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(54) **WALL USED AS A PARTITION AND FURNITURE SUPPORT**

(57) The partition wall is comprised of special metal sections (1) which form the structure on which are coupled the other elements forming the partition walls. There are provided lower squares (2) mounted at the lower corners of the partition wall, a universal connection system (3) to connect the partition walls to each other, rhomboidic parts with Allen mortise (6) for supporting the external elements, an upper square (5) mounted in the upper corners of the partition wall, as well as clips for fixing ornamental covers (7.1, 7.2).

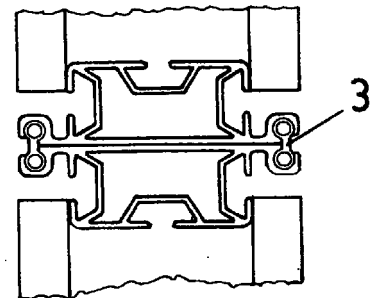


FIG. 3.2

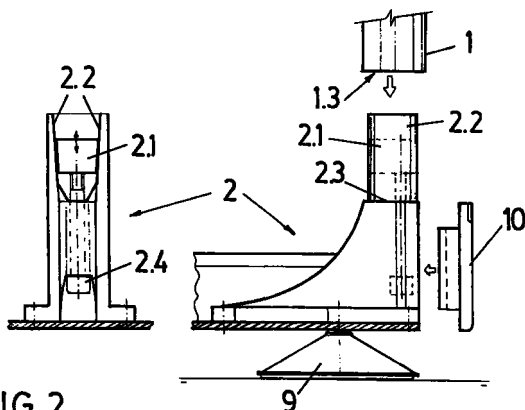


FIG. 2

EP 1 035 264 A1

**Description****OBJECT OF THE INVENTION**

[0001] The invention here disclosed relates to elements which comprise a screen for partitions and furniture support, from among those which are meant to partition a working space in a flexible and reconfigurable manner, characterised by special sections, a transverse universal connection means for the screens, an anchoring system for external elements at any height and an anchoring system for the walls by clips.

**BACKGROUND OF THE INVENTION**

[0002] Partitions are widely known and form a part of accessories for offices and more, so that they require no further explanation. The applicant is unaware of the existence of systems for connection, attachment and construction such as those described in this memory.

**DESCRIPTION OF THE INVENTION**

[0003] The invention object of the present memory relates to systems for attachment, connection and construction of a partition screen comprising specially designed metallic sections, plate brackets, universal connection elements, rhomboidal parts for supporting external elements and clips for attachment of walls.

**DESCRIPTION OF THE DRAWINGS**

[0004] As a complement of the description of the memory a set of drawings is accompanied where for purposes of illustration and in a non-limiting manner the following is shown:

Figure 1 shows the general section of the screens.

Figure 2 shows the lower bracket of the screen as well as the section which forms the baseboard of the screen, and also the levelling element which is screwed on to the bracket and end piece (10).

Figure 3 shows the universal connection system for any angle and height.

Figure 4 shows the part which when inserted in the side groove of figure 1 will be used to support working plans, shelves, hanging closets, illumination etc.

Figure 5 shows an elevation and plan view of the top connection bracket between the upright pillars and the top crossbeam.

Figure 6 shows a partially sectioned view of the screen, showing the walls employed as well as their assembly to the structure by clip type connectors.

**PREFERRED EMBODIMENT OF THE INVENTION**

[0005] The partition screen and furniture support comprises three segments (two upright pillars and a top crossbeam) of a special section (1) which allows to obtain rectangular screens of width and height adjustable at will by the lengths cut of said pillars and crossbeams. On the bottom the frame is closed by a bottom bar (8) (figure 6) with a triple function: bottom structural element; baseboard and wiring conduct allowing installation without threading.

[0006] The section of figure 1 is provided with lateral grooves (1.1) which allow to couple at any point and without breaking continuity screws with Allen mortises and rhomboidal ends (figure 4). It is also provided with a groove (1.4) on its lower face, of identical geometry as (1.1) which allows to couple at any point and without breaking continuity attachment part (7.1) (figure 6) antagonist of clips (7.2) (figure 6) which are screwed to the walls.

