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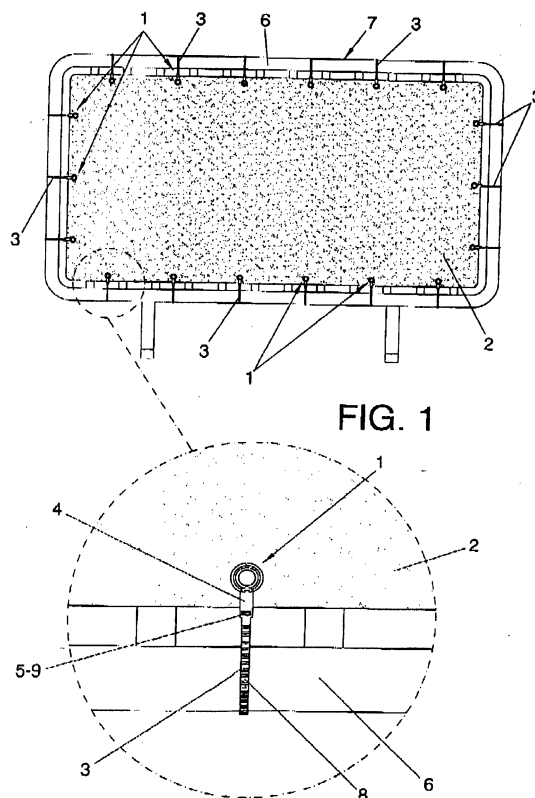
(72) Inventor: **MORAL ELIAS, Rafaela**  
**E-03804 Alcoy (Alicante) (ES)**

(71) Applicant: **Plásticos Alco, S.L.**  
**03804 Alcoy (Alicante) (ES)**

(74) Representative: **Ungria Lopez, Javier et al**  
**Avda. Ramón y Cajal, 78**  
**28043 Madrid (ES)**

(54) **DEVICE FOR FIXING SHEET-LIKE OBJECTS**

(57) It comprises several buttonholes located in proximity to the perimeter edge of a lamellar body (2), as well as the buttonholes incorporate anchoring means in order to immobilize the lamellar body (2) to a billboard structure (7) or the like. Said anchoring means include at least one radial extension as a flange (3) embracing the bars (6) of the billboard structure (7) in order to secure the immobilization of the lamellar body (2), further including fixing means immovable from the buttonholes (1) to the lamellar body (2) wherein a perimeter widening (13) of the buttonholes (1) which is in contact to one of the faces of the lamellar body (2) and a riveting (12) which is in contact to the other partner face of the lamellar body (2) participate, said riveting (12) forming part of a tubular body (11) of the buttonholes (1).



## Description

### OBJECT OF THE INVENTION

[0001] The present invention, as the heading of this specification sets forth, is relate to a device for fastening lamellar bodies to structures or frames, for example billboard boards or any other similar application.

[0002] There are clearly advantages, especially when mounting and dismounting, which is much faster by avoiding the use of additional hooks, being more environmentally friendly since it is recyclable plastic.

### BACKGROUND OF THE INVENTION

[0003] Currently, there are devices for fastening lamellar bodies to structures or frames with beams or strings passing through the buttonholes fixed in the respective lamellar body.

### DESCRIPTION OF THE INVENTION

[0004] The device for fastening lamellar bodies is determined from several characteristic buttonholes in principle attached to a lamellar body in proximity to its edges, the buttonholes incorporating radial elongated extensions as flanges to be able to couple and anchor to a billboard structure or other support wherein the respective lamellar body is pretended to be fasten, so that by means of the various elongated extensions of the buttonholes, the lamellar body is anchored to the respective support structure.

[0005] The elongated extensions radially start from the buttonhole allowing its fastening to the structure or frame wherein the corresponding lamellar body is mounted.

[0006] Each radial extension as a flange incorporates in its terminal section a small passageway through which the beginning of this flange is introduced in order to configure a closed ring structure by embracing the bars of the billboard structure and the like, thus securing the anchoring of the lamellar body.

[0007] Other features of the invention are that the radial extension can form an integral part of the buttonhole itself or constitutes an independent element with means to be fixed to the buttonhole body.

