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(54) HEIGHT-ADJUSTABLE FLOOR DRAIN WITH COUPLING RING PROVIDED WITH CHANNEL FOR SEEPAGE WATER

HÖHENVERSTELLBARER BODENABLAUF MIT KOPPLUNGSRING MIT KANAL FÜR SICKERWASSER

SIPHON DE SOL RÉGLABLE EN HAUTEUR À ANNEAU DE RACCORDEMENT PRÉSENTANT UN CANAL POUR LE SUINTEMENT D'EAU

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Description

Field of technology

[0001] The invention concerns the connecting ring for floor drains designed for both indoor and outdoor areas where water needs to be removed from the floor. The drain is connected to a grate extension, or a gutter, equipped with a suitable rim for the particular type of the final floor.

Current state of technology

[0002] The floor drain bodies are placed in concrete floors, or ceiling structures. A watertight sealing is usually attached to the flange of the drain body. The drain body is equipped with a grate extension, or a floor gutter with grating, designed to remove water from the surface. The connection between the drain body and the extension, or the gutter, is currently performed using a watertight, sealing O-ring. If water needs to be drained from the surface of the watertight sealing, this connection is performed using a drainage ring. A disadvantage of the O-ring connection is difficult installation and height adjustment of the extension with respect to the drain body and the final floor level. Further, it is difficult to check whether the O-ring is positioned correctly. Another disadvantage is the necessity to select a single-purpose ring, i.e. either the O-ring or the drainage ring.

[0003] EP 1 329 562 A2 describes a drain device for a ground floor. The drain unit comprises a drain opening which represents the lower end of a pipe connector which is part of the drain unit. The pipe connector comprises several lips which are stacked one above the other forming a lip gasket which is integrally formed and preferably consists of elastomers.

[0004] DE 94 12 393 U1 describes a drainage device for a ground floor or a ceiling. The drainage comprises a drainage body and an attachment piece which is attached to the top of the drainage body. A coupling flange is located at the upper end of the drainage body. A holding ring of the attachment piece rests on this upper end of the drainage body.

[0005] DE 90 03 409 U1 describes a drainage for draining wet rooms. Such drainage devices comprise a drainage body which can be set into the raw ceiling and an attachment piece which can be height-adjusted continuously and which can be set into the drainage body.

[0006] DE 87 15 924 U1 describes another drainage for draining streets and bridges which is height-adjustable.

[0007] DE 18 15 604 A1 describes a drainage body which is height-adjustable.

Subject-matter of the invention

[0008] The above mentioned disadvantages can be eliminated by the method according to claim 1 and the kit according to claim 5, in particular by the connecting ring for floor drains, mounted between the drain body and the drain extension, following the invention based on the fact that the connecting ring made of flexible material is fitted with a sealing collar in its upper part on the outside. The collar has at least one opening to allow water to pass through. On the inside, the sealing ring is fitted with a sealing lip, and in the bottom part it is equipped with a groove for the O-ring. At the opening, between the outer side of the ring and the inner side of the drain body, there is a drainage groove. The sealing collar of the connecting ring overlaps the rim of the drain body. The flexible material of the connecting ring can be an elastomer, or rubber.

[0009] The main advantage of the connecting ring according to the technical design is its universal usage, consisting in the fact that only one type of ring can be used, either with or without a sealing O-ring mounted in the drainage groove, and as compared to the currently used classic O-rings, it enables simple and precise positioning of the drainage extension or gutter in the drain body as well as height adjustment of the drainage extension or gutter depending on the level of the final floor.

Survey of figures in the drawings

[0010] The connecting ring according to the new design is shown in the attached drawings, where fig. 1 represents the general view of the drain with the connecting ring, fig. 2 is the detail of the connecting ring with inserted O-ring, fig. 3 shows the detail of the connecting ring without a sealing ring, fig. 4 shows the detail of the "D-D" opening in the connecting ring, fig. 5 is the general view of the half of the connecting ring in partial section, indicating the opening in the collar on one side, fig. 6 is the general view of the half of the ring from above.

Invention examples

[0011] The connecting ring 1 of the floor drain is mounted between the drain body 2 and the drainage extension 3. In its upper part on the outside, the elastomer connecting ring 1 is fitted with a sealing collar 1.1, which overlaps the rim of the drain body 2. In the sealing collar 1.1 there are eight U-shaped openings 1.6 for water drainage. On the inside there is a sealing lip 1.3, which fits against the drainage extension 2. In its bottom part, the connecting ring is fitted with a groove 1.5 where the O-ring 1.2 is inserted. At the openings 1.6 between the outer side of the ring 1 and the inner side of the drain body 2 there are longitudinal pass-through drainage grooves 1.4 for the passage of water removed from the surface. If there is an O-ring 1.2 placed in the groove 1.5, water does not pass through, as shown by the FC arrow. Otherwise, the connecting ring 1 works as a drainage ring and water can pass through the drainage groove 1.4 and to the drainpipe-arrow FO. Alternatively, the connecting ring 1 can be made of rubber, or other suitable material.

