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(71) Applicant: **Hamstra B.V.**
**1311 XC Almere (NL)**

(72) Inventors:
- **De Haan, Mark Gerard Maarten**
  **2024 TB, Haarlem (NL)**
- **Fransen, Arnoud**
  **2023 VK, Haarlem (NL)**

(74) Representative: **Voncken, Bartholomeus Maria Ch.**
**De Vries & Metman**
**Overschiestraat 180**
**1062 XK Amsterdam (NL)**

(54) **Insect screen**

(57) An insect screen for mounting in a window opening comprises a surrounding frame (1) defining a central opening and a gauze (8) spanning said central opening and connected to the frame with its circumferential edge. The frame is provided with an outwardly projecting mounting wing (3) to be received between a stationary part (9) and a movable part (10) of the window. The frame comprises a base part (4) and a separate locking part (5), wherein said base part and locking part are provided with cooperating locking members for locking the locking part to the base part while clamping the gauze between both parts, and wherein the mounting wing is part of the locking part.

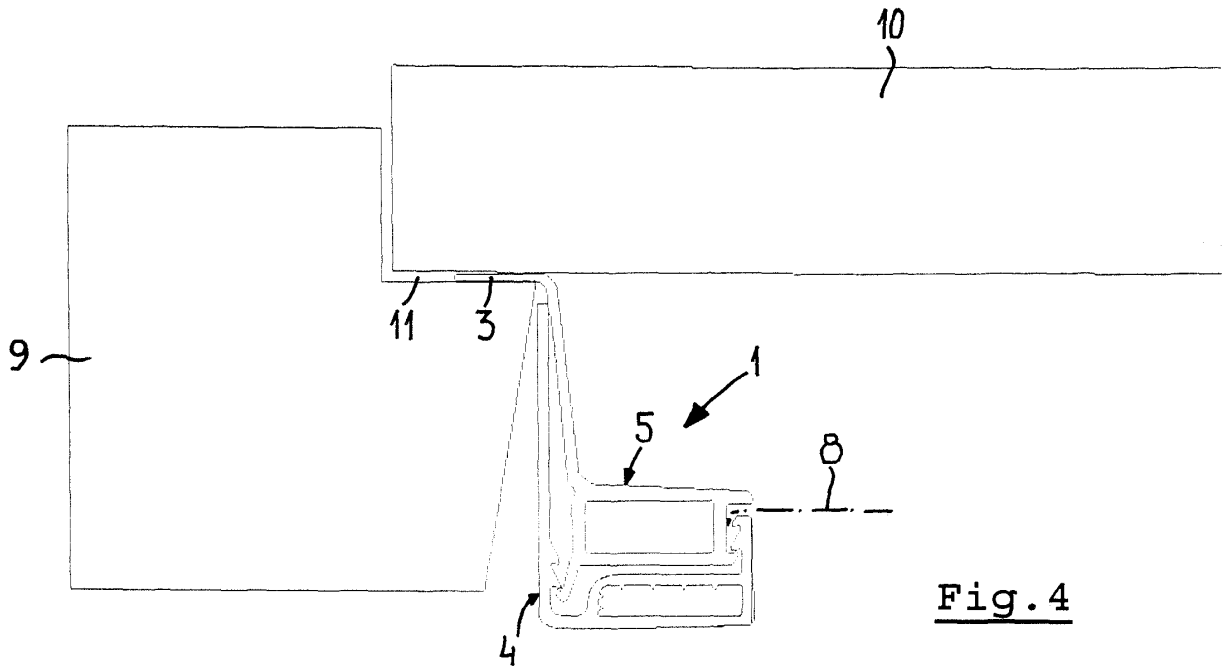


Fig.4

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## Description

**[0001]** The invention relates to an insect screen for mounting in a window opening, comprising a surrounding frame defining a central opening and a gauze spanning said central opening, wherein the frame is provided with an outwardly projecting mounting wing to be received between a stationary part and a movable part of the window.