[0007] The section of figure 1 is also provided with longitudinal grooves which allow to insert parts (3) (figure 3) known as universal connectors, meant to allow coupling to adjacent panels by pairs or in knots of three or four panels at different angles and heights. It is further provided with a lower groove (1.3) such that it allows to insert a top bracket (figure 5) meant to assemble both pillars and the top crossbar at 90°. The same groove (1.3) allow insertion of a lower bracket (figure 2).

[0008] The lower bracket (figure 2) fulfils several functions required by the screen's function and assembly. The first, a stiff connection to the bracket which allows a quick and self-centering assembly of the upright pillars (section 1) and which meet plateau (2.3) parallel to the base on said bracket and the lower structural cross beam. Stiffness is achieved by the expansion of two pyramidal trunks (2.2) which self-centre on the lower geometry of pillars (1.3) (section 1), by the action of a screw (2.4) which forces a wedge (2.1) to slide downwards, driven by the inner geometry (1.3) of section (1) and the inclined planes of arms (2.2) which expand and cause it to lock in place.

[0009] The second function of the bracket of figure 2 is to hold an end clip (10) of the electricity baseboard when the screen is an end screen. Thirdly, the bracket is used to couple a levelling element (9), The sturdiness and design of its plate reinforcements allow to reduce the thickness of the element in order to allow the fourth function, which is the free passage of cables on either side of the bracket from each panel to adjacent ones without exceeding the total width of the screen and without reducing the structural strength required to support the classification and working drawings accessories incorporated as well as standard loads.

[0010] Universal connection part (3) (figure 3) consists of a vertical connection membrane between two panels which ends in corresponding vertical cylinders provided with internal elastic hollow spaces, which allow

by insertion of male elements (3.1.2) (figure 3) expansion of their walls and locking and attachment of each cylinder to grooves (1.2) of sections (1), corresponding to the pillars of two adjacent panels, whatever the height (figure 3.1) and angle in which they are to be connected, a 180° angle between panels in figure 3.2, a 90° angle between panels in figure 3.3 or a variable angle in figure 3.4. In this manner both panels are rigidly connected in position.

**[0011]** Allen screws with rhomboid ends (figure 4) are mounted on groove (1.1) of section (1), inserted by the longer end of the rhomboid parallel to the groove (figure 4) and then turned ¼ turn with the aid of an Allen wrench. (Figure 4.3). This simple operation leaves the part secured in place by the locking of the rhomboid in the walls of the groove. Thus, in any point of grooves (1.1) of the section can be inserted an element on which to screw any external elements required at the desired height.

