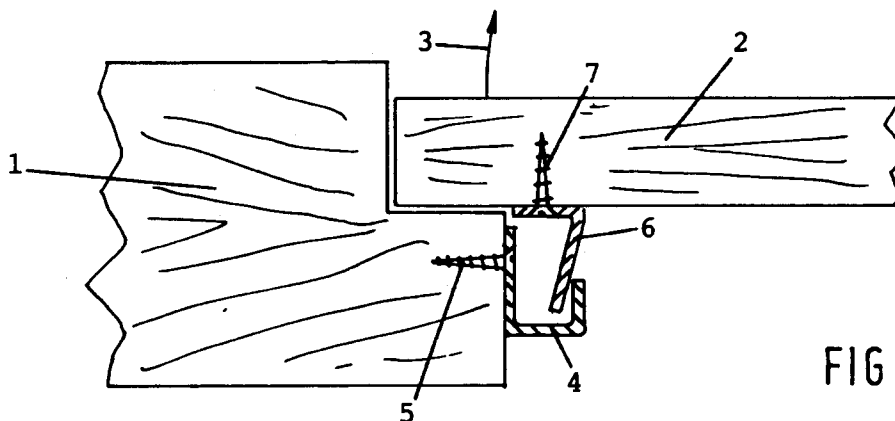
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(54) **A security system.**

(57) A security system for preventing undesirable opening of a window (2) or a door or the like element being movably mounted in a frame (1). The system comprises two strips (4,6) whose cross-sectional configurations are designed such that the strips form at least partially interlocking sections. The first strip (4) is secured with screws to the frame (1) in which the element is mounted, and the second strip (6) is secured to the element (2). The part of

each of the strips in which holes for the screws are provided is free from other parts of the strips on both sides, in such a manner that the holes are freely accessible for fitting the screws. In the closed condition of the element the part of each of the strips in which the holes are provided is furthermore covered by parts of the other strip, of the element or of the frame.

**FIG. 3****EP 0 667 438 A1**

The invention relates to a security system for preventing undesirable opening of a window or a door or the like element being movably mounted in a frame, said system comprising two strips whose cross-sectional configurations are designed such that said strips form at least partially interlocking sections, whereby a first strip is secured with screws to the frame in which said element is mounted, and whereby the second strip is secured to the element with screws. In the present application the word frame will be used to indicate a door casing or window casing and any other device in which a door or window is hinged or can move otherwise. The word element comprises a door, window or any other element which is mounted in a frame and which can be opened. The word screw is furthermore used to indicate any other fastening element as well.

The purpose of a security system of this kind is to prevent that a door or window is lifted out of the frame by means of a crowbar or other tool in such a manner that the door or the window can be opened. In the closed condition of the door, the window or similar element it is necessary for the strips to interlock in such a manner that movement of the element with respect to the frame is prevented in at least one direction. This makes it impossible for the element to be lifted from its fastening, as a result of which it might be opened.

It is known to secure strips of this type to the element as well as to the frame with screws. In order to prevent that the strips are removed, which would undo the security, strips of this type are often fixed by means of special screws, which can only be screwed up in one direction. Screws of this type cannot be unscrewed in a simple manner. A drawback of the use of screws of this kind is that it is made more difficult for the do-it-yourselfer to fit the strips, and that the do-it-yourselfer will often use ordinary screws after all, which makes it possible to remove the security strips. Although the unscrewing of the security strips takes some time, as a result of which some security is still obtained, this security is not optimal.

Another drawback of the known strips is that it is often difficult to gain access to the holes in which the fastening screws are to be fitted. In order to improve this accessibility recesses may be provided in the fastening strips, so that the screws can be screwed up by means of an ordinary screwdriver. The presence of such recesses may have an adverse effect on the outward appearance of the strips, whilst in addition to that extra production costs are involved.

The object of the invention is to provide a security system, whereby said strips are designed such that the security system is easy to install, functions optimally and has an attractive outward

appearance.