[0012] The positioning of the drainage extension 3 in the drain body 2 using the connecting ring is very easy. The connecting ring 1 is inserted into the drain body 2 as well as the drainage extension 3, which can be rotated in the direction of arrow "R" and moved in the direction of arrow "H" as needed until the required positioning towards the floor is reached.

Claims

1. Method of mounting a floor drain comprising a drain body (2), a drain extension (3) and a connecting ring (1),
wherein the drain extension (3) is connected with the drain body (2) such that the drain extension (3) is movable in relation to the drain body (2) such that the height of the floor drain can be adjusted,
wherein the connecting ring (1) made of flexible material is in its upper part on the outside fitted with a sealing collar (1.1) with at least one opening (1.6) to allow water to pass through, on the inside the connecting ring (1) is fitted with a sealing lip (1.3), and in the bottom part it is equipped with a groove (1.5) for an O-ring (1.2) for sealing a drainage groove (1.4), and wherein the connecting ring (1) is mounted between the drain body (2) and the drain extension (3) such that the drainage groove (1.4) of the connecting ring (1) at the opening (1.6) is disposed between the outer side of the connecting ring (1) and the inner side of the drain body (2), wherein
either an O-ring (1.2) is disposed between the connecting ring (1) and the drain body (2) to seal the drainage groove (1.4), or
no O-Ring (1.2) is disposed between the connecting ring (1) and the drain body (2) such that water can drain past the opening (1.6) and via the drainage groove (1.4) into the drain body (2).

2. Method according to claim 1, **characterized in that** the connecting ring (1) is mounted such that the sealing collar (1.1) of the connecting ring (1) overlaps the rim of the drain body (2).

3. Method according to claim 1 or 2, **characterized in that** the flexible material of the connecting ring (1) is elastomer.

4. Method according to claim 1 or 2, **characterized in that** the flexible material of the connecting ring (1) is rubber.

5. Kit comprising a floor drain and an O-ring, wherein the floor drain comprises a drain body (2), a drain extension (3) and a connecting ring (1) for floor drains,
wherein the drain extension (3) in use is movable in relation to the drain body (2) such that the height of the floor drain can be adjusted,
wherein in use the connecting ring (1) is mounted between the drain body (2) and the drain extension (3),
wherein the connecting ring (1) made of flexible material is in its upper part on the outside fitted with a sealing collar (1.1) with at least one opening (1.6) to allow water to pass through, wherein the sealing collar (1.1) overlaps a rim of the drain body (2);
characterized in that
the connecting ring (1) is mounted in use such that a drainage groove (1.4) of the connecting ring (1) at the opening (1.6) is disposed between the outer side of the connecting ring (1) and the inner side of the drain body (2), wherein the drainage groove is a longitudinal pass through drainage groove and that
on the inside, the connecting ring (1) is fitted with a sealing lip (1.3), and in the bottom part it is equipped with a groove (1.5) for the O-ring (1.2) for sealing the drainage groove (1.4) such, that no water can pass through the drainage groove (1.4), when the O-ring (1.2) is provided in the groove (1.5),
and wherein when no O-ring is provided in the groove (1.5), water can drain past the opening (1.6) and via the drainage groove (1.4) into the drain body (2).

6. Kit according to claim 6, **characterized in that** the flexible material of the connecting ring (1) is elastomer.

7. Kit according to claim 6, **characterized in that** the flexible material of the connecting ring (1) is rubber.

Patentansprüche

1. Verfahren zur Montage eines Bodenablaufs mit einem Ablaufkörper (2), einer Ablauferweiterung (3) und einem Verbindungsring (1),
wobei die Ablauferweiterung (3) mit dem Ablaufkörper (2) derart verbunden ist, dass die Ablauferweiterung (3) in Bezug auf den Ablaufkörper (2) derart beweglich ist, dass die Höhe des Bodenablaufs angepasst werden kann,
wobei der aus flexiblem Material hergestellte Verbindungsring (1) in seinem oberen Teil auf der Außenseite mit einer Dichtmanschette (1.1) mit mindestens einer Öffnung (1.6) ausgestattet ist, um Wasser durchlaufen zu lassen, der Verbindungsring (1) auf der Innenseite mit einer Dichtlippe (1.3) ausgestattet ist, und im unteren Teil mit einer Kehle (1.5) für einen O-Ring (1.2) versehen ist, um eine Ablaufrinne (1.4) abzudichten, und wobei der Verbindungsring (1) zwischen dem Ablaufkörper (2) und der Ablauferweiterung (3) derart montiert ist, dass die Ablaufrinne (1.4) des Verbindungsrings (1) an der Öffnung (1.6) zwischen der Außenseite des Verbindungsrings (1) und der Innenseite des Ablaufkörpers