[0008] On the other hand, fixing means immovable from the buttonhole to the lamellar body are included wherein a perimeter widening of the buttonholes which is in contact to one of the faces of the lamellar body and a riveting which is in contact to the other partner face of the lamellar body participate, said riveting forming part of a tubular body which joints the perimeter widening and the riveting of such buttonholes.

[0009] In turn, fixing means of the buttonholes to the lamellar body are tightly secured by at least one characteristic jagged which is in contact with at least one of the faces of the lamellar body.

[0010] Next, to facilitate a better understanding of this

specification, and being an integral part thereof, figures in which the object of the invention has been represented with an illustrative and not limitative manner are attached.

### BRIEF DESCRIPTION OF THE DRAWINGS

[0011]

Figure 1. - Shows a frontal view of a billboard wherein a lamellar body has been fixed by means of a device for fastening lamellar bodies, object of the invention. It basically comprises an buttonhole in combination with a radial extension.

Figure 2. - Shows a sectional view of the device of the invention.

Figure 3. - Shows a perspective view of the device for fastening lamellar bodies of the invention.

Figure 4. - Shows a plant view of an buttonhole forming part of the device of the invention.

Figure 5. - Shows a sectional view of the device of the invention with other embodiment different from the one showed in figure 2.

### DESCRIPTION OF THE PREFERRED EMBODIMENT

[0012] Considering the numbering adopted in the figures, the device for fastening lamellar bodies comprises several buttonholes (1) fixed in proximity to the edges of a lamellar body (2), these buttonholes incorporating several radial elongated extensions characteristics as flanges (3) including a smooth terminal section (4) with an narrow passageway (5) by which the beginning of the flange (3) is introduced conforming a close loop structure embracing the bars (6) of a billboard structure (7) or the like, in order to secure the anchoring of this lamellar body (2) to the billboard structure.

[0013] The flange (3) has a jagged (8) to be anchored in a complementary hooking tab (9) located in the mentioned passageway (6) of the smooth initial section (4) of the flange (3), thus securing the anchoring of the lamellar body (2) to the billboard structure (7).

[0014] In a first embodiment (figure 2) the flange (3) forms an integral part of the buttonhole (1), while in a second embodiment (figure 3) the flange (3) comprises an annular termination (10) to be correspondently coupled to a tubular body (11) of the buttonhole (1) before being definitively fixed to the lamellar body (2), the buttonhole (1) which is immovably attached to the lamellar body (2) by the riveting (12) from one end of that tubular body (11), as the other end incorporates in its beginning a perimeter widening (13) as an edge terminal wing.

[0015] On the other hand, the immovable fixing of the buttonholes (1) to the lamellar body (2) is reinforced by a jagged end (14) established in the riveting (12).

[0016] There is also the possibility of incorporating other jagged (15) established in a washer (16) attached to the perimeter widening (13), in such a way that both this jagged (15) and the other jagged (14) will be in contact

to the respective faces of the lamellar body (2), thus attaining a more secure and solid fixing between this one and the buttonholes (1).

#### Claims

1. **DEVICE FOR FASTENING LAMELLAR BODIES**, which is designed to fasten a lamellar body to the billboard structure or the like, **characterized in that** it comprises several buttonholes located in proximity to the perimeter edge of a lamellar body (2), as well as the buttonholes incorporate anchoring means in order to immobilize the lamellar body (2) to the billboard structure (7) or the like, said anchoring means comprising at least one radial extension as a flange (3) embracing the bars (6) of the billboard structure (7) in order to secure the immobilization of the lamellar body (2), further including fixing means immovable from the buttonholes (1) to the lamellar body (2) wherein a perimeter widening (13) of the buttonholes (1) which is in contact to one of the faces of the lamellar body (2) and a riveting (12) which is in contact to the other partner face of the lamellar body (2) participate, said riveting (12) forming part of a tubular body (11) of the buttonholes (1). 20
2. **DEVICE FOR FASTENING LAMELLAR BODIES**, according to claim 1, **characterized in that** the radial extension as a flange (3) embracing the bars (6) counts with a narrow passageway (5) by which the final section of the extension of that flange (3) is introduced in order to conform a close loop structure embracing the bars (6), said narrow passageway (5) including a hooking tab (9) of a fine jagged (8) established in the radial extension of the flange (3). 30
3. **DEVICE FOR FASTENING LAMELLAR BODIES**, according to any one of the previous claims, **characterized in that** the radial extensions (3) are attached to the buttonholes (1). 40
4. **DEVICE FOR FASTENING LAMELLAR BODIES**, according to any one of the claims 1 or 2, **characterized in that** the radial extensions of the flanges (3) comprise an annular termination (10) that correspondently be coupled to the tubular bodies (11) of the buttonholes (1) before these being definitively fixed to the respective lamellar body (2). 45
5. **DEVICE FOR FASTENING LAMELLAR BODIES**, according to any one of the previous claims, **characterized in that** the fixing means immovable from the buttonholes (1) are further complemented with at least one perimeter jagged which is in contact with at least one of the faces of the lamellar body (2). 50
6. **DEVICE FOR FASTENING LAMELLAR BODIES**, 55

