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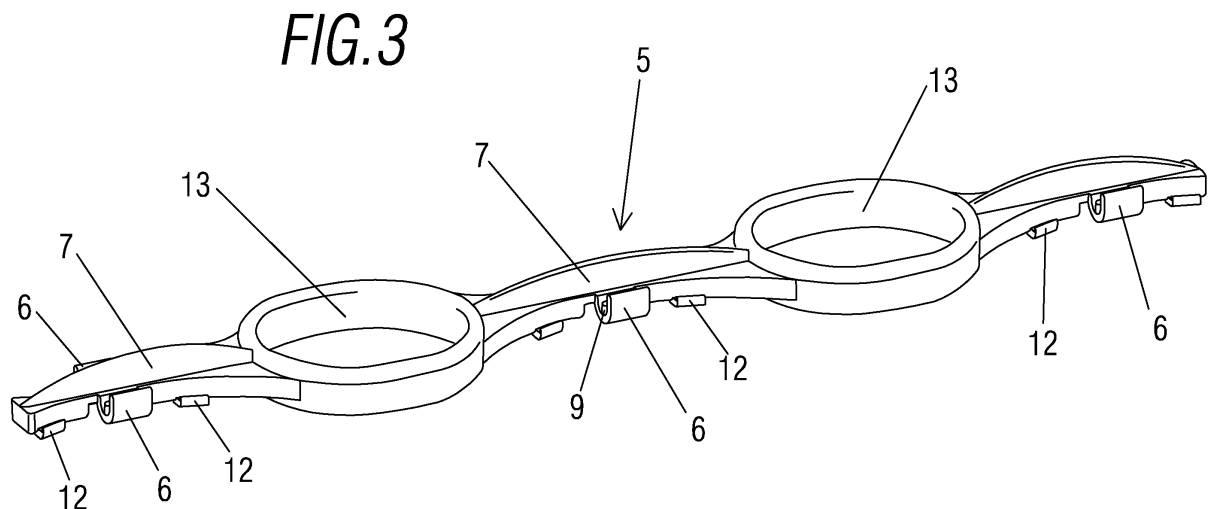
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(54) **DEVICE FOR ATTACHING REMOVABLE CONTAINERS**

(57) The inventor relates to a device for attaching removable containers, comprising a central body on both sides of which the containers are arranged in a matricial form. Independent fixing means are provided between the central body (5) and each container (1), said fixing

means comprising a flap that projects laterally from the central body (5) and has an essentially U-shaped profile that can be coupled to a hinge (4) forming part of an upper cover (2) - lower ring (3) set provided on the container (1), by being pressed downwards over said hinge.



Description

OBJECT OF THE INVENTION

[0001] The purpose of this patent invention application is to register a fastening device that incorporates significant innovations and advantages.

[0002] More specifically, the invention proposes the development of a device for attaching removable containers, comprising a central body on both sides of which the containers are arranged in a matricial form. Independent fixing means are provided between a central body and each container.

BACKGROUND OF THE INVENTION

[0003] At present, a wide variety of devices and arrangements for transporting containers, in particular cans, are known, such that they can be grouped neatly in packs usually consisting of two rows of containers.

[0004] The present applicant has several utility models relating to a protector element for can-like containers, which is mainly provided with an upper cover and a lower ring which are interconnected by a hinge.

[0005] Furthermore, the applicant is not aware of the existence of a device that allows stacking of containers provided with the protector elements described above which, in addition to attaching the containers, prevents them from being handled before removing the container from device for attaching containers.

DESCRIPTION OF THE INVENTION

[0006] The invention herein has been developed with the aim of providing a fastening device that resolves the aforementioned drawbacks, further providing other additional advantages that will be apparent from the description detailed hereinafter.