**[0002]** It is noted that, although the insect screen is described here as applicable to a window opening, it is also conceivable that the insect screen is used in combination with another opening, such as for example a door opening. Furthermore it should be noted that, although the mounting wing is defined as to be received between a stationary part and a movable part, the principles of the present invention also apply to a situation in which both parts are stationary (for example when the movable part has been immobilised after being brought in a position relative to the stationary part in which the mounting wing of the frame is effectively received between both parts). Finally it is noted that the insect screen may be of a type having a stationary gauze or a type having a movable gauze.

**[0003]** A state of the art insect screen of the above type comprises a frame which is provided with a channel which opens toward one side of the frame. A circumferential edge of the gauze is received in said channel and clamped therein by an elongate flexible member, for example made out of rubber material.

**[0004]** The frame of this state of the art insect screen is composed of an extruded metal (e.g. aluminium) profile provided with the mounting wing.

**[0005]** In view of making a window opening more burglarproof, the gap between the stationary part and the movable part should be designed as narrow as possible. However, when a mounting wing of an insect screen has to be received between the stationary part and the movable part, the minimum dimension of such a gap will be defined by the minimum thickness of the mounting wing. Made out of an extruded metal profile such a mounting wing, however, will have a considerable minimum thickness, thus causing a rather wide gap between the stationary part and movable part of the window opening.

**[0006]** It is an object of the present invention to provide an improved insect screen.

**[0007]** Thus, in accordance with the present invention the frame comprises a base part and a separate locking part, wherein said base part and locking part are provided with cooperating locking members for locking the locking part to the base part while clamping the gauze between both parts, and wherein the mounting wing is part of the locking part.

**[0008]** Because, now, the frame comprises two separate parts, it is possible to design such parts each in a manner for optimizing their function. Specifically, the locking part may be designed such that its mounting wing has a minimal thickness which allows insertion thereof in a very narrow gap between the stationary part and movable part of the window. The base part may be designed such, for example, that the insect screen is sufficiently strong and rigid.

**[0009]** In an embodiment of the insect screen according to the present invention, the locking part is manufactured from a plastic material. Such a plastic material allows to manufacture the mounting wing with a very reduced thickness.

**[0010]** When, in accordance with an embodiment of the insect screen according to the invention, the base part is made of metal, such as for example aluminium, sufficient strength thereof is guaranteed.

**[0011]** When the cooperating locking members of the base part and locking part define snap locks, assembling the insect screen is very easy. Furthermore such snap locks allow to remove the locking part from the base part when required, for example for replacing a damaged gauze or for replacing a locking part of which the mounting wing is damaged.

**[0012]** In accordance with yet another embodiment of the insect screen according to the present invention, the locking part in its position locked to the base part is substantially housed within the base part. As a result the locking part is effectively protected against damage, as may be important when it is made of plastic material which has a poor resistance against shocks.

**[0013]** For the ease of production, in a special embodiment the base part and the locking part are composed of extruded profiles.

**[0014]** Hereinafter the invention will be elucidated while referring to the drawings, in which

Figure 1 shows, in an perspective view, an embodiment of the insect screen according to the invention;
Figure 2 shows, in a cross section, a base part and locking part in a disassembled state;
Figure 3 shows, in accordance with figure 2, the base part and locking part in an assembled state;
Figure 4 shows, in a partial cross section, the position of the insect screen in a window;
Figure 5 shows, in a perspective cross section, a base part and locking part in a disassembled state;
Figure 6 shows, in accordance with figure 5, the base part and locking part in an assembled state, and
Figure 7 shows, on a larger scale, a corner region of an embodiment of the insect screen.

**[0015]** Firstly referring to figure 1, an insect screen for mounting in a window opening is illustrated. It comprises a surrounding frame 1 defining a central opening 2 and a gauze (not illustrated) spanning said central opening 2. Such a gauze is connected to the frame 1 with its circumferential edge. The frame is provided with an outwardly projecting mounting wing 3 to be received between a stationary part and a movable part of the window (as illustrated in figure 4 which will be discussed later). The mounting wing, in the illustrated embodiment, ex-

tends all around the circumference of the frame 1, but it is conceivable too that the mounting wing 3 is not present at some locations.