(2) angeordnet ist, wobei
entweder ein O-Ring (1.2) zwischen dem Verbindungsring (1) und dem Ablaufkörper (2) angeordnet wird, um die Ablaufrinne (1.4) abzudichten, oder
kein O-Ring (1.2) zwischen dem Verbindungsring (1) und dem Ablaufkörper (2) angeordnet wird, so dass Wasser an der Öffnung (1.6) vorbei und über die Ablaufrinne (1.4) in den Ablaufkörper (2) ablaufen kann.

2. Verfahren nach Anspruch 1, **dadurch gekennzeichnet, dass** der Verbindungsring (1) derart montiert wird, dass die Dichtmanschette (1.1) des Verbindungsrings (1) den Rand des Ablaufkörpers (2) überlagert.

3. Verfahren nach Anspruch 1 oder 2, **dadurch gekennzeichnet, dass** das flexible Material des Verbindungsrings (1) Elastomer ist.

4. Verfahren nach Anspruch 1 oder 2, **dadurch gekennzeichnet, dass** das flexible Material des Verbindungsrings (1) Kautschuk ist.

5. Bausatz mit einem Bodenablauf und einem O-Ring, wobei der Bodenablauf einen Ablaufkörper (2), eine Ablauferweiterung (3) und einen Verbindungsring (1) für Bodenabläufe umfasst,
wobei die Ablauferweiterung (3) im Gebrauch in Bezug auf den Ablaufkörper (2) derart beweglich ist, dass die Höhe des Bodenablaufs angepasst werden kann,
wobei im Gebrauch der Verbindungsring (1) zwischen dem Ablaufkörper (2) und der Ablauferweiterung (3) montiert ist,
wobei der aus flexiblem Material hergestellte Verbindungsring (1) in seinem oberen Teil auf der Außenseite mit einer Dichtmanschette (1.1) mit mindestens einer Öffnung (1.6) ausgestattet ist, um Wasser durchlaufen zu lassen, wobei die Dichtmanschette (1.1) einen Rand des Ablaufkörpers (2) überlagert;
dadurch gekennzeichnet, dass
der Verbindungsring (1) im Gebrauch derart montiert ist, dass eine Ablaufrinne (1.4) des Verbindungsrings (1) an der Öffnung (1.6) zwischen der Außenseite des Verbindungsrings (1) und der Innenseite des Ablaufkörpers (2) angeordnet ist, wobei
es sich bei der Ablaufrinne um eine Längsdurchlassablaufrinne handelt, und dass
der Verbindungsring (1) auf der Innenseite mit einer Dichtlippe (1.3) ausgestattet und im unteren Teil mit einer Kehle (1.5) für den O-Ring (1.2) versehen ist, um die Ablaufrinne (1.4) derart abzudichten, dass kein Wasser die Ablaufrinne (1.4) durchlaufen kann, wenn der O-Ring (1.2) in der Kehle (1.5) vorgesehen ist,
und wobei, wenn kein O-Ring in der Kehle (1.5) vorgesehen ist, Wasser an der Öffnung (1.6) vorbei und über die Ablaufrinne (1.4) in den Ablaufkörper (2) ablaufen kann.

6. Bausatz nach Anspruch 6, **dadurch gekennzeichnet, dass** das flexible Material des Verbindungsrings (1) Elastomer ist.

7. Bausatz nach Anspruch 6, **dadurch gekennzeichnet, dass** das flexible Material des Verbindungsrings (1) Kautschuk ist.