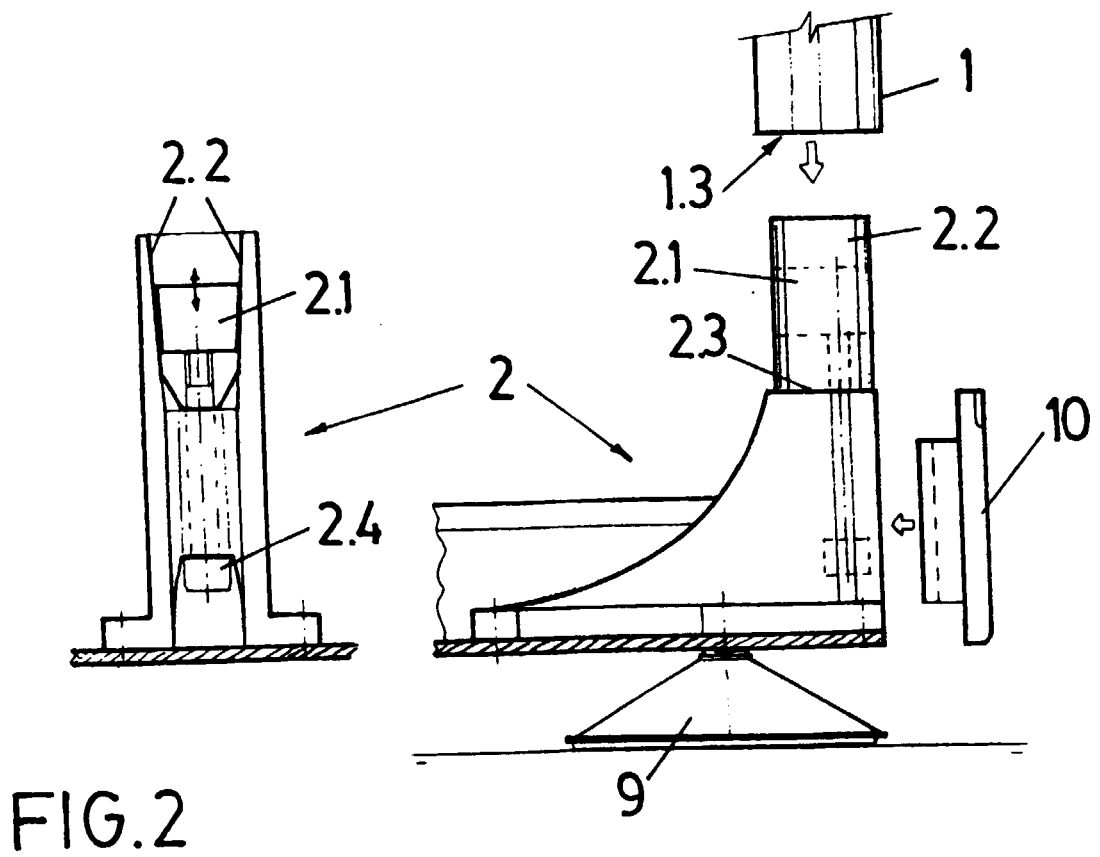
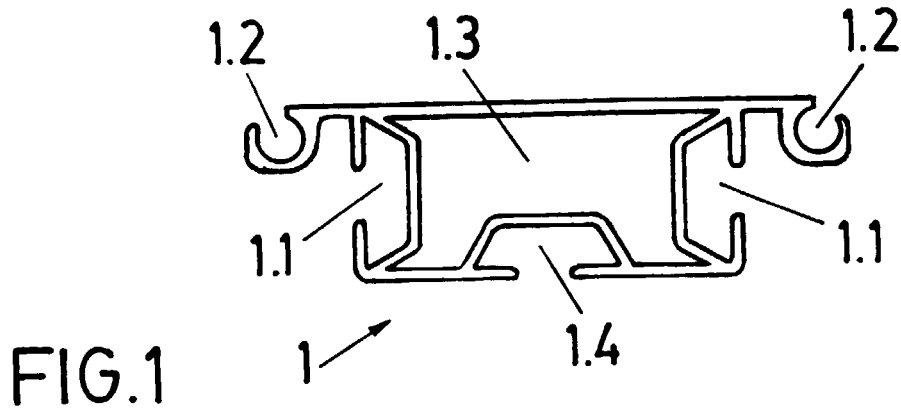
**[0012]** The top bracket (figure 5) allows connection and self centering of the upright bars to the top pillar by two perpendicular arms in a U shape (5.2) which are tightly fitted in the inside (1.3) of section (1). Vertical groove (5.1), continuous with groove (1.2) of section (1) allows to connect adjacent panels without requiring disassembly of the walls by inserting the parts described in figure 1 along the entire length of section (1). Similarly, any screen may be removed from the set by extracting these parts (figure 3) without moving the adjacent screens nor disassembling any walls.

**[0013]** The means of attaching the walls to the screen is through parts (7.1) coupled to groove (1.4) of the section, allowing a double anchoring of the walls by attachment clips (7.2) (figure 6). This allows a simple assembly, disassembly, replacement and exchange of the walls and access to the inside of the screen.

**[0014]** It is understood that as long as the essence of the invention is not affected, variations in materials, shape, size and arrangement of the elements are subject to variation within the same characterisation.