**[0016]** Referring to figures 2 and 3, the frame comprises a base part 4 and a separate locking part 5. Said base part 4 and locking part 5 are provided with cooperating locking members 6,7 (in the present embodiment locking fingers defining snap locks) for locking the locking part to the base part while clamping a gauze 8 between both parts.

**[0017]** In figure 2 the locking part 5 is not yet attached to the base part 4, but in figure 3 it is, through cooperation between the locking members 6 and 7.

**[0018]** The locking members 6 and 7 also may comprise different means, such as for example (parts of) walls frictionally engaging each other (directly or indirectly via the gauze).

**[0019]** The locking part 5 is provided with the mounting wing 3 which, in the illustrated embodiment, has a smaller thickness then the remaining components of the frame 1. This may be achieved, for example, when the locking part 5 is manufactured from a plastic material. The base part may be made of metal, such as for example aluminium.

**[0020]** As illustrated clearly in figure 3, the locking part 5 in its position locked to the base part 4, is substantially housed within said base part 4.

**[0021]** Once assembled in accordance with figure 3, the insect screen may be mounted in a window opening. This is illustrated in figure 4 which shows a stationary window part 9 and a movable window part 10. The mounting wing 3 of the frame 1 is positioned in the narrow gap 11 between the stationary part 9 and movable part 10.

**[0022]** Of course, the stationary part 9 and movable part 10 also may be part of, for example, a door opening or other opening.

**[0023]** As shown clearly in the perspective cross sections in accordance with figures 5 and 6, the base part 4 and the locking part 5 are composed of extruded profiles. For creating a rectangular insect screen as illustrated in figure 1, such profiled base parts 4 and locking parts 5, respectively, may be interconnected by corner pieces 12 (figure 7) in a manner known per se.

**[0024]** The invention is not limited to the embodiments described above, which may be varied widely within the scope of the invention as defined by the appending claims.

## Claims

1. Insect screen for mounting in a window opening, comprising a surrounding frame defining a central opening and a gauze spanning said central opening and connected to the frame with its circumferential edge, wherein the frame is provided with an outwardly projecting mounting wing to be received between a stationary part and a movable part of the window, **characterized in that** the frame comprises a base part and a separate locking part, wherein said base part and locking part are provided with cooperating locking members for locking the locking part to the base part while clamping the gauze between both parts, and wherein the mounting wing is part of the locking part.

