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(54) **COUPLING JOINT FOR TOILETS**

(57) Connection joint (1) for sanitary appliances that is placed in an outlet sleeve (6) of a sanitary appliance which is inserted into a drainage channel (5), characterized in that it comprises two parts (2, 3), a first part (2) of larger diameter, and a second part (3) of smaller diameter, wherein the transition of the first part (2) to the second part (3) is carried out through a transition area (4), including a weakening line (8) that allows the separation of the first part (2) and the second part (3); the two parts (2) comprise a cylindrical central body (10) and radial fins (7) located around the central body (10), of a diameter larger than the drainage channel (5) wherein the sleeve (6) is inserted with the connection joint (1) installed.

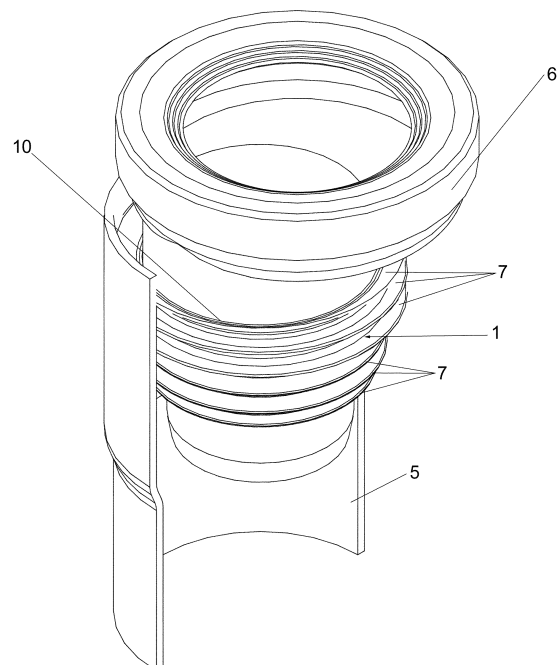


FIG.1

EP 2 816 260 A1

Description

OBJECT OF THE INVENTION

[0001] The present invention is related to a joint that can be adapted to two diameters of a drainage channel to which the sanitary element is connected through an elbow incorporated in the sanitary element.

[0002] Based on this objective, the new joint of the invention is intended to facilitate the connection of the sanitary elements with the drainage channels, and the connection can be adapted to two different diameters through the same joint that allows the connection with one diameter or with another diameter interchangeably.

BACKGROUND OF THE INVENTION

[0003] Currently, the joints used in the connection of the toilets to the drainage channels, are adapted to a single diameter of a drainage channel, and, according to the aforementioned diameter of the drainage channel existing in the site installation already done, a joint with a diameter or a joint with another diameter is used. This diversity of diameters implies, for the assembler, the need for having different joints for using the joint with the appropriate diameter according to the features of the installation that will be executed.

[0004] The object of the invention, which proposes a single joint that adapts to two different diameters, thus reducing the number of parts that the assemblers must have available for performing their work, arises to reduce the need for multiple joints, with the problem for the assembler of the availability and the transport of different joints for the connection of the toilets to the installations of different diameters.

[0005] Different joints for the connection of sanitary appliances are known in the state of the art. Document US 2005073148 A1 discloses a pipe connection element comprising threaded elements that provide the connection. Also the state of the art shows document U 150781 that discloses a watertight joint for toilet drains.

DESCRIPTION OF THE INVENTION

[0006] In order to avoid the drawbacks indicated above and achieving the objectives mentioned above, the invention consists of a joint to be placed on the drain of the sanitary appliances, which can be attached to two diameters of drainage channel.

[0007] The sanitary appliances connection joint is placed in a sleeve outlet of a sanitary appliance which is inserted into a drainage channel comprising two parts: a first part of larger diameter, and a second part of smaller diameter. The passage from the first part to the second part is carried out through a transition area, including a weakening line that allows the separation of the first part and the second part.

[0008] Both the first part and the second part of the

connection joint object of the invention comprise a central body and radial fins located around the central body of the connection joint, of a diameter larger than the drainage channel wherein it is inserted such that it ensures the connection and the sealing in the connection of the sanitary appliance with the drainage channel.

[0009] The sanitary appliances connection joint object of the invention is made of elastomer material.