according to claim 5, **characterized in that** the fixing means immovable of the buttonholes (1) comprise a perimeter jagged (15) located in a washer (16) attached to the perimeter widening (13).

7. **DEVICE FOR FASTENING LAMELLAR BODIES**, according to claim 5, **characterized in that** the fixing means immovable from the buttonholes (1) comprise a perimeter jagged (14) located in the edge free of riveting (12) forming part of the tubular body (11) of the buttonholes (1). 10
8. **DEVICE FOR FASTENING LAMELLAR BODIES**, according to claim 5, **characterized in that** the fixing means immovable from the buttonholes (1) comprise a first perimeter jagged (15) located in a washer (16) attached to the perimeter widening (13) and a second perimeter jagged (14) located in the edge free of riveting (12). 15

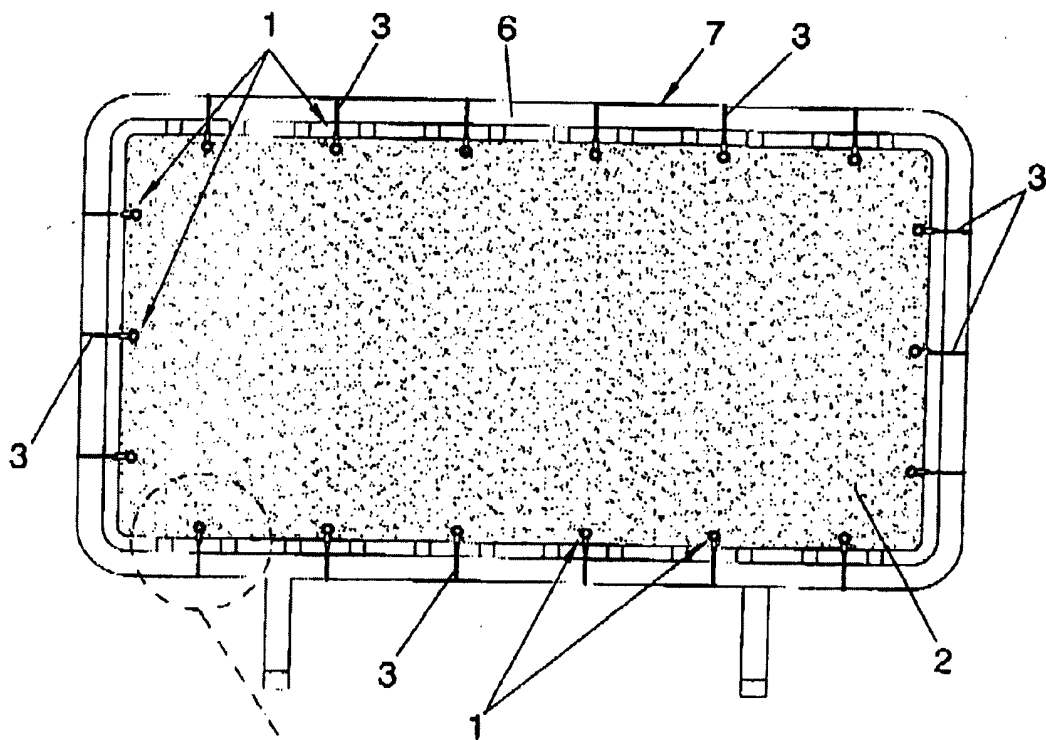
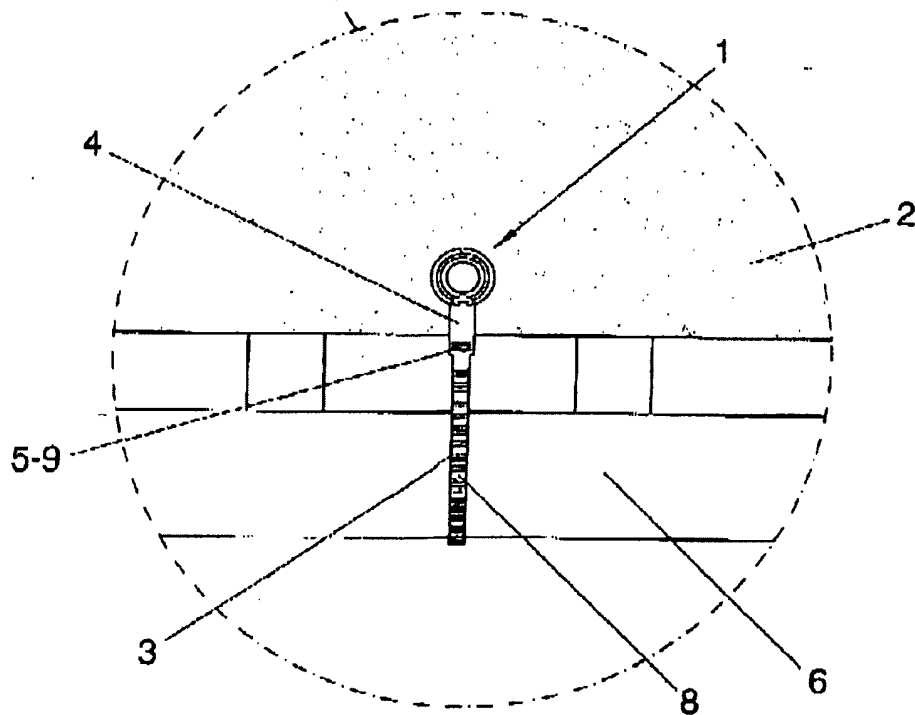
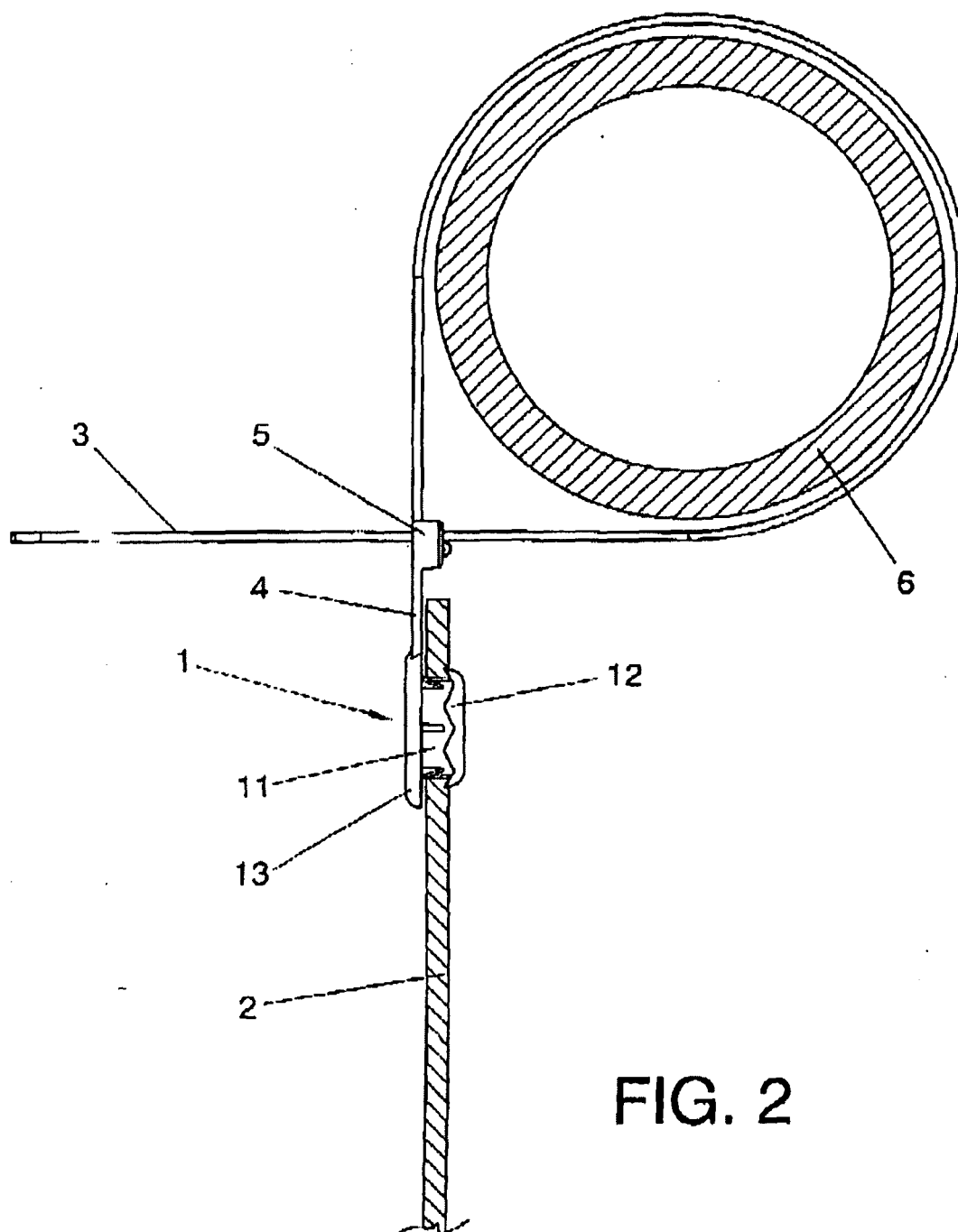