2. Insect screen according to claim 1, wherein the locking part is manufactured from a plastic material.

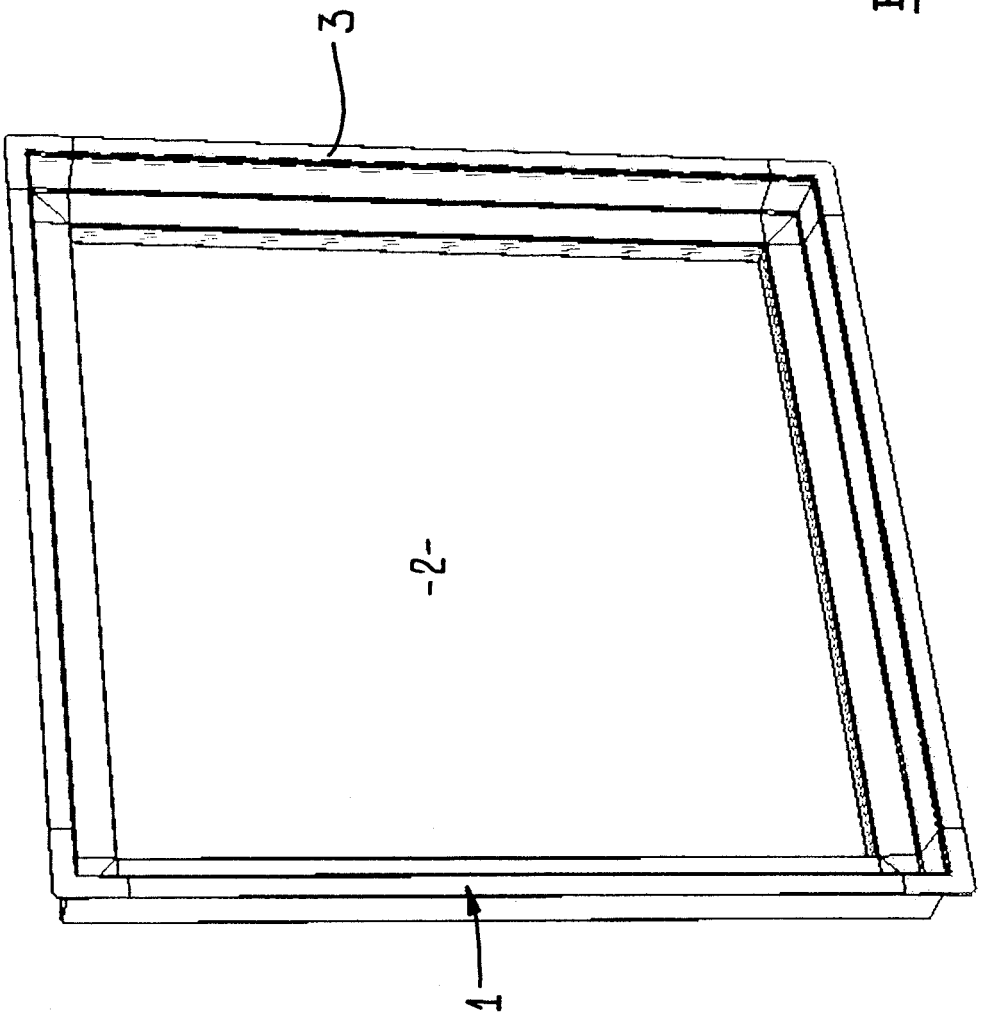
3. Insect screen according to claim 2, wherein the base part is made of metal, such as for example aluminium.

4. Insect screen according to any of the previous claims, wherein the cooperating locking members of the base part and locking part define snap locks.

5. Insect screen according to any of the previous claims, wherein the locking part in its position locked to the base part is substantially housed within the base part.

6. Insect screen according to any of the previous claims, wherein the base part and the locking part are composed of extruded profiles.