[0007] It is therefore an object of the present invention to provide a device for attaching removable containers, of the type comprising a central body on both sides of which the containers are arranged in a matricial form. Independent fixing means are provided between the central body and each container, characterised in that said fixing means comprise a flap that projects laterally from the central body and has an essentially U-shaped profile that can be snapped into a hinge forming part of an upper cover-lower ring set provided on the container, thereby obtaining a way of transporting and protecting can-like containers that is an alternative to systems known in the art, that is constructively simple and easy for the user to utilise.

[0008] According to another no less important aspect of the invention, the hinge has a flange projecting in such a way that, in a condition of assembling the containers, contact is made with an inner section of the flap, such that rotational movement of the upper cover is impeded with respect to the lower ring.

[0009] Thanks to these characteristics, inadvertently opening the covers from the lower ring is prevented, while the containers with their respective protector elements (cover-lower ring) are coupled to the fastening device allowing orderly stacking of the containers in a single group.

[0010] Particular embodiments of the invention are described in dependent claims.

[0011] Advantageously, the central body has a series of reinforcing ribs arranged perpendicularly and longitudinally to the elongated axis of said central body, which provide greater rigidity to the structure of the fastening device.

[0012] According to another aspect of the invention, the two opposite ends of the central body comprise a latching means for coupling such ends to each other. Thus, another use may be given to the central body when not used for the containers, for example, as a decorative bracelet.

[0013] In accordance with another characteristic of the invention, said flap includes a projection which projects upwardly from the upper face curved in a "U" shape and can be inserted in a housing provided in the hinge connected to the upper cover, and in which the upper flange of the innermost tab of the flap defines a support surface on which a protrusion on the hinge rests.

[0014] Thanks to the presence of the projection cited above, a greater fixing quality of the container to the central body is provided as it prevents the cover-ring set from rotating easily and from being removed inadvertently. Another no less important aspect is that once the can has been removed, it can be replaced in the central body.

[0015] Advantageously, the projection is a lower height to the height of the wall of the flap. In a preferred embodiment, the projection is integral to the flap.

[0016] In accordance with another aspect of the invention, on both opposite sides of each flap, hooks can project from the central body that can be coupled to the hinge when the upper cover-lower ring set is mounted on the central body. These hooks provide greater stability to the container over the central body and prevent sudden oscillating movements of the containers while transporting the pack.

[0017] Other characteristics and advantages of the device, object of the invention herein, will become apparent from the description of a preferred, although not exclusive embodiment, which is illustrated by way of non-limiting example in the drawings appended, in which:

BRIEF DESCRIPTION OF THE DRAWINGS

[0018]

Figure 1.- Perspective view of the protection element fitted to a container; Figure 2.-Perspective view of the fastening device in accordance with the invention herein with containers in place;

Figure 3. - Perspective view of the central body of the fastening device;

Figure 4.- Cross-sectional view of a section of the device of the invention together with the upper cover where the projection can be seen;

Figure 5. - Cross-sectional view of the previous section which includes the protector element mounted on the central body in a condition of use, and

Figure 6. - Detailed, perspective view of an area of the fastening device.

DESCRIPTION OF A PREFERRED EMBODIMENT

[0019] As shown in Figure 1, a protector element for containers 1 is composed of an upper cover 2 and a lower ring 3 coupled to the lateral wall of the container 1, the previous two parts being joined by a hinge 4 to facilitate the user to open and close the upper cover 2 in a convenient and simple manner.

[0020] As seen in Figure 2, the invention provides a fastening device for transporting removable containers, comprising an elongated, thin central body 5, made preferably from an injection mouldable plastic material and biodegradable with a polyethylene or polypropylene base together with a number of additives which favour oxo-biodegradation such that degradation occurs naturally.

[0021] The central body 5 is designed such that the containers 1 are arranged in a matricial form on both sides of the central body, (e.g. three containers for each row) during the packaging condition. Independent fixing means, which are described below, are provided between a central body 5 and each container 1.

[0022] Making particular reference to the fixing means that are arranged along the central body 5, for a respective container they comprise a flap 6 that projects laterally from the central body 5, having an essentially U-shaped profile that can be coupled by means of a hinge 4 forming part of an upper cover-lower ring set provided on the container 1, by being pressed downward over said hinge.