FIG. 1





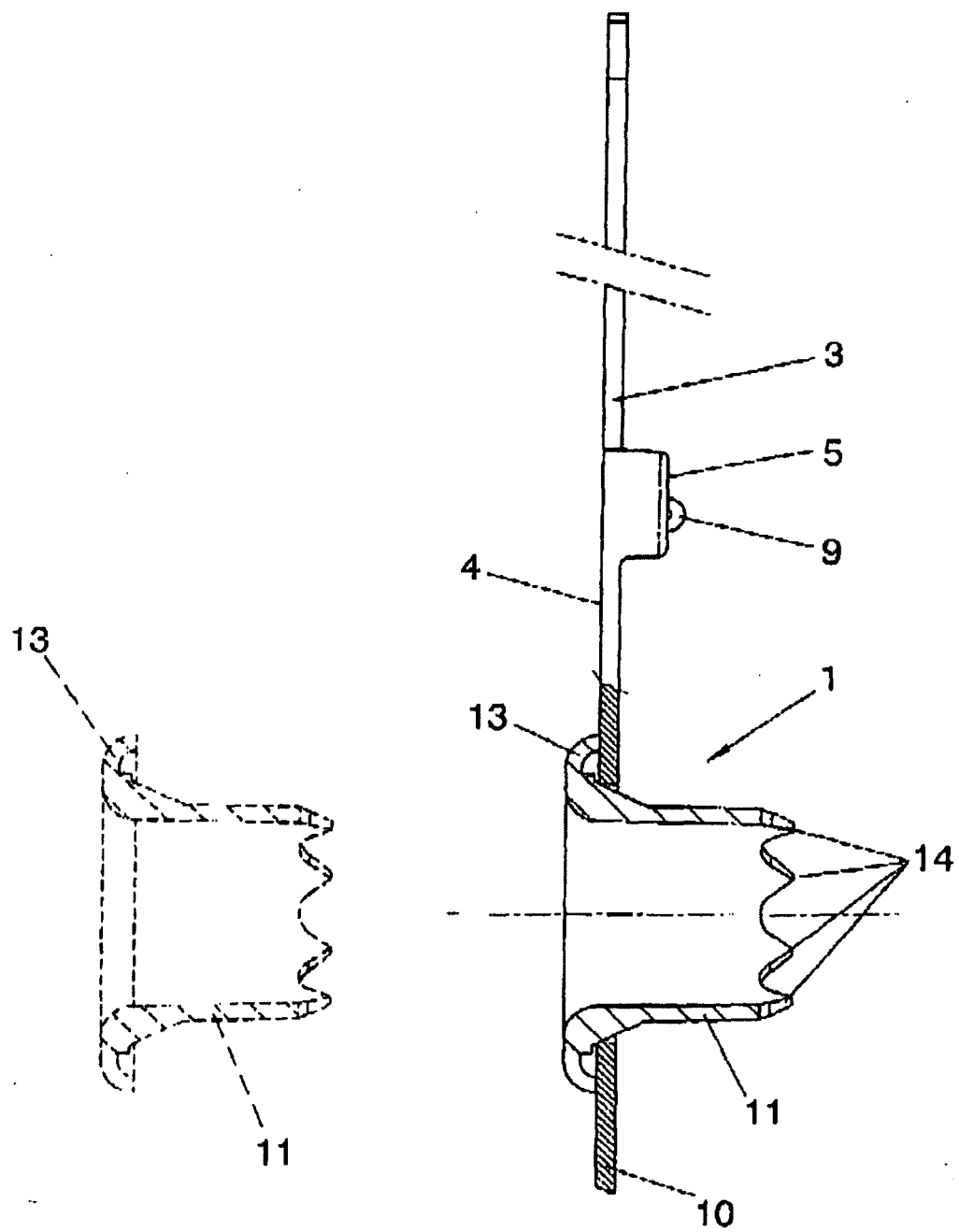


FIG. 3

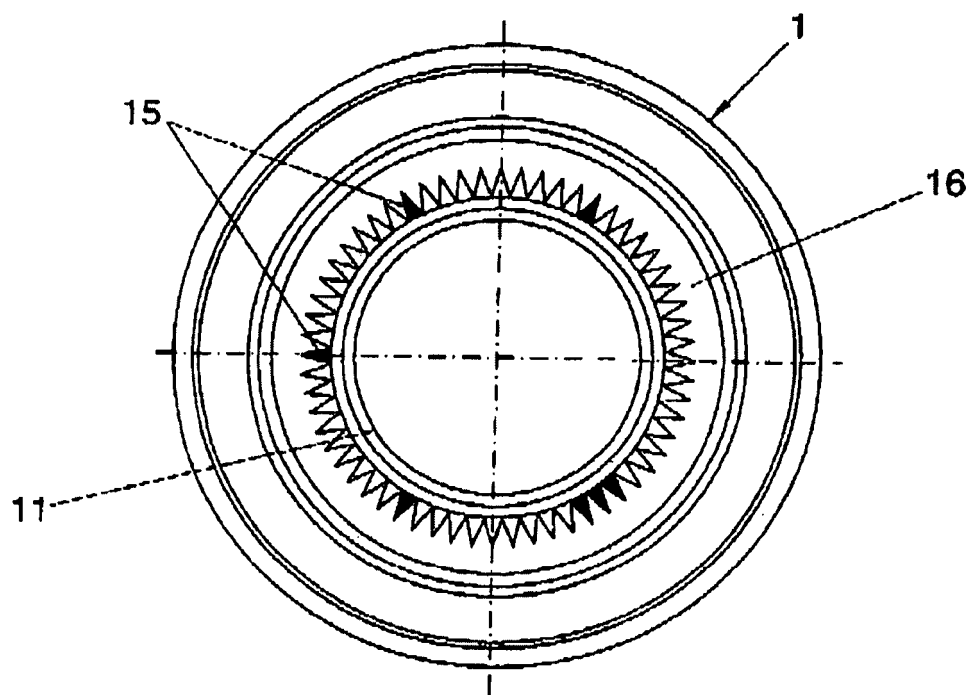


FIG. 4

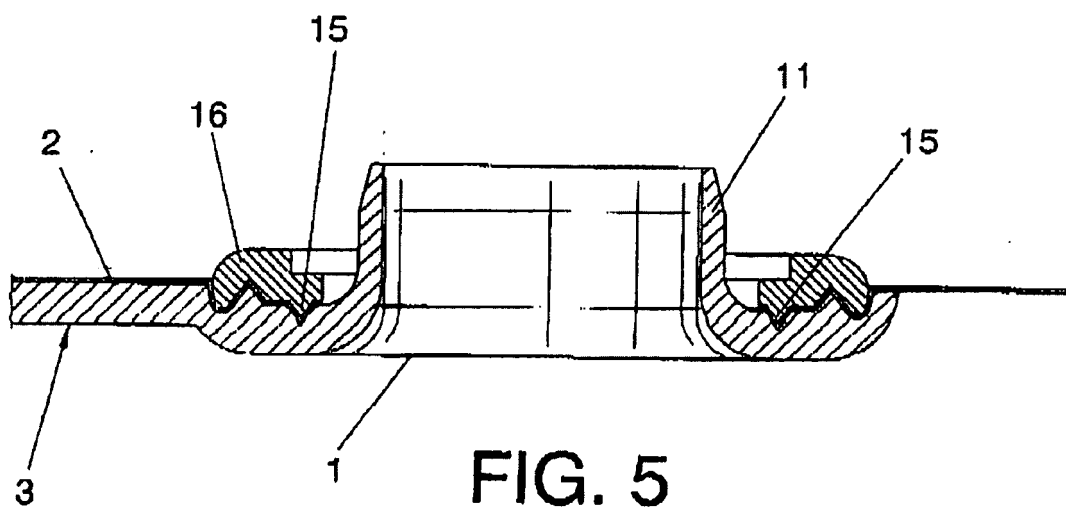


FIG. 5

## INTERNATIONAL SEARCH REPORT

International application No.

PCT/ ES 2008/000807

## A. CLASSIFICATION OF SUBJECT MATTER

see extra sheet

According to International Patent Classification (IPC) or to both national classification and IPC

## B. FIELDS SEARCHED

Minimum documentation searched (classification system followed by classification symbols)

G09F19, G09F7, E04H17/16, B44D3/18

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

Electronic data base consulted during the international search (name of data base and, where practicable, search terms used)

INVENES,EPODOC, GROMMET, HOLE, EYE, FLANGE, CLAMP, ADVERTIS+, FENCE, ENCLOSURE, BARRIER, OJAL, BRIDA, CERCA, VALLA, PUBLICI+

## C. DOCUMENTS CONSIDERED TO BE RELEVANT

| Category* | Citation of document, with indication, where appropriate, of the relevant passages | Relevant to claim No. |
|-----------|------------------------------------------------------------------------------------|-----------------------|
| A         | EP 1416459 A1 (LENNARD PATRICK) 06.05.2004, the whole document.                    | 1,2                   |
| A         | US 3729847 A (CHANDOS) 01.05.1973, the whole document.                             | 1,2                   |