Fig.1



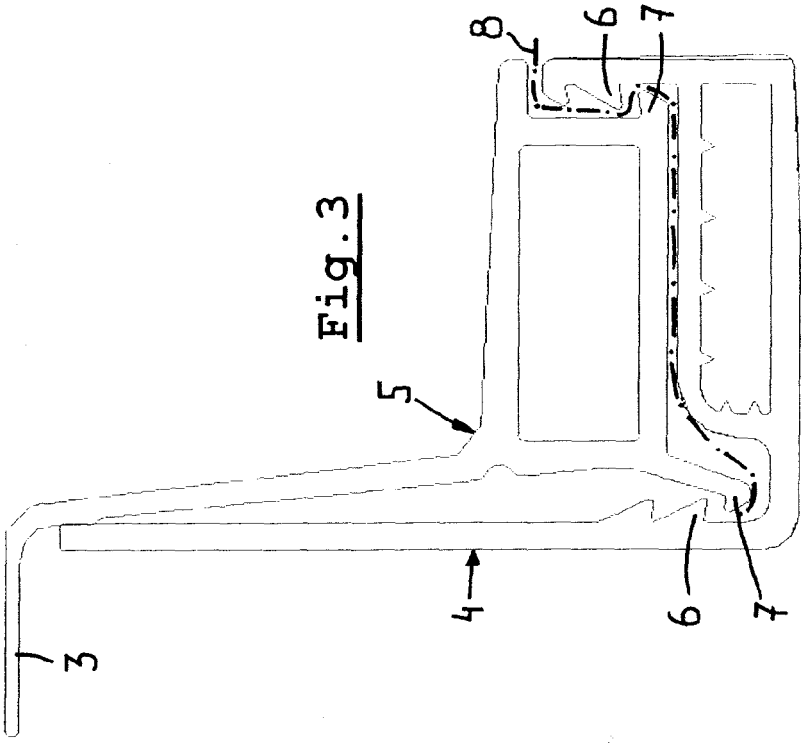



Fig.3

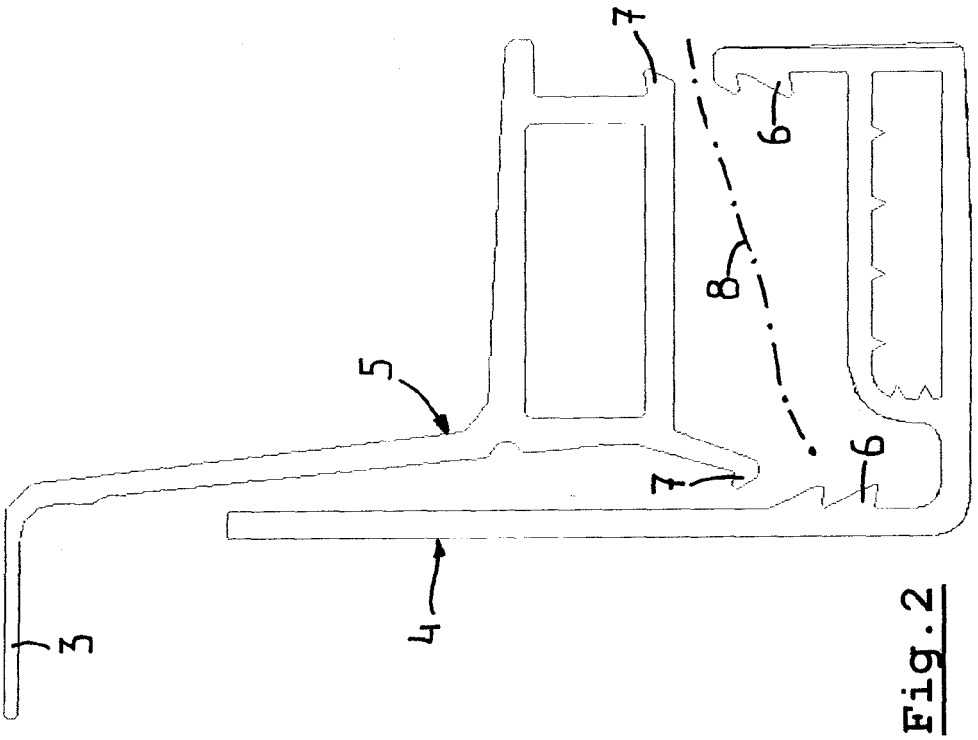



Fig.2

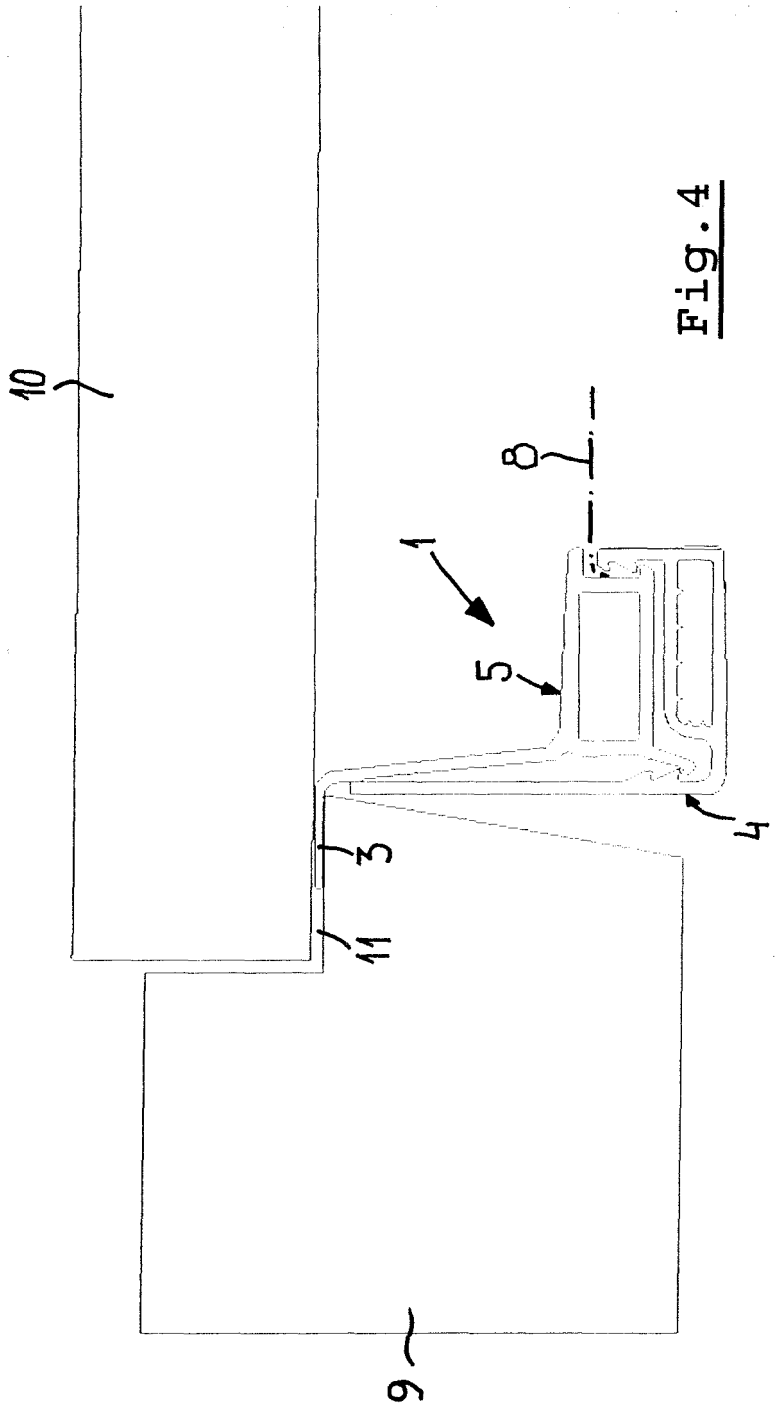



Fig.4

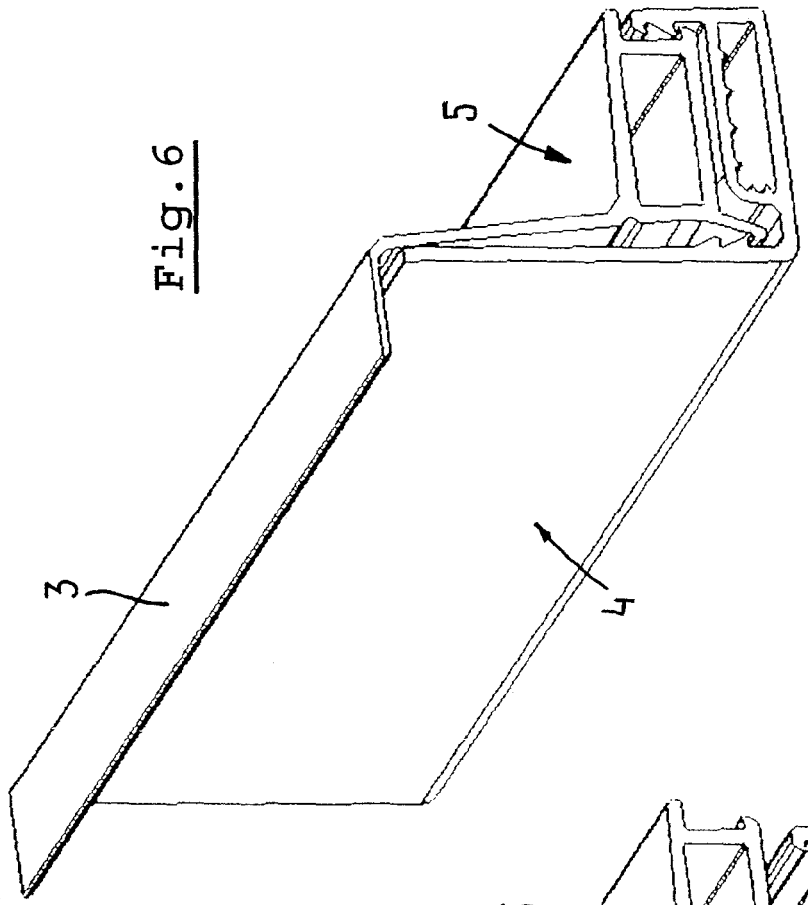



Fig.6

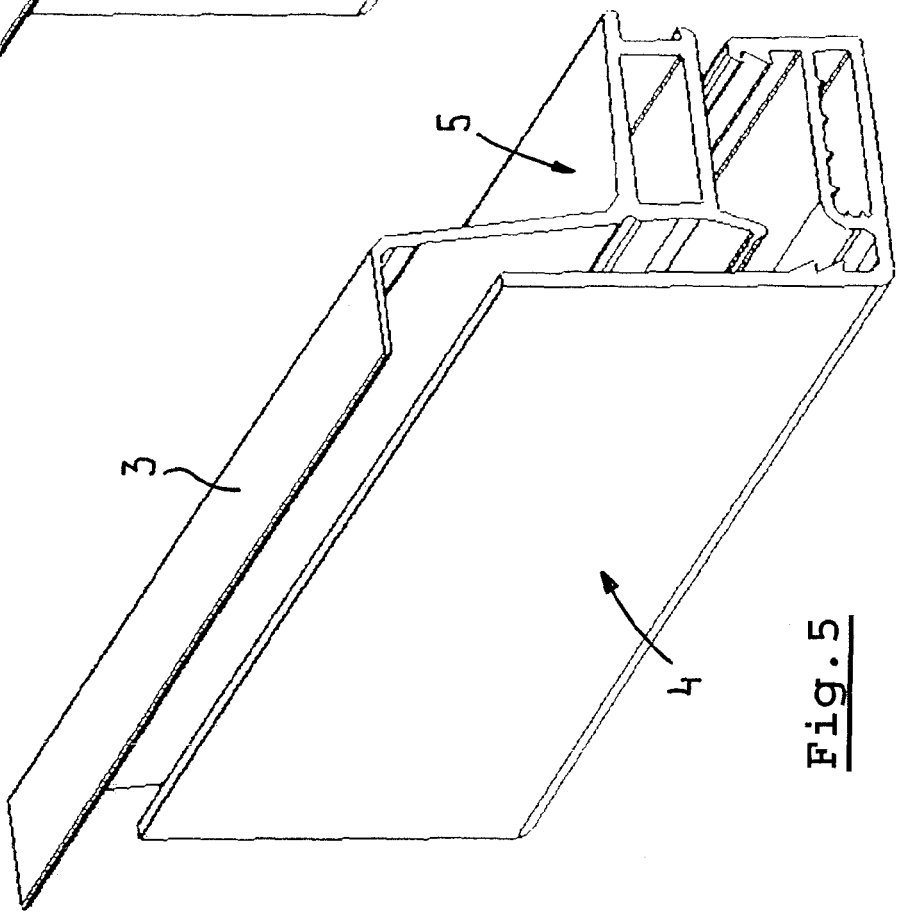



Fig.5

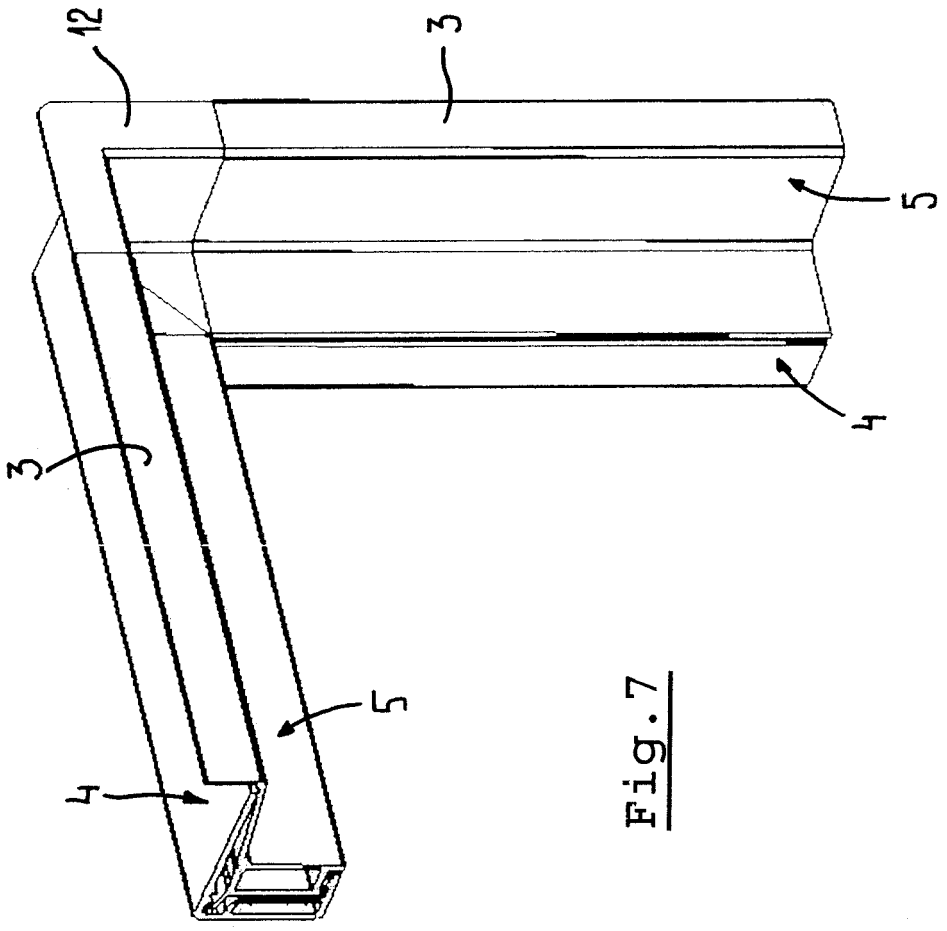



Fig.7

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# EUROPEAN SEARCH REPORT

Application Number
EP 08 15 9901

## DOCUMENTS CONSIDERED TO BE RELEVANT

| Category | Citation of document with indication, where