DESCRIPTION OF THE FIGURES

[0010] To complete the description and with the object of helping to a better understanding of the features of the invention, this specification is accompanied, as an integral part of the same, by a set of drawings wherein with illustrative character and without limitation, the following has been represented:

Figure 1 shows a perspective view of a sectioned installation to show the inside of a pipe with the connection joint installed.

Figure 2 shows an elevational view of the sectioned installation of figure 1.

Figure 3 shows a perspective view of a sectioned installation with the connection joint cut to adapt to another drainage channel diameter.

Figure 4 shows an elevational view of the sectioned installation of figure 3.

[0011] The numeric references that are reflected in the figures correspond to the following elements:

- 1.- Connection joint
- 2.- first part;
- 3.- second part;
- 4.- transition area;
- 5.- drainage channel;
- 6.- sleeve;
- 7.- radial fins;
- 8.- weakening line;
- 9.- drilling;
- 10.-central body.

DESCRIPTION OF A PREFERRED EMBODIMENT

[0012] The invention is intended to make easier the connection of sanitary appliances with one single joint that enables the connection of the output of the sanitary appliance to the different dimensions of the drainage channels in which the toilet is installed.

[0013] Figure 1 shows the connection joint (1) installed in a sleeve (6) conventionally used for the connection of the sanitary appliance to a drainage channel (5).

[0014] Figure 2, wherein an elevational view of the installation of figure 1 is shown, shows the connection joint object of this invention.

[0015] The connection joint (1) object of the invention comprises two cylindrical parts, a first part (2) of a diam-

eter and a second part (3) of a diameter smaller than the diameter of the first part (2). The connection joint (1) is placed around the sleeve (6) used for the outlet of the sanitary appliance. The sleeve (6) is inserted inside the drainage channel (5). The first part (2) as much as the second part (3) of the connection joint (1) comprise a cylindrical central body (10) and radial fins (7).

[0016] The radial fins (7) are placed around the central body (10). The fins (7) are elastic and have a diameter larger than the diameter of the drainage channel (5) in which the outlet sleeve (6) is inserted with the connection joint (1) placed around the sleeve (6), such that the watertightness in the junction of the sleeve (6) and the drainage channel is ensured (5).

[0017] The first part (2) of the connection joint (1) is connected to the second part (3) through a transition area (4), in which the change from the larger diameter to the smaller diameter occurs. The transition area (4) comprises a weakening line (8) through which the first part (2) is detached from the second part (3), so that two independent parts with different diameter are obtained.

[0018] In the preferred embodiment of the invention the weakening line (8) comprises drillings (9) along the line, allowing quick and simple separation of the two parts (2, 3) of the connection joint (1).

Claims

1. Connection joint (1) for sanitary appliances which is placed in an outlet sleeve (6) of a sanitary appliance which is inserted into a drainage channel (5), **characterized in that** it comprises two parts (2, 3):

- a first part (2) of larger diameter,
- a second part (3) of smaller diameter,

wherein the transition of the first part (2) to the second part (3) is carried out through a transition area (4), including a weakening line (8) that allows the separation of the first part (2) and the second part (3).

2. Connection joint (1) for sanitary appliances, according to claim 1, **characterized in that** the first part (2) as much as and the second part (3) comprise a cylindrical central body (10) and radial fins (7) located around the central body (10) of the connection joint (1), of a diameter larger than the drainage channel (5) wherein the sleeve (6) is inserted with the connection joint (1) installed, such that it ensures the connection and the watertightness in the connection of the sanitary appliance with the drainage channel (5).

3. Connection joint (1) for sanitary appliances, according to previous claims, **characterized in that** it is made of elastomer material.