[0023] As can be seen more clearly in Figures 3 to 5, said flap 6 includes a projection 9 which projects upwardly from the upper face curved in a "U" shape and can be inserted in a housing 8 provided in the hinge 4 connected to the aforementioned upper cover 2, said projection 9 having a lower height to the height of the wall of the flap 6. Furthermore, it provides a flat, narrow support surface 10 that is defined on the upper flange of the innermost tab of the flap 6 on which a protrusion 11 on the hinge 4 rests, more specifically the part connected to the upper cover 2.

[0024] Advantageously, the projection 9 is integral to the flap 6, obtained at the same stage of the injection moulding process of the central body 5.

[0025] On both opposite sides of each flap 6 some hooks 12 project from the central body that can be coupled

to the hinge 4 when the upper cover 2- lower ring 3 set is mounted on the central body 5. In this device, two hooks 12 are coupled, one at each end of the hinge 4.

[0026] Removal of the cans from the central body 5 is carried out by simply rotating the container at about a 90 degree angle in the direction towards the central body 5 such that it overcomes the elastic force exerted by the flap 6 on the hinge 4 and at the same time the projection 9 is decoupled from the axis of the hinge 4 and the protrusion 11 is separated from the support surface 10 producing a "click" sound at that moment.

[0027] Additionally, the central body 5 has reinforcing ribs 7 arranged perpendicularly and longitudinally to the elongated axis of said central body 5 and a pair of holes 13 which facilitate gripping the set since the user can pass their fingers through said holes 13, conveniently transporting the pack. Such holes 13 are located in the spaces between the containers 1 when they are arranged in a matricial form by taking advantage of the curved shapes of such containers. In an embodiment not shown, it is possible to provide a removable handle or handles. It is possible that the central body 5 has latching means at the two free ends for transforming the central body 5 into a bracelet which can be placed on the user's arm and be closed by the latching means. Such latching means may be the type that are clipped or pressed down.

[0028] The details, shapes, dimensions and other accessory elements as well as the materials used in the manufacture of the device of the invention may be conveniently replaced by others that are technically equivalent and do not depart from the essential nature of the invention or from the scope defined by the claims outlined below.

Claims

1. A device for attaching removable containers, comprising a central body on both sides of which the containers are arranged in a matricial form, independent fixing means being provided between the central body (5) and each container (1), **characterised by** the fact that said fixing means comprise a flap that projects laterally from the central body (5) and has an essentially U-shaped profile that can be snapped into a hinge (4) forming part of an upper cover (2) - lower ring (3) set provided on the container (1).
2. A device according to claim 1, **characterised by** the fact that the hinge (4) has a flange projecting in such a way that, in a condition of assembling the containers, contact is made with an inner section of the flap (6) such that rotational movement of the upper cover (2) is impeded with respect to the lower ring (3).
3. A device according to claim 1, **characterised by** the fact that the central body (5) is made of a semi-rigid,

mouldable plastic material.

4. A device according to claim 3, **characterised in that** the plastic material is of the biodegradable type. 5
5. A device according to claim 1, **characterised by** the fact that the central body (5) has reinforcing ribs (7) arranged perpendicularly and longitudinally to the elongated axis of said central body (5). 10
6. A device according to claim 1, **characterised by** the fact that the central body (5) comprises open areas that have through-holes.
7. A device according to claim 1, **characterised by** the fact that the two opposite ends of the central body (5) comprise a latching means for coupling such ends to each other. 15
8. A device according to claim 1, **characterised by** the fact that said flap (6) includes a projection (9) which projects upwardly from the upper face curved in a "U" shape and can be inserted in a housing (8) provided in the hinge (4) connected to the upper cover (2), and in which the upper flange of the innermost tab of the flap (6) defines a support surface (10) on which a protrusion (11) on the hinge (4) rests. 20 25
9. A device according to claim 8, **characterised by** the fact that the projection (9) has a height that is lower than the height of the wall of the flap (6). 30
10. A device according to claim 8, **characterised by** the fact that the projection (9) is integral to the flap (6). 35
11. A device according to claim 1, **characterised by** the fact that on both opposite sides of each flap (6), hooks (12) project from the central body (5) that can be coupled to the hinge (4) when the upper cover (2)- lower ring (3) set is mounted on the central body (5). 40