appropriate, of relevant passages | Relevant to claim | CLASSIFICATION OF THE APPLICATION (IPC) |
|---|---|---|---|
| X | FR 2 224 634 A (ALUPLAST, PERSONENVENNOOTSCHAP MET BEPERKTE AANSPRAKELIJKEID)<br>31 October 1974 (1974-10-31)<br>* page 2, line 1 - line 14 *<br>* page 2, line 38 - page 3, line 4 *<br>* figures 1,5,6 * | 1-4,6 | INV.<br>E06B9/52 |
| Y | ----- | 5 | |
| Y | US 4 451 997 A (JONES BRUNA)<br>5 June 1984 (1984-06-05)<br>* column 3, line 53 - line 65 *<br>* column 4, line 15 - line 24 *<br>* column 5, line 46 - line 65 *<br>----- | 5 | |

TECHNICAL FIELDS SEARCHED (IPC)

E06B
D05C

The present search report has been drawn up for all claims

| Place of search | Date of completion of the search | Examiner |
|---|---|---|
| The Hague | 16 October 2008 | Cornu, Olivier |

CATEGORY OF CITED DOCUMENTS

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## ANNEX TO THE EUROPEAN SEARCH REPORT ON EUROPEAN PATENT APPLICATION NO. EP 08 15 9901

This annex lists the patent family members relating to the patent documents cited in the above-mentioned European search report. The members are as contained in the European Patent Office EDP file on
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16-10-2008

| Patent document cited in search report | Publication date | Patent family member(s) | Publication date |
|---|---|---|---|
| FR 2224634 A | 31-10-1974 | NONE | |
| US 4451997 A | 05-06-1984 | NONE | |

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For more details about this annex : see Official Journal of the European Patent Office, No. 12/82