## Claims

1. Partition screen and furniture support characterised by the following constructive elements:
  - Special metallic sections (1) which form the structure on which the remaining constituent elements of the screen are coupled.
  - Lower brackets (2) placed on the bottom corners of the screen.
  - A universal connection system (3) between screens.
  - Rhomboid parts with Allen mortises (6) for supporting external elements.
  - A top bracket (5) placed on the top corners of the screen.
  - Wall attachment clips (7.1 and 7.2)
2. Partition screen and furniture support as in above claim, characterised in that sections (1) are provided with two grooves (1.1) to attach part (6) by which the external elements are supported; A groove (1.4) for inserting clips (7.1), of antagonistic support to (7.2), which when attached to the walls allow their securement to the structure; And further grooves (1.2) which with suitable parts (3) connect adjacent screens allowing several angles and heights.
3. Partition screen and furniture support as in above claims, characterised in that lower brackets (2) connected on their lower surface to the section of baseboard (8) incorporate an expansion wedge (2.1) which slides between flaps (2.2) which are self centering and lock inside the internal hollow (1.3) of the sections, thereby attaching baseboard section (8) to sections (1) which comprise the upright pillars of the screen.
4. Partition screen and furniture support as in above claims, characterised by a universal connection part (3), which inserted in grooves (1.2) of section (1) allow connection at several heights and angles of two, three or four adjacent screens.
5. Partition screen and furniture support as in above claims, characterised in that rhomboid Allen mortise parts (6) when inserted in groove (1.1) allow supporting furniture such as work drawings, shelves, etc..
6. Partition screen and furniture support as in above claims, characterised by a top bracket (5) connecting vertical bars to the top bar and allowing to pass universal connection part (3) towards groove (1.2) of section (1) in its entire length.
7. Partition screen and furniture support as in above claims, characterised by wall attachment clips (7.1 and 7.2) which allow a simple assembly, disassembly, replacement and exchange of the walls and accessing the inside of the screen.