In order to accomplish this objective said strips are designed such that the part of each of said strips in which holes for the screws are provided is free from other parts of said strips on both sides, in such a manner that the holes are freely accessible for fitting the screws, and that in the closed condition of said element the part of each of said strips in which the holes are provided is covered by parts of the other strip, of the element or of the frame.

The security system according to the invention can be fitted in a simple manner, also by the do-it-yourselfer, by means of ordinary screws, because the screws cannot be removed with the element in its closed position. Ordinary tools may be used for fitting the strips, because in the open position of the element the screws for fixing the strips are readily accessible. Because access to the screws is not possible in the closed conditions of the element, unauthorized persons are prevented from attempting to remove the screws. Also with screws that cannot be removed the fact that the screws are visible induces people to attempt to remove the screws after all. Moreover, the fact that the screws are not visible has a positive aesthetic effect.

According to another aspect of the invention at least one of said strips may have an edge portion, in which said holes are provided, said edge portion in the closed condition of the element being located between said element and said frame. The screws fitted are thereby not covered by said other strip, but by the element and/or the frame.

According to the invention at least one of said strips may furthermore consist of a U-section having unequal legs, whereby said holes are provided in the longer leg of said section. The section may be screwed on the frame or the element with its longer leg, whereby access to the screws is readily possible.

When the security system is provided with an element opening to the outside, the strips may be provided in such a manner that they are completely located beyond the circumference of the element, whereby one strip or both strips may be fixed in the space between said element and said frame.

The invention furthermore relates to a method for securing a door, a window or the like element being movable in a frame against undesirable opening, whereby a first strip is secured with screws to the frame in which said element is mounted, and whereby the second strip is secured to the element with screws, whereby the part of each of said strips in which holes for the screws are provided is free from other parts of said strips on both sides, in such a manner that the holes are freely accessible for fitting the screws, and that in the closed condition of said element the part of each of

the strips in which the holes are provided is covered by parts of the other strip, of the element or of the frame.

Further features of the invention will be discussed and/or explained in the description of the Figures and in the claims.

In order to more fully explain the invention a number of embodiments thereof will be described hereafter with reference to the drawing.

Figures 1 - 4 show a hinged element, which opens to the inside;

Figures 5 - 7 show a hinged element, which opens to the outside; and

Figure 8 shows a sliding element.

The embodiments are only diagrammatically shown in the Figures, in which like parts are numbered alike.

Figure 1 shows a frame 1 (casing) and a hinged element 2, for example a window. Arrow 3 indicates that the element 2 is hinged at the end not shown, so that the element 2 can be turned out of the frame. As in the other Figures the element is shown in its closed condition in Figure 1.

According to Figure 1 frame 1 is provided with a strip 4 in the form of a metal section, which strip 4 is secured in the frame by means of screws 5. The cross section of strip 4 has a substantially U-shaped configuration with two unequal legs, whereby the screws 5 extend through holes into the long leg of said U-section. Window 2 is provided with a strip 6 in the shape of a metal L-shaped section. Strip 6 is secured to the window 2 by means of screws 7, whereby said screws 7 are fitted through holes in the short leg of the L-section 6.

It will be apparent that in the open position of the window 2 the sections can be readily screwed to the element 2 and the frame 1, and that the strips 4, 6 are configured such that the screws are readily accessible with a screwdriver. Because in the closed condition of the window, as shown in Figure 1, access to the screws is not possible, it is not necessary for the strips to be secured with special screws that cannot be unscrewed. It will be apparent from Figure 1 that each of the strips covers the screws with which the other strips is fastened. Since the screws are not visible, an unauthorized person wanting to force open the window will less readily make an attempt to remove the strips. After all, he will not be able to see in what manner and in what places the strips are fastened. Moreover, the fact that the screws are not visible has a positive aesthetic effect.

Figures 2, 3 and 4 show embodiments of a window opening to the inside, whereby other sections according to the invention are used. In all cases it applies thereby that in the open position of the window 2 the screws are not accessible or even visible. The object of the strips provided is to

prevent that a crowbar or other tool is placed between the frame 1 and the window 2 in a simple manner in order to open said window, whereby it is in particular prevented that the window 2 is moved outside the frame in its plane (a movement of the window 2 to the right in the Figures), so that the fastening of the window would be rendered inoperative.