Revendications

1. Procédé pour monter un drain au sol comprenant un corps de drain (2), une extension de drain (3) et une bague de connexion (1),
dans lequel l'extension de drain (3) est connectée avec le corps de drain (2) de telle façon que l'extension de drain (3) est déplaçable en relation au corps de drain (2) de telle manière que la hauteur du drain de sole peut être ajustée,
dans lequel la bague de connexion (1) réalisée en matériau flexible est équipée, dans sa partie supérieure et sur l'extérieur, d'un collier d'étanchement (1.1) avec au moins une ouverture (1.6) pour permettre à l'eau de traverser, à l'intérieur la bague de connexion (1) est équipée d'une lèvre d'étanchement (1.3), et dans la partie inférieure elle est équipée d'une gorge (1.5) pour un joint torique (1.2) pour étancher une gorge de drainage (1.4), et dans lequel la bague de connexion (1) est montée entre le corps de drain (2) et l'extension de drain (3) de telle sorte que la gorge de drainage (1.4) de la bague de connexion (1) au niveau de l'ouverture (1.6) est disposée entre le côté extérieur de la bague de connexion (1) et le côté intérieur du corps de drain (2), dans lequel soit un joint torique (1.2) est disposé entre la bague de connexion (1) et le corps de drain (2) pour étancher la gorge de drainage (1.4),
soit aucun joint torique (1.2) n'est disposé entre la bague de connexion (1) et le corps de drain (2) de telle sorte que l'eau est capable de drainer au-delà de l'ouverture (1.6) et via la gorge de drainage (1.4) jusque dans le corps de drain (2).

2. Procédé selon la revendication 1, **caractérisé en ce que** la bague de connexion (1) est monté de telle façon que le collier d'étanchement (1.1) de la bague de connexion (1) chevauche le rebord du corps de drain (2).

3. Procédé selon la revendication 1 ou 2, **caractérisé en ce que** le matériau flexible de la bague de connexion (1) est un élastomère.

4. Procédé selon la revendication 1 ou 2, **caractérisé**

en ce que le matériau flexible de la bague de connexion (1) est du caoutchouc.

5. Jeu de composants comprenant un drain au sol et un joint torique, dans lequel le drain au sol comprend un corps de drain (2), une extension de drain (3) et une bague de connexion (1) pour des drains au sol, dans lequel, en utilisation, l'extension de drain (3) est déplaçable en relation au corps de drain (2) de telle façon que la hauteur du drain au sol peut être ajustée,
dans lequel, en utilisation, la bague de connexion (1) est montée entre le corps de drain (2) et l'extension de drain (3),
dans lequel la bague de connexion (1) réalisée en matériau flexible est emboîtée, dans sa partie supérieure et sur l'extérieur, avec un collier d'étanchement (1.1) avec au moins une ouverture (1.6) pour permettre à l'eau de traverser, dans lequel le collier d'étanchement (1.1) chevauche un rebord du corps de drain (2) ;
caractérisé en ce que
en utilisation, la bague de connexion (1) est montée de telle façon qu'une gorge de drainage (1.4) de la bague de connexion (1) au niveau de l'ouverture (1.6) est disposée entre le côté extérieur de la bague de connexion (1) et le côté intérieur du corps de drain (2),
dans lequel la gorge de drainage est une gorge de freinage longitudinale traversante, et **en ce que**
sur l'intérieur, la bague de connexion (1) est engagée avec une lèvre d'étanchement (1.3) et dans la partie inférieure elle est équipée d'une gorge (1.5) pour le joint torique (1.2) afin d'étancher la gorge de drainage (1.4) de telle façon que de l'eau ne peut pas passer à travers la gorge de drainage (1.4) quand le joint torique (1.2) est prévu dans la gorge (1.5),
et dans lequel, si aucun joint torique n'est prévu dans la gorge (1.5), l'eau peut être drainée au-delà de l'ouverture (1.6) et, via la gorge de drainage (1.4) jusque dans le corps de drain (2).

6. Jeu de composants selon la revendication 5, **caractérisé en ce que** le matériau flexible de la bague de connexion (1) est un élastomère.

7. Jeu de composants selon la revendication 5, **caractérisé en ce que** le matériau flexible de la bague de connexion (1) est du caoutchouc.