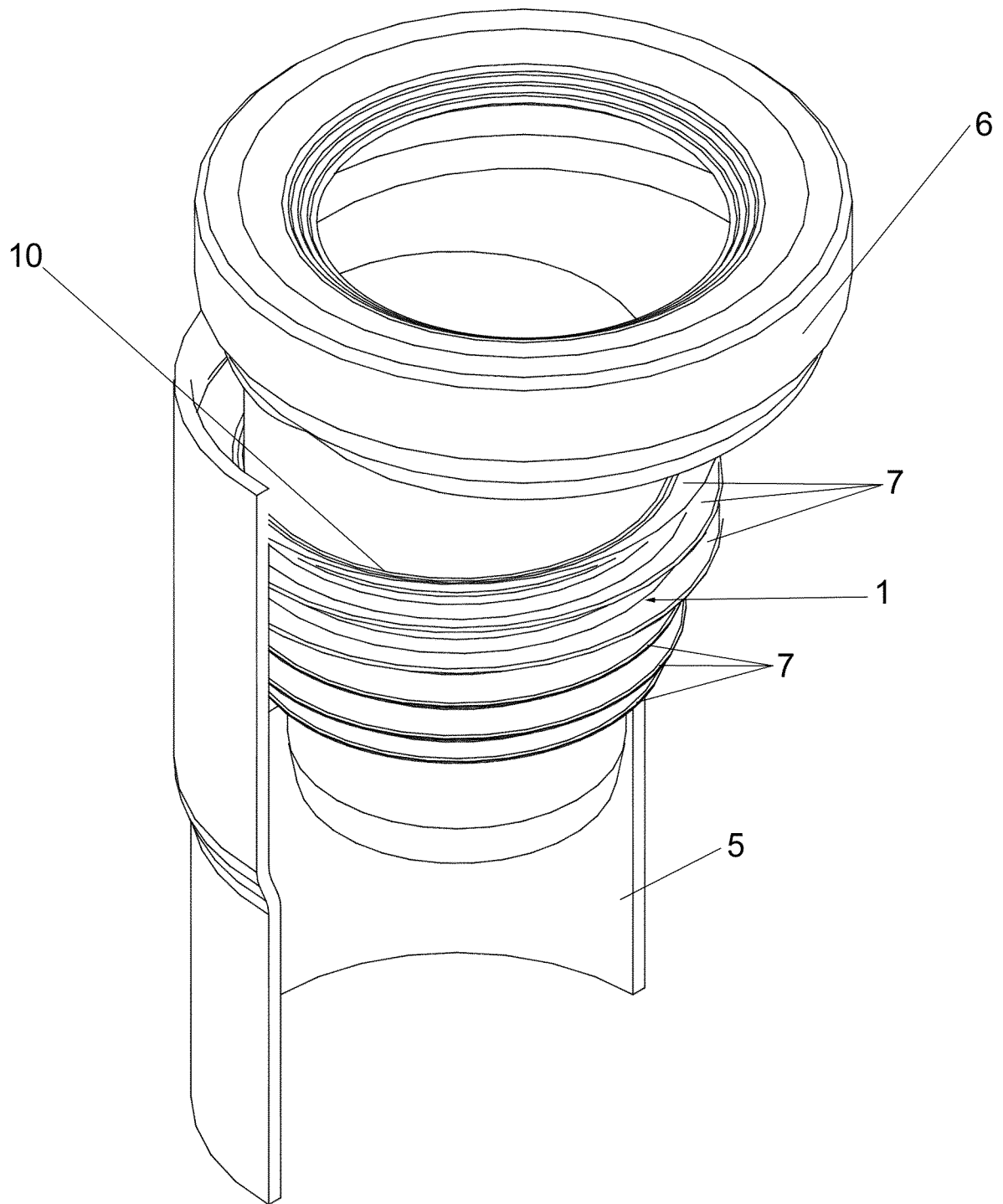


FIG.1

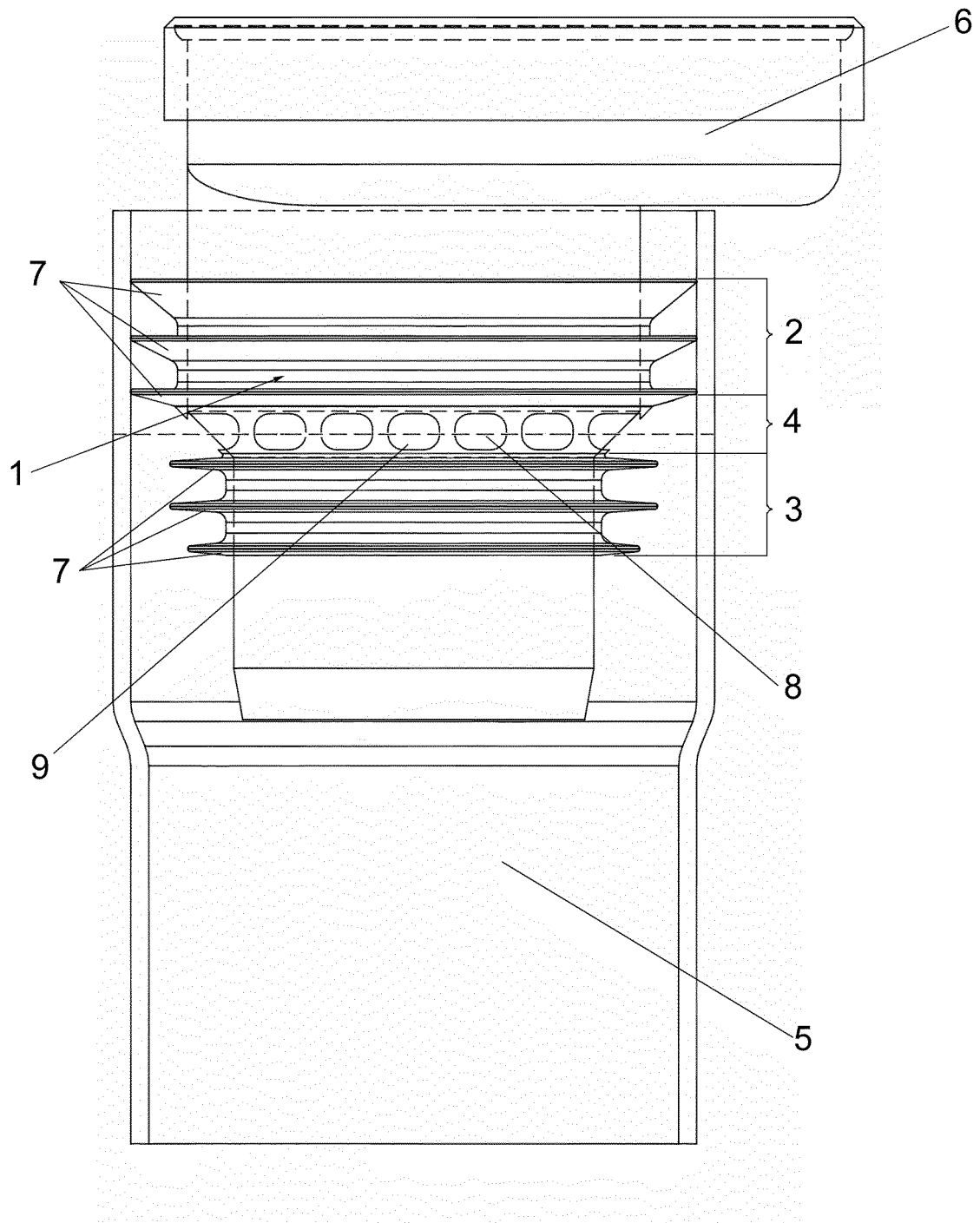


FIG.2

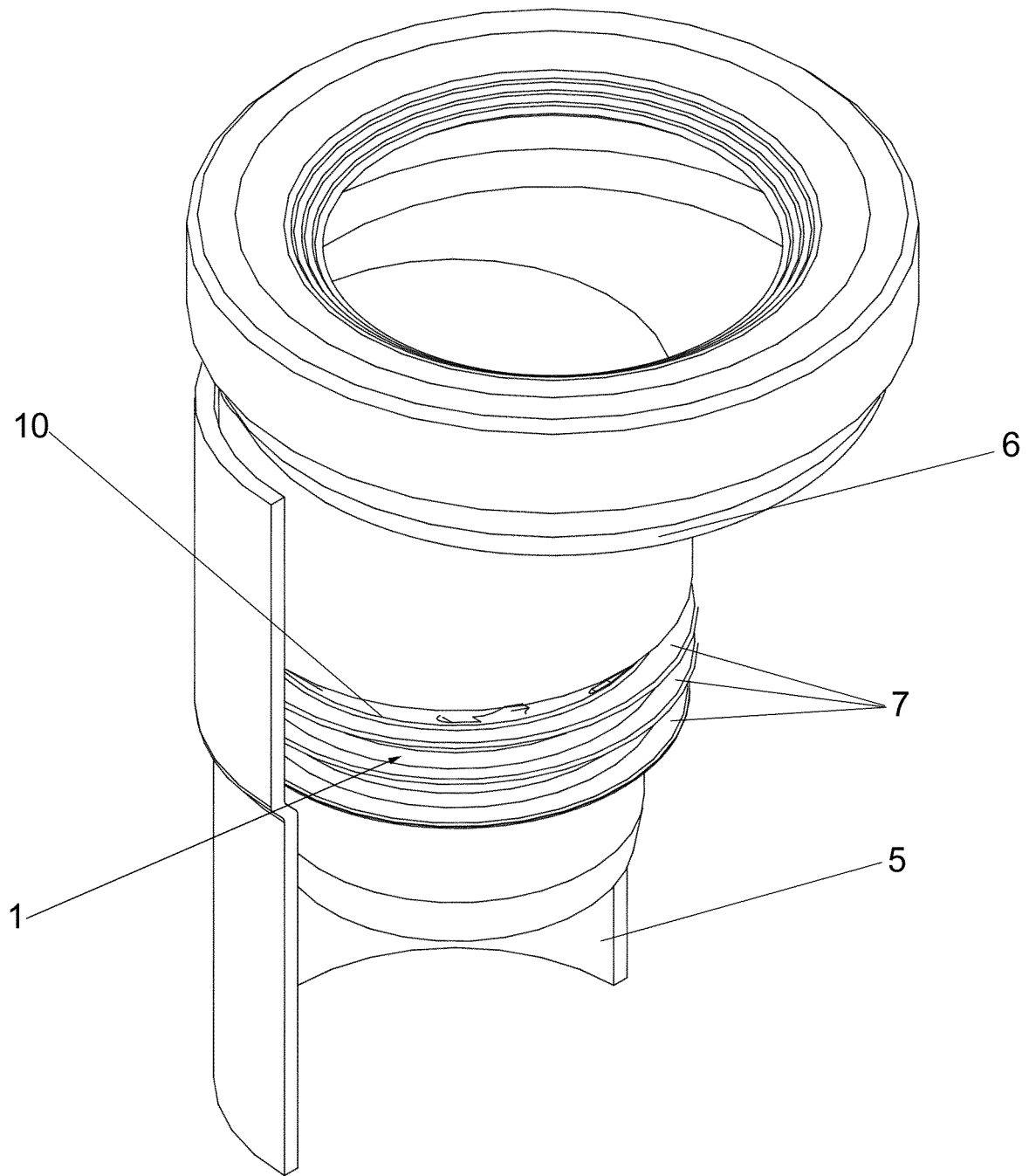


FIG.3

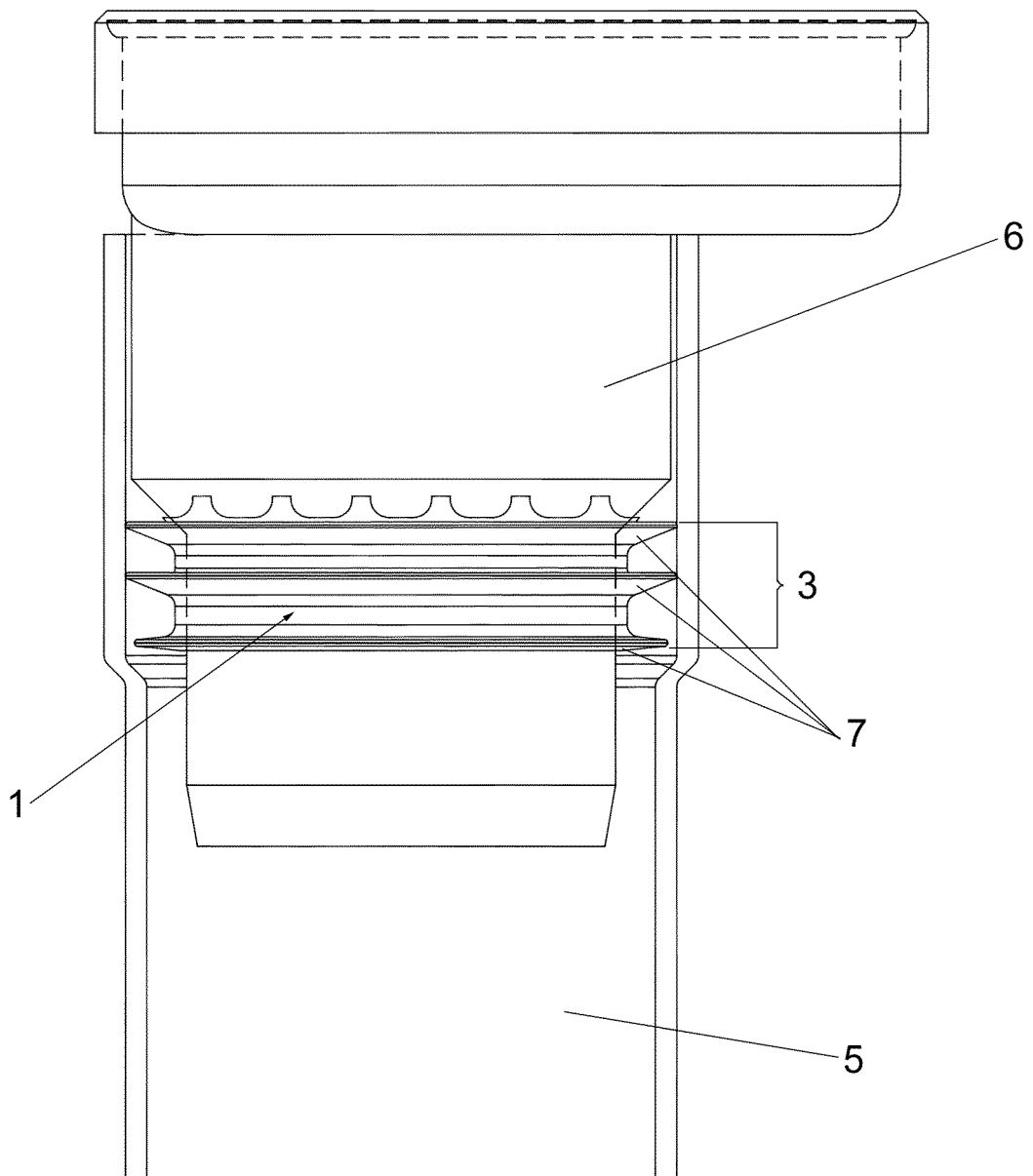


FIG.4

INTERNATIONAL SEARCH REPORT

International application No.
PCT/ES2013/070016

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)
F16J, F16L

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 1350593 A (PHETCO ENGLAND LTD) 18/04/1974, page 1, lines 5-25 and 48-55 ; figures 1, 4, 5.	1-3
Y	EP 1669658 A1 (NAL PRODUCTS APS) 14/06/2006, columnas 5 a 7, figures 7 and 8.	1-3
A	GB 2391721 A (PRATLEY INVEST) 11/02/2004, the whole the document.	1-3
A	WO 2006108534 A1 (ADC GMBH ET AL.) 19/10/2006, the whole document.	1-3