The embodiments shown in Figures 1, 3 and 4 are to be preferred, since strip 6, which is secured to the door/window 2, is of simple design and is consequently inexpensive to produce, whilst it can be fitted in a quick manner.

According to the embodiments of Figures 5 - 7 a window 2, which opens to the inside, is secured by the strips 4 and 6. In all embodiments the strips are fitted to the outside of the frame/window assembly.

In Figures 5, 6 and 7 strip 6, which is secured on window 2 with screws, consists of a metal U-shaped section, whose legs have unequal lengths. The long leg of the section is fastened to the end face of the window 2, and that in such a manner that access to the screw is not possible in the closed position of the window 2. Other embodiments of strip 4 are shown in Figures 5, 6 and 7, whereby according to the embodiments of Figures 5 and 6 the fastening screw 5, with which the strip 4 is secured, is located between the frame 1 and the window 2 in such a manner, that the screw is not accessible in the closed condition of the window. In the embodiment of Figure 7 the screw 5 is covered by strip 6 in the closed condition of window 2.

Figure 8 shows an embodiment for securing a sliding door. The metal strips 4, 6 are thereby configured such that they can be moved into an interlocking position, whereby the one section covers the fastening screws of the other section. Also in this case the presence of the security strips prevents that the door can be forced open easily by means of a crowbar or other tool, whilst the door 2 is prevented from being moved perpendicularly to its plane.

In all embodiments the element 2 may be a door as well as a window, and the strips 4, 6 may be strips made of metal or of any other suitable material. Moreover, instead of screws 5, 7 also other fastening means may be used, for example nails or pop rivets. Pop rivets may in particular be used when the frame 1 and/or the element 2 are made of aluminium.

In the Figures only a few embodiments of the invention are shown, and consequently these embodiments of the invention are merely to be considered as examples.

## Claims

1. A security system for preventing undesirable opening of a window or a door or the like element being movably mounted in a frame, said system comprising two strips whose cross-sectional configurations are designed such that said strips form at least partially interlocking sections, whereby a first strip is secured with screws to the frame in which said element is mounted, and whereby the second strip is secured to the element with screws, whereby the part of each of said strips in which holes for the screws are provided is free from other parts of said strips on both sides, in such a manner that the holes are freely accessible for fitting the screws, and that in the closed condition of said element the part of each of said strips in which the holes are provided is covered by parts of the other strip, of the element or of the frame.
 

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2. A security system according to claim 1, characterized in that at least one of said strips has an edge portion, in which said holes are provided, said edge portion in the closed condition of the element being located between said element and said frame.
 

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3. A security system according to claim 1 or 2, characterized in that at least one of said strips consists of a U-section having unequal legs, whereby said holes are provided in the longer leg of said section.
 

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4. A security system according to any one of the preceding claims, characterized in that at least one of said strips is completely located beyond the circumference of the element.
 

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5. A security system according to any one of the preceding claims, characterized in that at least one of said strips has a substantially U-shaped cross-section, whereby the holes are provided in the base of the U-shape.
 

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6. A security system according to any one of the preceding claims for an element opening to the inside, characterized in that said second strips has an L-shaped section, with screw holes in the short leg, and whereby the long leg is flat and extends at a right angle or a slightly smaller angle.
 

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7. A security strip to be used in accordance with any one of the preceding claims.
 

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8. A method for securing a door, a window or the like element being movable in a frame against undesirable opening, whereby a first strips is secured with screws to the frame in which said element is mounted, and whereby the second strip is secured to the element with screws, whereby the part of each of said strips in which holes for the screws are provided is free from other parts of said strips on both sides, in such a manner that the holes are freely accessible for fitting the screws, and that in the closed condition of said element the part of each of the strips in which the holes are provided is covered by parts of the other strip, or of the element or of the frame.