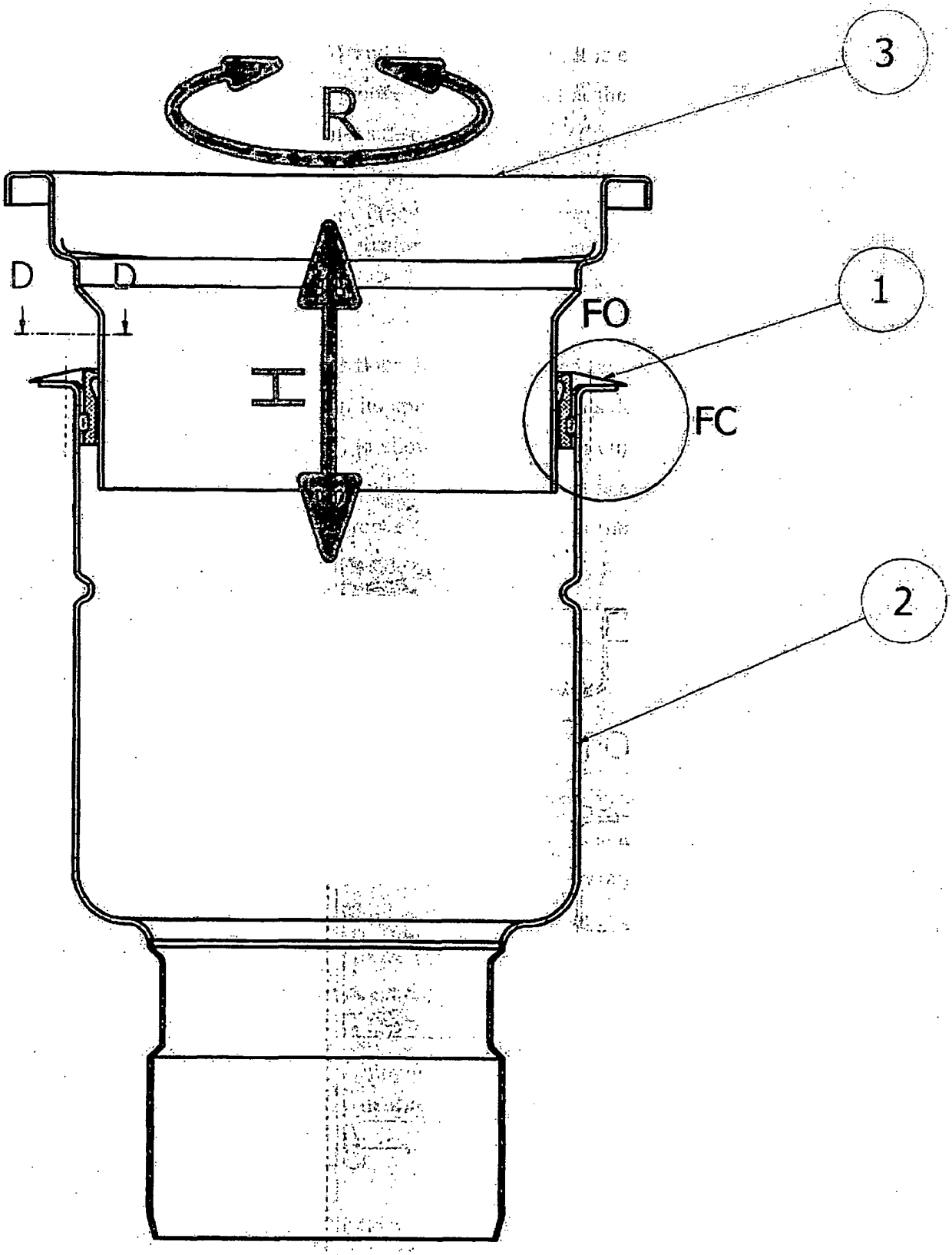

Fig. 1

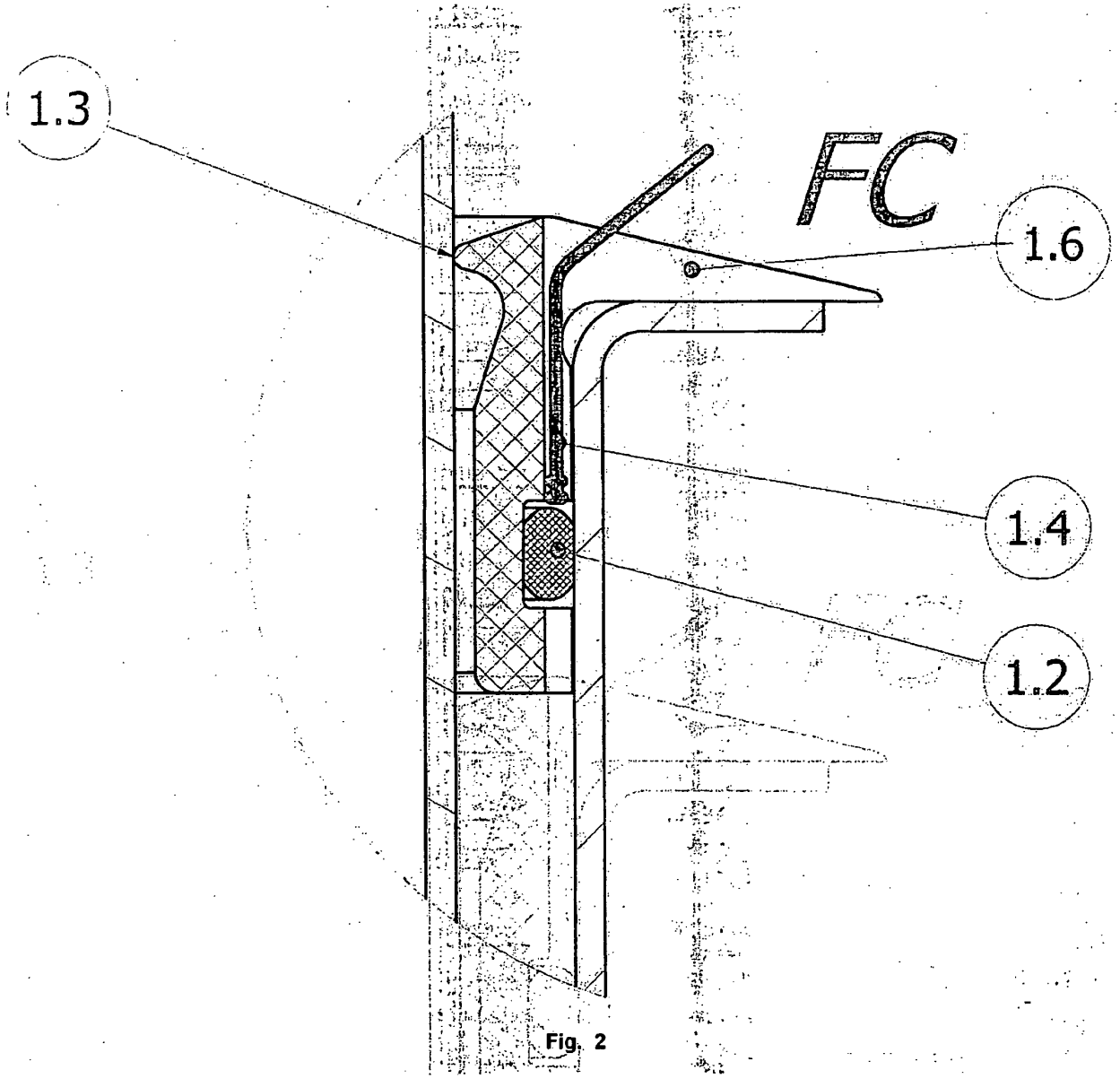

Fig. 2