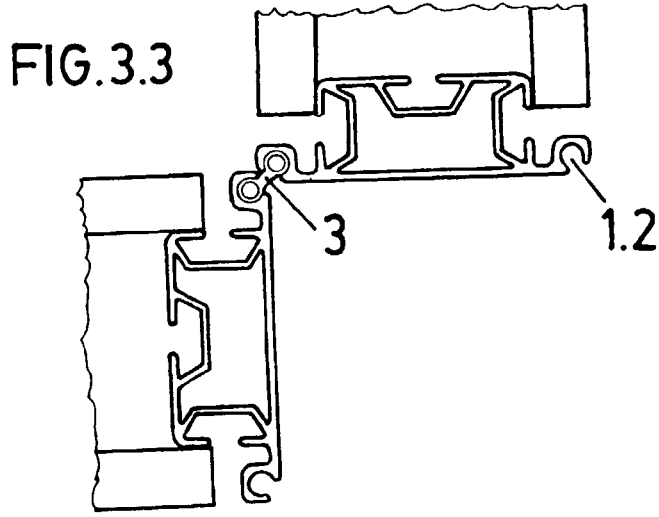


FIG. 3

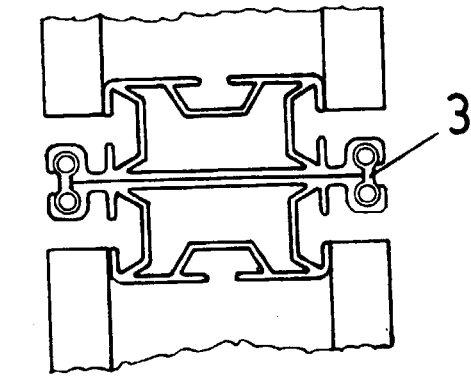


FIG. 3.2

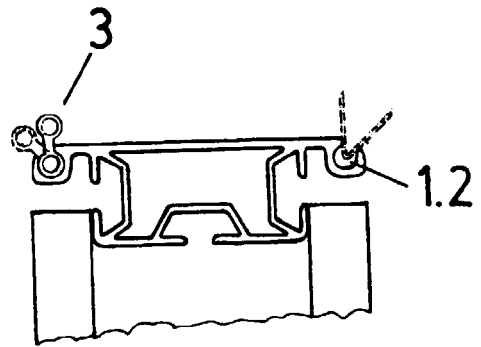


FIG. 3.4