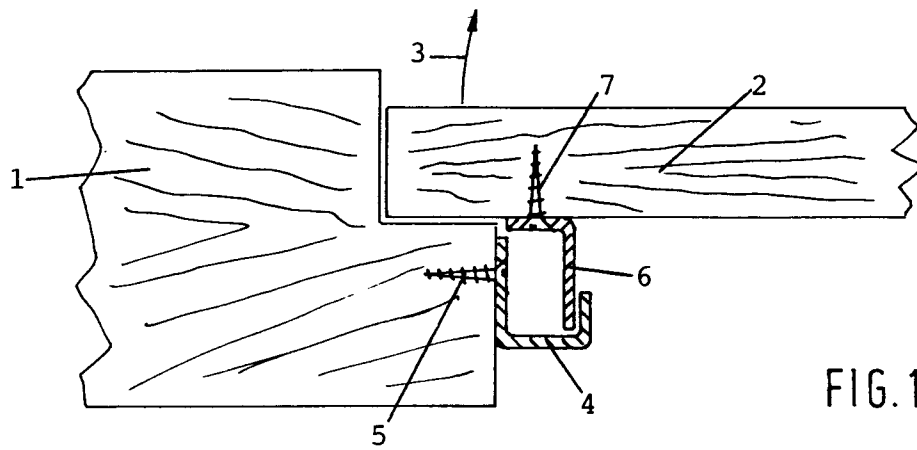


FIG.1

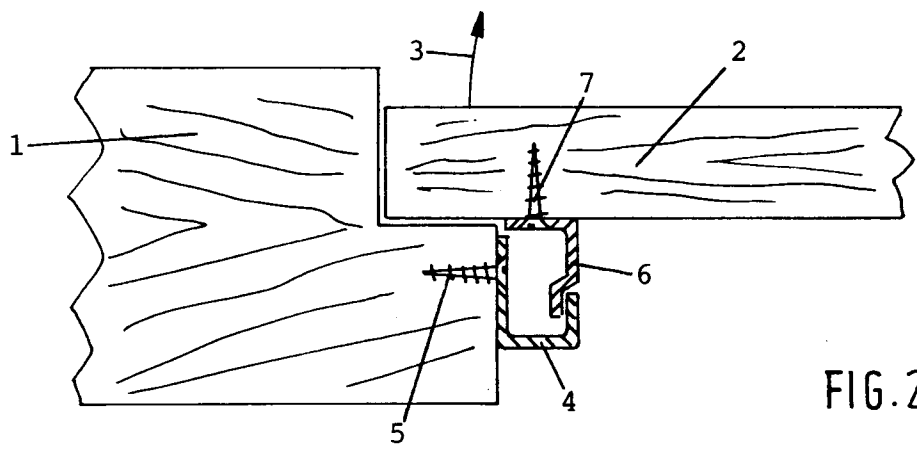


FIG.2

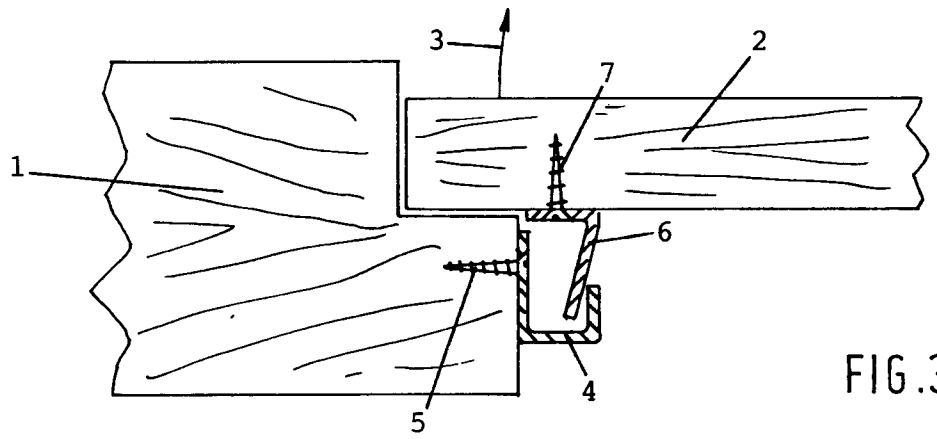


FIG.3

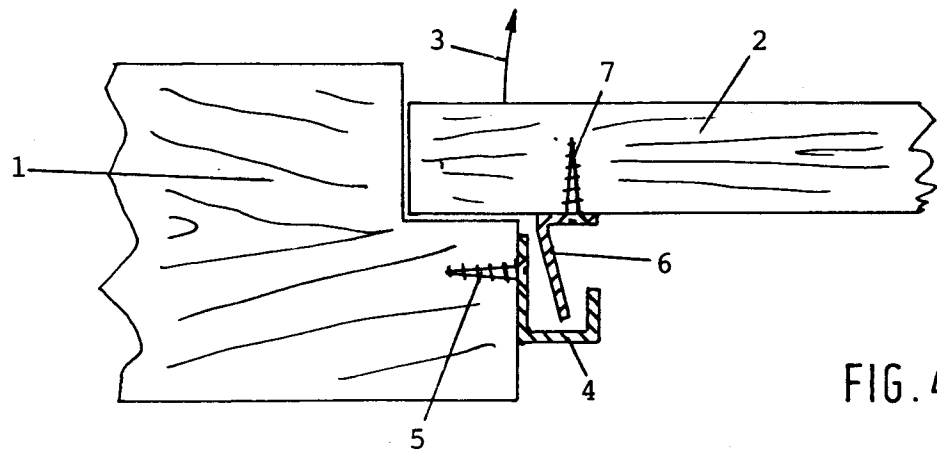


FIG.4

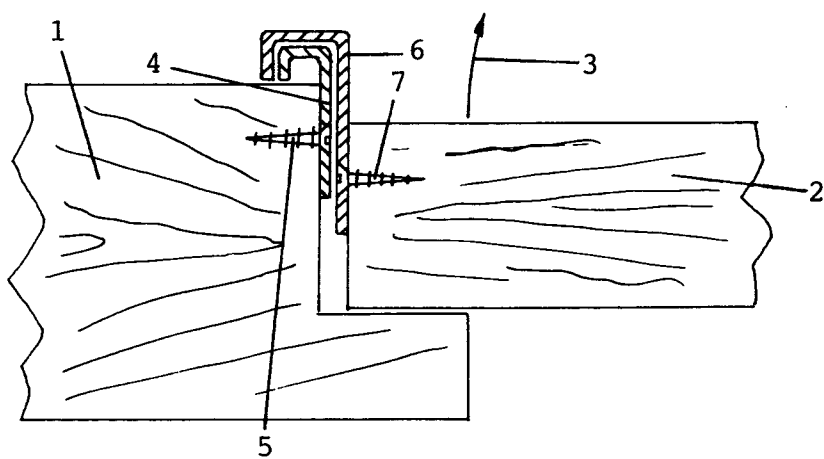


FIG. 5

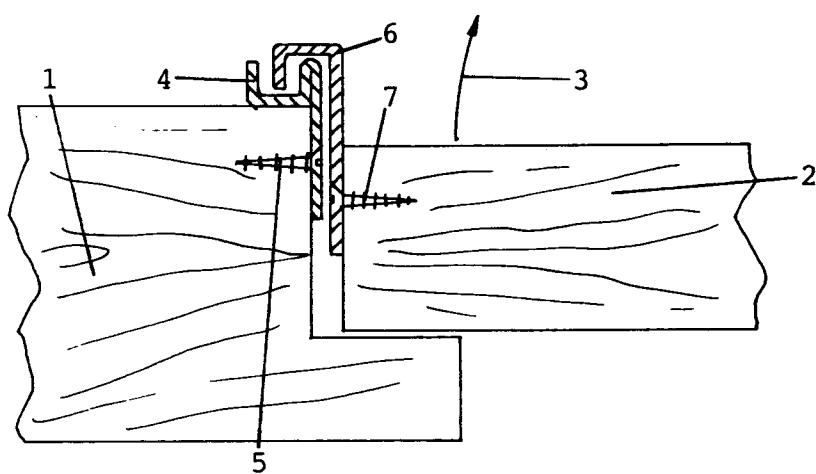


FIG. 6

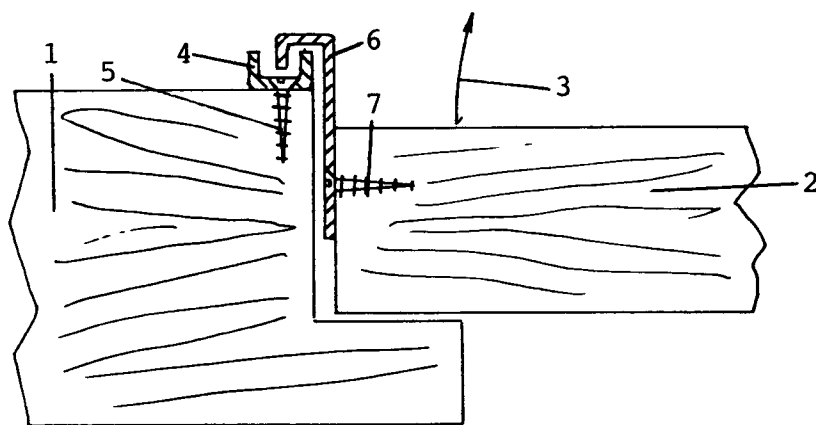


FIG. 7

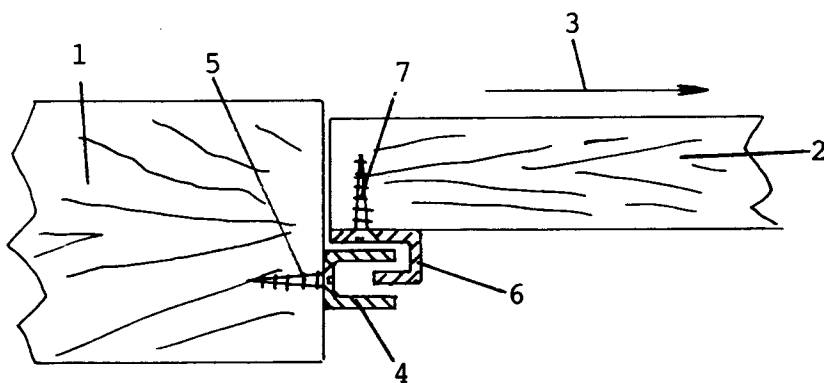


FIG. 8



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## EUROPEAN SEARCH REPORT

Application Number  
EP 95 20 0249

DOCUMENTS CONSIDERED TO BE RELEVANT			
Category	Citation of document with indication, where appropriate, of relevant passages	Relevant to claim	CLASSIFICATION OF THE APPLICATION (Int.Cl.6)
X	FR-A-2 669 076 (J.P. NEVRAUMONT) * page 9, line 9 - line 17; figure 4 * ---	1,3,5-7	E06B5/10
X	WO-A-89 04907 (SECUSTRIP)	1,3,5,7,8	
Y	* page 5, line 2 - line 20; figures 3,5 * ---	2,4	
Y	FR-A-2 412 676 (A.A. RENAULT) * figure 2 * -----	2,4	
			TECHNICAL FIELDS SEARCHED (Int.Cl.6)
			E06B
The present search report has been drawn up for all claims			
Place of search THE HAGUE		Date of completion of the search 22 May 1995	Examiner Verveer, D
<b>CATEGORY OF CITED DOCUMENTS</b> X : particularly relevant if taken alone Y : particularly relevant if combined with another document of the same category A : technological background O : non-written disclosure P : intermediate document T : theory or principle underlying the invention E : earlier patent document, but published on, or after the filing date D : document cited in the application L : document cited for other reasons ..... & : member of the same patent family, corresponding document			