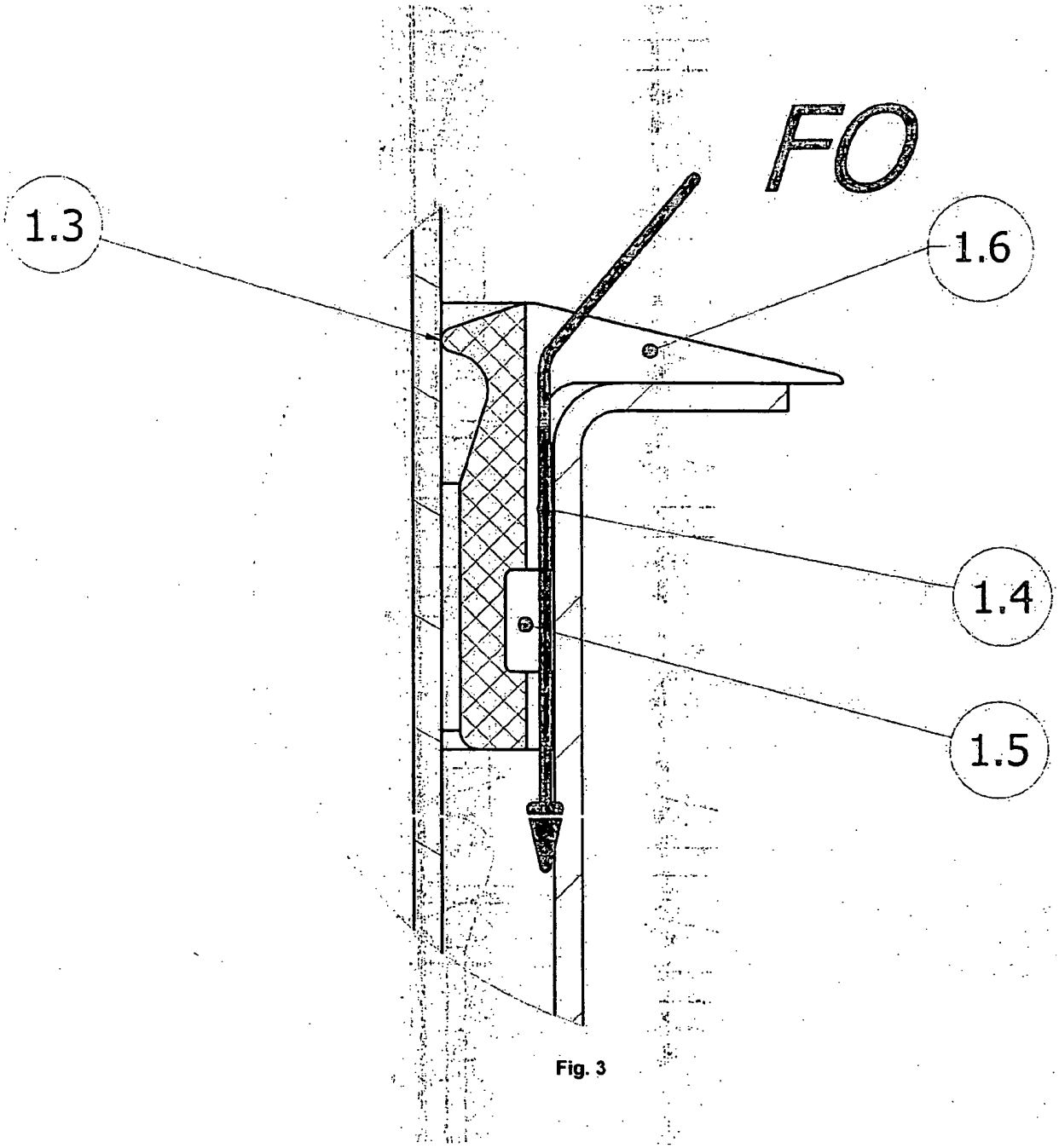

Fig. 3

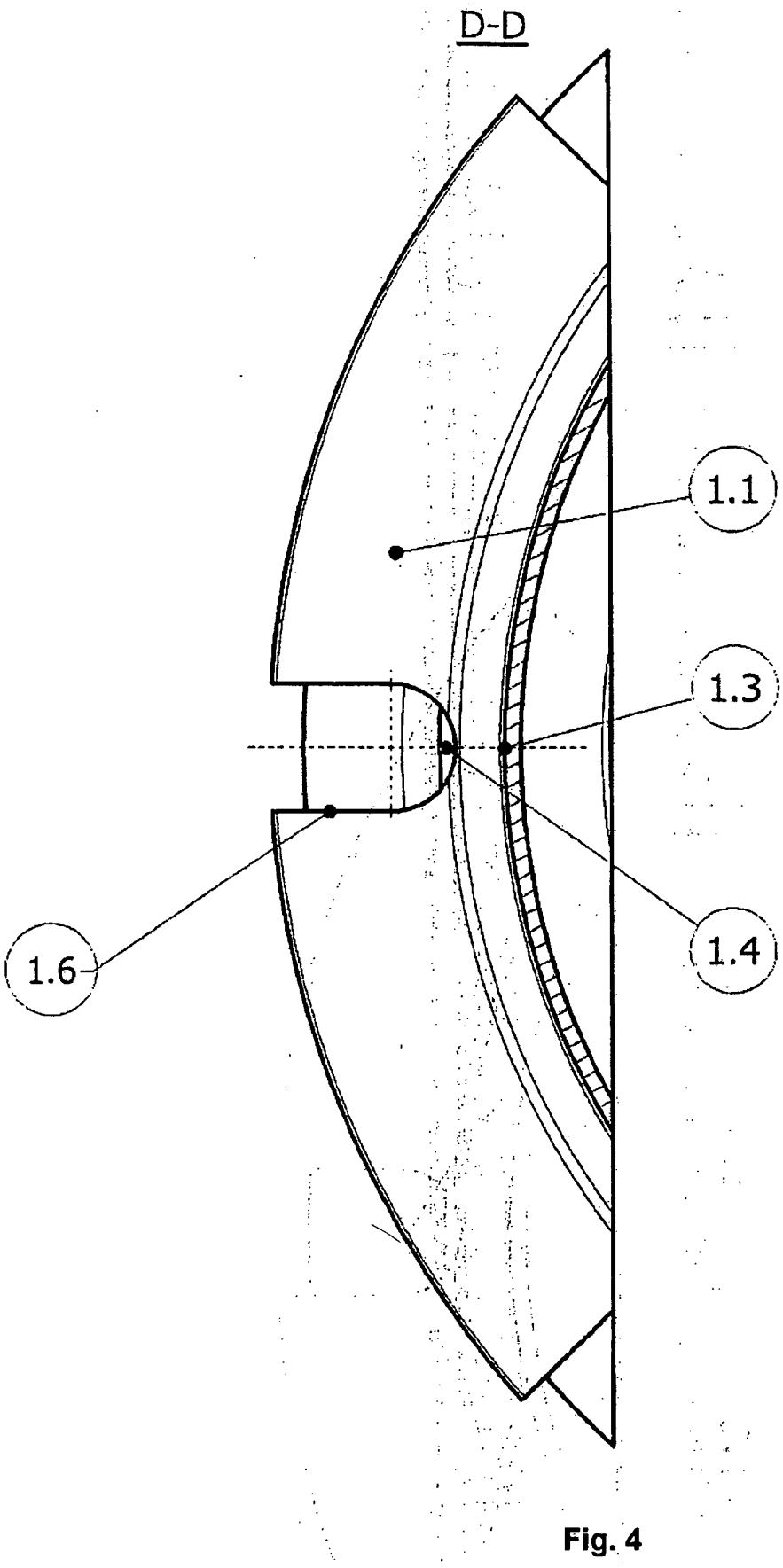