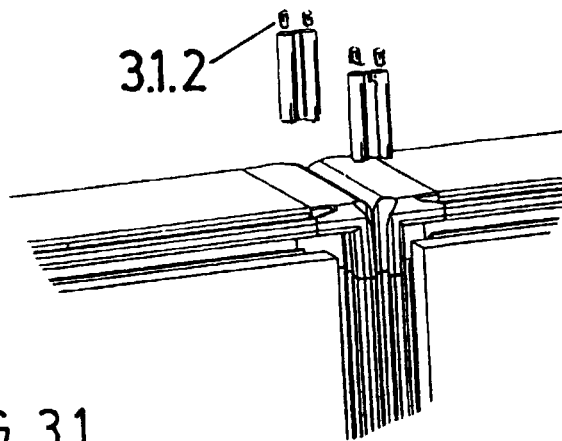


FIG. 3.1

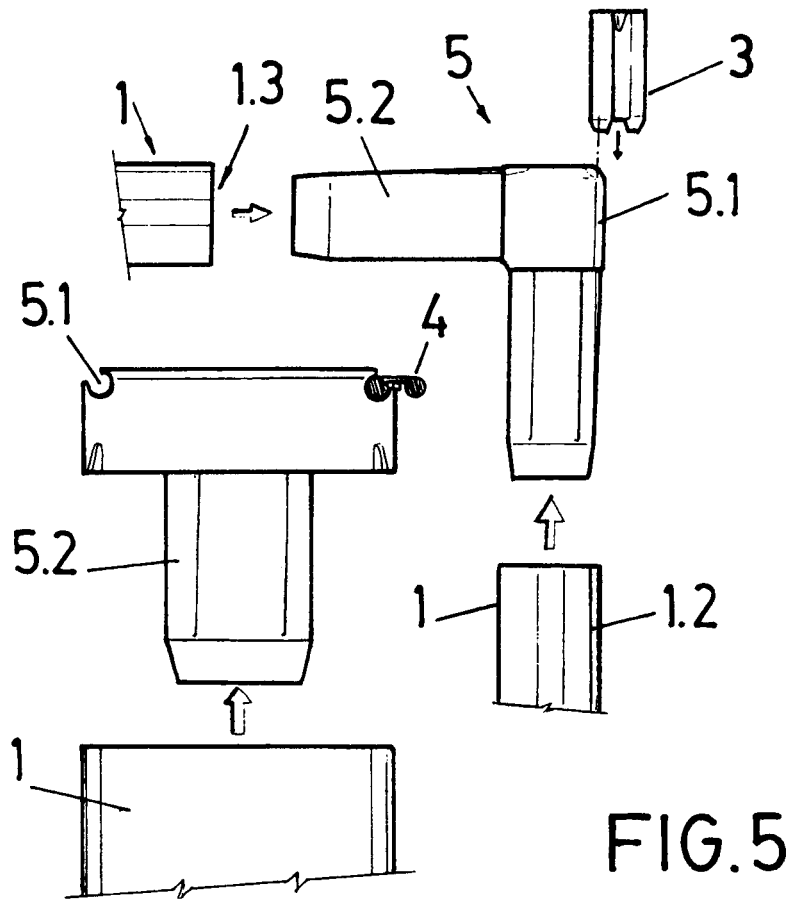
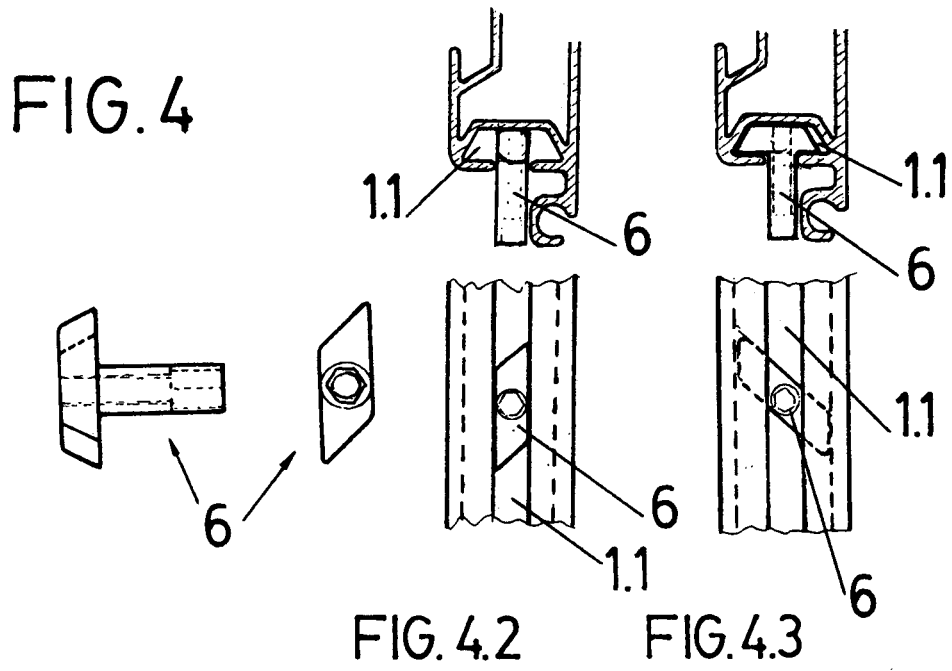
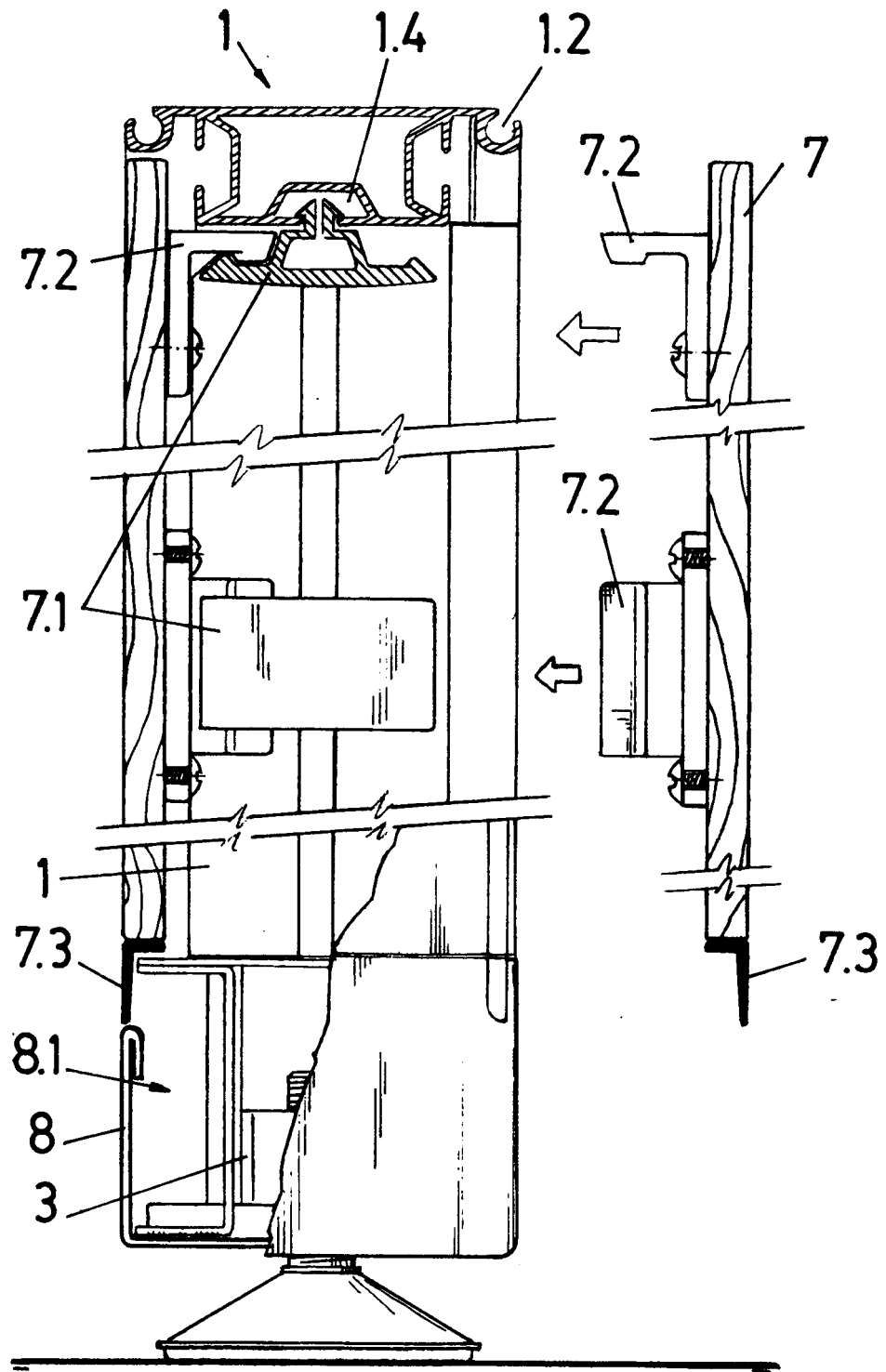