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FIG. 1

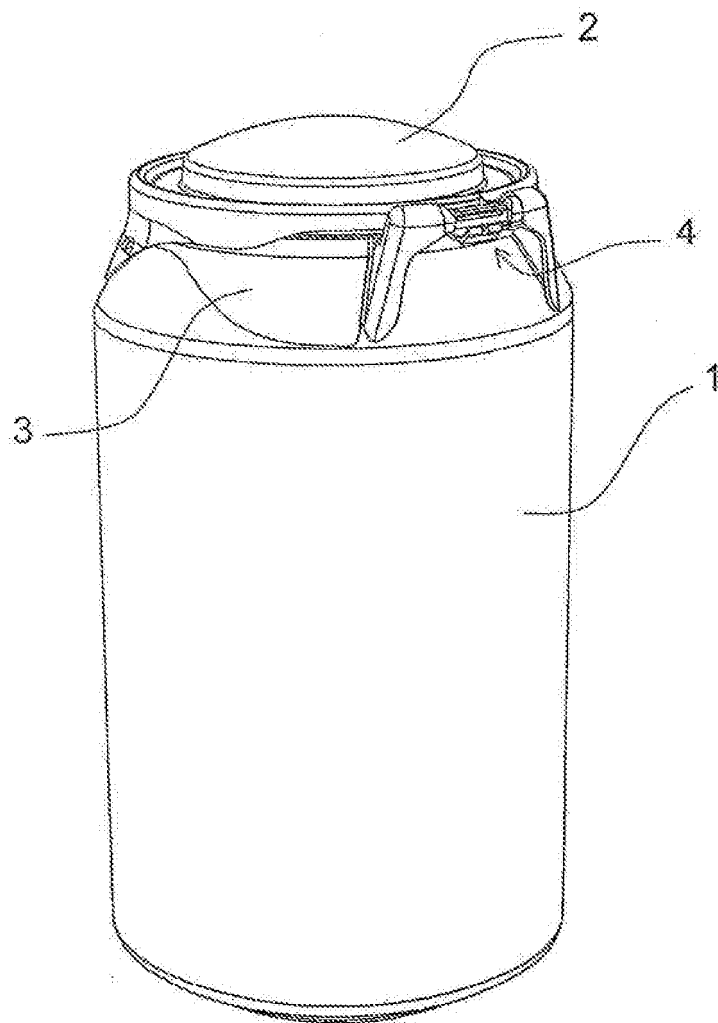


FIG.2

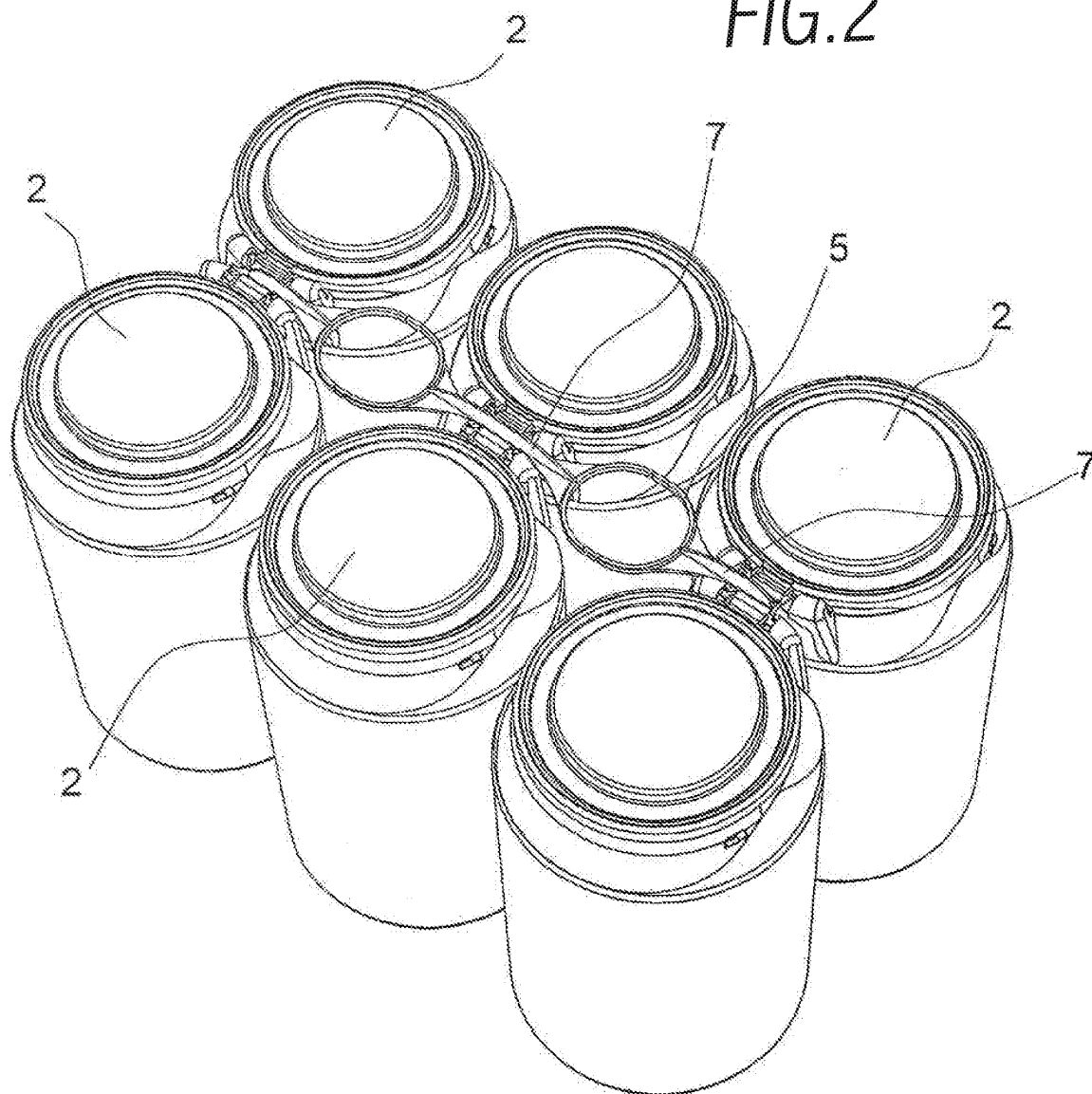
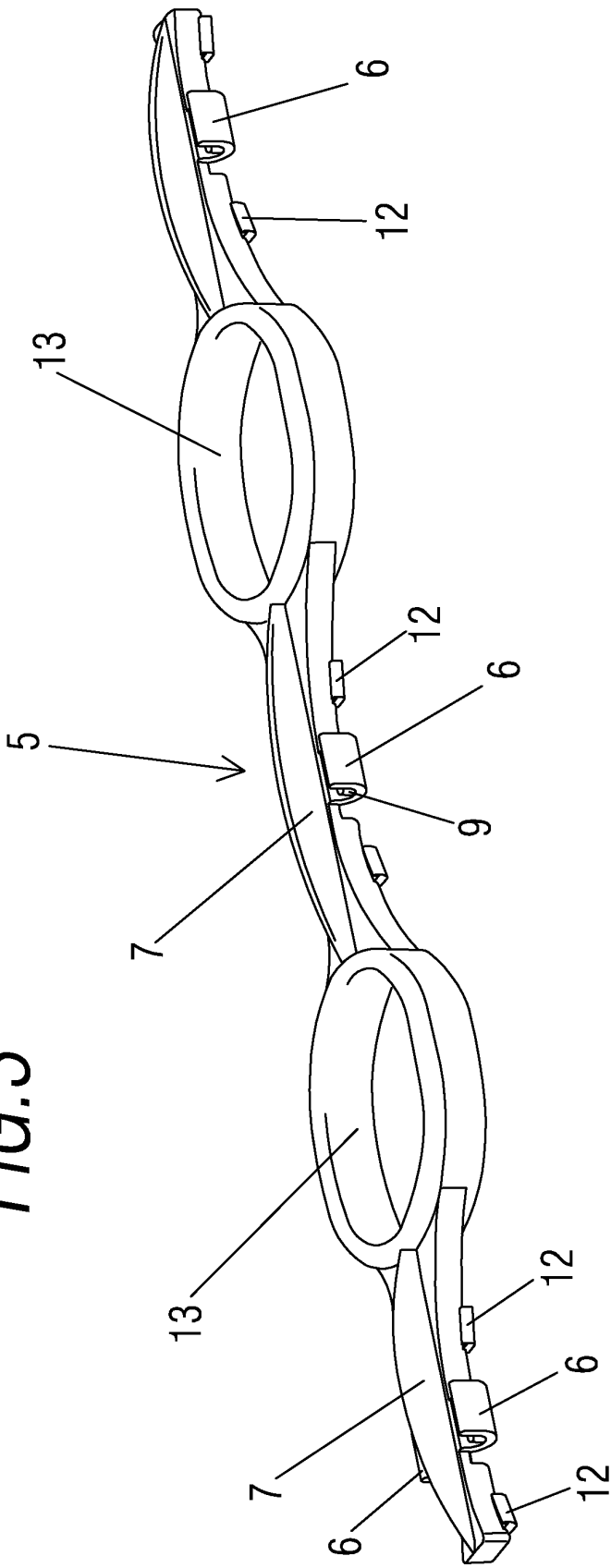
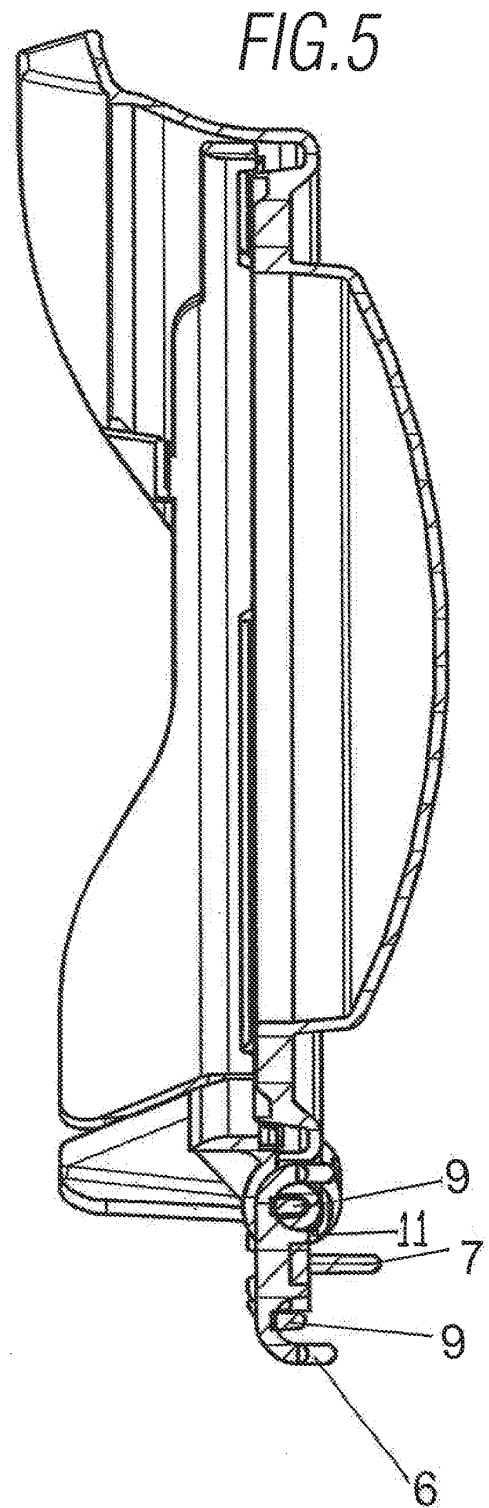
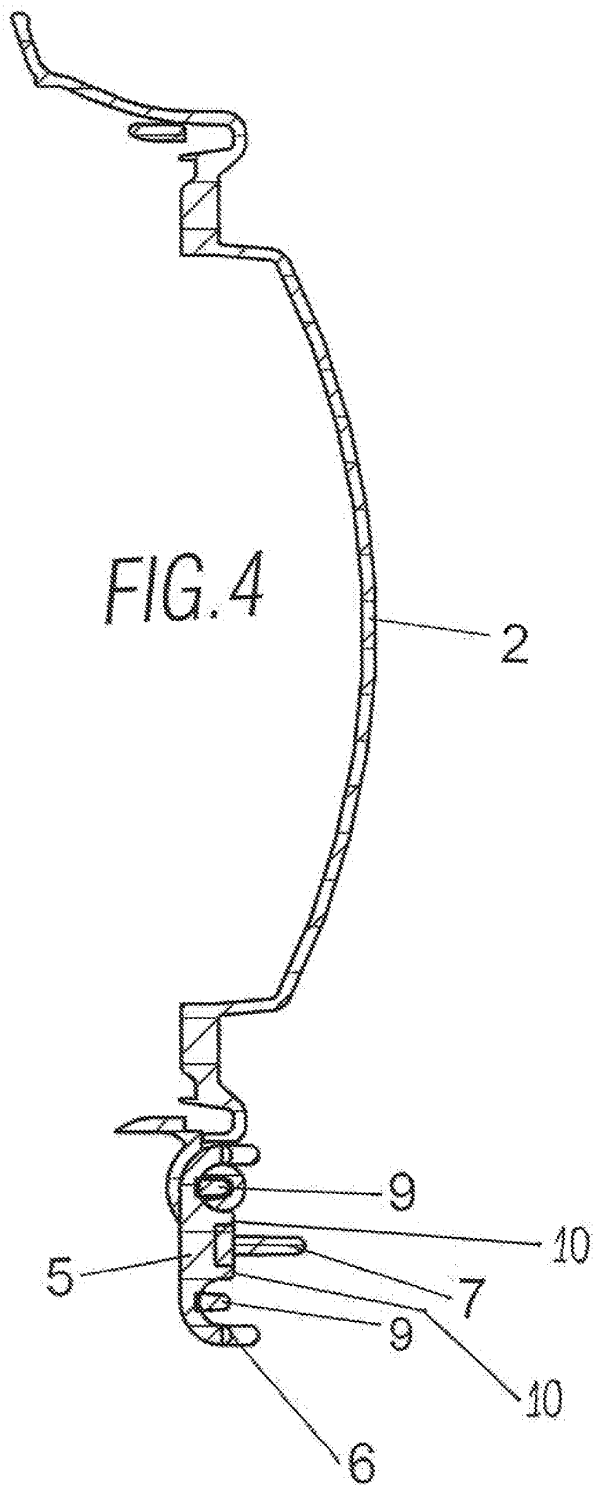
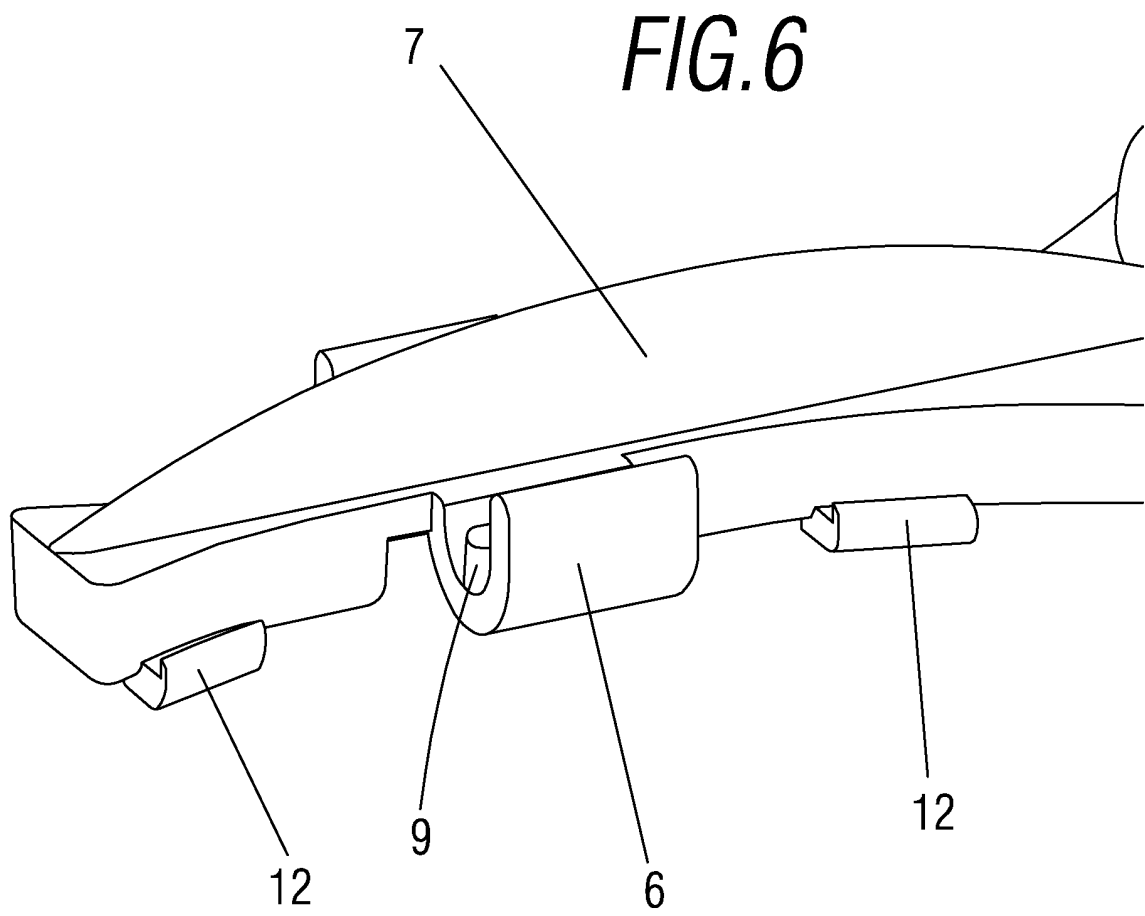


FIG.3







INTERNATIONAL SEARCH REPORT

International application No.

PCT/ES2011/070101

A. CLASSIFICATION OF SUBJECT MATTER

B65D71/50 (2006.01)**B65D67/02** (2006.01)

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)

B65D

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)

EPODOC, INVENES

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
Y	GB 936565 A (ILLINOIS TOOL WORKS) 11/09/1963, pág1,lín63-pág2,lín47;fig3	1,3,4
A		2,5-11
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A	US 3370700 A (SHAZOR JR JAMES C DE) 27/02/1968,	

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

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document of particular relevance; the claimed invention cannot be considered to involve an inventive step when the document is combined with one or more other documents, such combination being obvious to a person skilled in the art

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document member of the same patent family

Date of the actual completion of the international search

05/07/2011

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Form PCT/ISA/210 (second sheet) (July 2009)

INTERNATIONAL SEARCH REPORT

International application No.

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Information on patent family members

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