Fig. 4

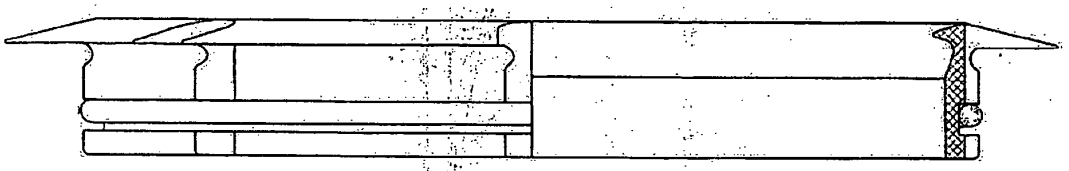

Fig. 5

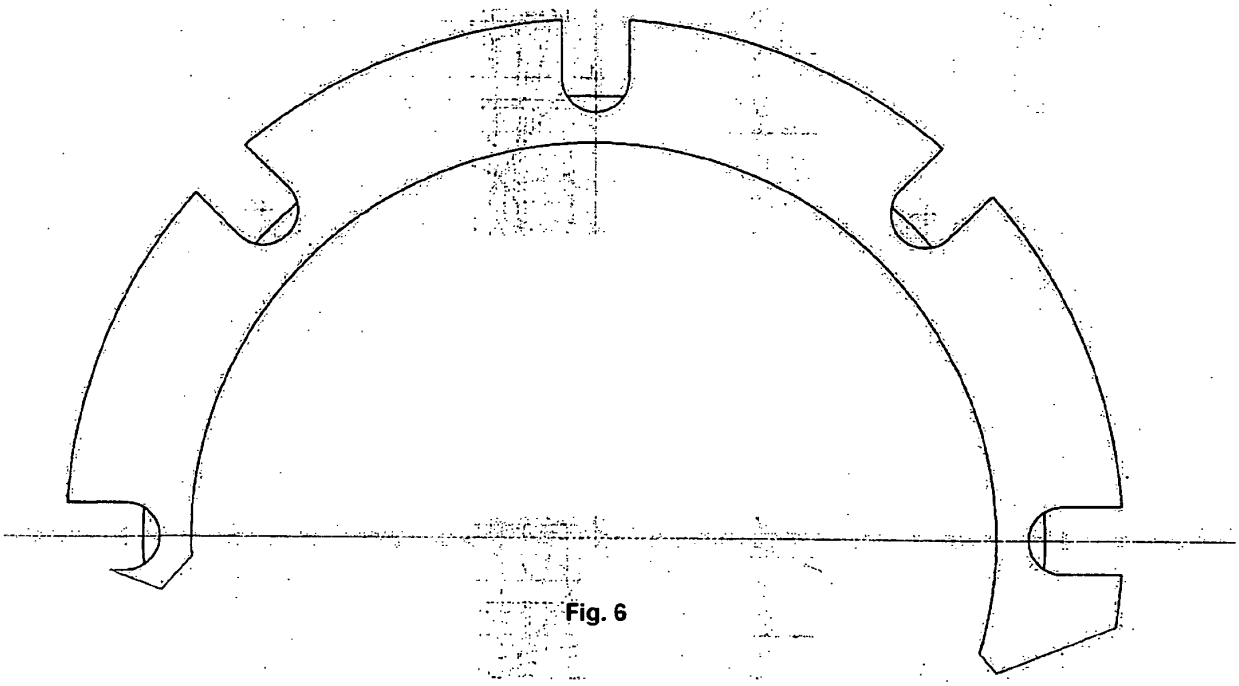

Fig. 6

REFERENCES CITED IN THE DESCRIPTION

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