FIG.6



**INTERNATIONAL SEARCH REPORT**

International application No.  
PCT/ES 98/00268

<p><b>A. CLASSIFICATION OF SUBJECT MATTER<sup>6</sup>:</b> IPC6 E04B 2/74, F16S 1/02, E04C 2/38</p> <p>According to International Patent Classification (IPC) or to both national classification and IPC</p>																							
<p><b>B. FIELDS SEARCHED</b></p> <p>Minimum documentation searched (classification system followed by classification symbols) IPC6 E04B 2/74, E04C 1/00; E04C 1/02; E04C 3/02; F16S 1/02</p> <p>Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched</p> <p>Electronic data base consulted during the international search (name of data base and, where practicable, search terms used) CIBEPAT, EPODOC, WPIL, PAJ</p>																							
<p><b>C. DOCUMENTS CONSIDERED TO BE RELEVANT</b></p> <table border="1"> <thead> <tr> <th>Category*</th> <th>Citation of document, with indication, where appropriate, of the relevant passages</th> <th>Relevant to claim No.</th> </tr> </thead> <tbody> <tr> <td>A</td> <td>ES 2041552 A (ALUSUISSE) 16 November 1991 (16.11.91), the whole document</td> <td>1-3</td> </tr> <tr> <td>A</td> <td>US 4193233 A (VANDENHOER) 18 March 1980 (18.03.80), the whole document</td> <td>1,3</td> </tr> <tr> <td>A</td> <td>GB 1290013 A (FALCON CRAFT) 20 September 1972 (20.09.72), the whole document</td> <td>1,3</td> </tr> <tr> <td>A</td> <td>US 4232724 A (BROWN) 11 November 1980 (11.11.80), the whole document</td> <td>1,4</td> </tr> <tr> <td>A</td> <td>DE 4035367 A (BENGENER) 14 May 1992 (14.05.92), the whole document</td> <td>1,6</td> </tr> <tr> <td>A</td> <td>DE 2501272 A (SCHÜLO) 31 January 1985 (31.01.85)</td> <td>1,4</td> </tr> </tbody> </table>			Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.	A	ES 2041552 A (ALUSUISSE) 16 November 1991 (16.11.91), the whole document	1-3	A	US 4193233 A (VANDENHOER) 18 March 1980 (18.03.80), the whole document	1,3	A	GB 1290013 A (FALCON CRAFT) 20 September 1972 (20.09.72), the whole document	1,3	A	US 4232724 A (BROWN) 11 November 1980 (11.11.80), the whole document	1,4	A	DE 4035367 A (BENGENER) 14 May 1992 (14.05.92), the whole document	1,6	A	DE 2501272 A (SCHÜLO) 31 January 1985 (31.01.85)	1,4
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<p>Date of the actual completion of the international search 1 July 1999 (01.07.99)</p>		<p>Date of mailing of the international search report 16 July 1999 (16.07.99)</p>																					
<p>Name and mailing address of the ISA/ S.P.T.O</p> <p>Facsimile No.</p>		<p>Authorized officer</p> <p>Telephone No.</p>																					



**INTERNATIONAL SEARCH REPORT**  
Information on patent family members

International Application No

PCT/ ES 98/00268

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