A	US 3913928 A (YAMAGUCHI SEIICHI) 21/10/1975, the whole document.	1-3

☒ Further documents are listed in the continuation of Box C.

☒ See patent family annex.

* Special categories of cited documents:

"A" document defining the general state of the art which is not considered to be of particular relevance.

"E" earlier document but published on or after the international filing date

"L" document which may throw doubts on priority claim(s) or which is cited to establish the publication date of another citation or other special reason (as specified)

"O" document referring to an oral disclosure use, exhibition, or other means.

"P" document published prior to the international filing date but later than the priority date claimed

"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

"X" document of particular relevance; the claimed invention cannot be considered novel or cannot be considered to involve an inventive step when the document is taken alone

"Y" 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

"&" document member of the same patent family

Date of the actual completion of the international search
02/04/2013

Date of mailing of the international search report
(16/04/2013)

Name and mailing address of the ISA/

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INTERNATIONAL SEARCH REPORT

International application No.
PCT/ES2013/070016

C (continuation). DOCUMENTS CONSIDERED TO BE RELEVANT		
Category *	Citation of documents, with indication, where appropriate, of the relevant passages	Relevant to claim No.
A	GB 2274888 A (HARMER HOLDINGS LTD) 10/08/1994, the whole document.	1-3
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INTERNATIONAL SEARCH REPORT

International application No.

PCT/ES2013/070016

Information on patent family members

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		NONE	

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CLASSIFICATION OF SUBJECT MATTER

F16J15/02 (2006.01)

F16L17/025 (2006.01)

F16L25/10 (2006.01)

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REFERENCES CITED IN THE DESCRIPTION

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