| A         | EP 1990791 A1 (BERNARD) 12.11.2008, the whole document.                            | 1                     |

☐ Further documents are listed in the continuation of Box C.☒ See patent family annex.

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|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| * Special categories of cited documents:                                                                                                                                | "T" later document published after the international filing date or priority date and not in conflict with the application but cited to understand the principle or theory underlying the invention                                         |
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| "P" document published prior to the international filing date but later than the priority date claimed                                                                  | "&" document member of the same patent family                                                                                                                                                                                               |

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Name and mailing address of the ISA/  
O.E.P.M.Paseo de la Castellana, 75 28071 Madrid, España.  
Facsimile No. 34 91 3495304

Authorized officer

B. Hernández Agustí

Telephone No. +34 91 349 55 53

Form PCT/ISA/210 (second sheet) (July 2008)

## INTERNATIONAL SEARCH REPORT

### Information on patent family members

International application No.

PCT/ ES 2008/000807

| Patent document cited<br>in the search report | Publication<br>date | Patent family<br>member(s)      | Publication date         |
|-----------------------------------------------|---------------------|---------------------------------|--------------------------|
| EP 1416459 A                                  | 06.05.2004          | EP 20030256817<br>GB 2395344 AB | 28.10.2003<br>19.05.2004 |
| US 3729847 A                                  | 01.05.1973          | NONE                            | -----                    |
| EP 1990791 A                                  | 12.11.2008          | CA 2588321 A<br>EP 20080103925  | 11.11.2008<br>12.05.2008 |
| DE 10220092 A                                 | 13.11.2003          | NONE                            | -----                    |

Form PCT/ISA/210 (patent family annex) (July 2008)

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International application No.

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CLASSIFICATION OF SUBJECT MATTER

**G09F 19/22** (2006.01)

**G09F 7/20** (2006.01)

**E04H 17/16** (2006.01)