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(54) **Drainage gully**

Entwässerungsrinne

Caniveau d'écoulement

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Description

The present invention relates to a clamping device at a drainage gully or similar, whereby the drainage gully at the top is provided with an outwardly directed flange which is engaged by a floor mat, preferably of a plastics material, and whereby the drainage gully includes a carrier member for grating means, which carrier member engages the floor mat and cooperates through mounting means with a mounting flange provided in the drainage gully in such a way that the carrier member press the floor mat against the outwardly directed flange of the drainage gully.

Such a device (clamp ring) at a floor drain is substantially already known from e.g. SE, A, 9003167-5. The design and structure of this prior art device including inter alia a relatively large thickness of material and the particularly thereon, but also on the selection of material dependent, almost nonexistent elasticity of the device, results in that the clamping effect on the floor mat deteriorates in time, e.g. because the floor mat is compressed. The mounting means must all the time be tightened and there is a risk for that the carrier member finally is brought in engagement with the mounting flange so that further tightening of the mounting means is impossible or does no longer give an improved clamping effect on the floor mat.

The object of the present invention is to eliminate this problem and construct the device defined above such that an optimum clamping effect on the floor mat is always present without repeated subsequent tightening of the mounting means.

This object is arrived at according to the invention due to the facts that the carrier member includes a central portion which at the top transfers into an outwardly directed clamping flange for clamping the floor mat against the outwardly directed flange of the drainage gully, and which down below transfers into an inwardly directed support flange which is engaged by the grating means and which through the mounting means cooperates with the mounting flange of the discharge chute, that the carrier member consists of or includes resilient material so that the clamping flange thereof can adapt to the floor mat even if said floor mat is compressed, and that the length of the carrier member is less than the distance between the outwardly directed flange of the drainage gully and the mounting flange provided in the discharge chute so that the support flange is not brought in contact with the mounting flange when said support flange is in its lowermost position.

Due to the particular design with a central portion and flanges of substantial length protruding therefrom, and due to the fact that the carrier member consists of or includes resilient material, optimum clamping of the floor mat between the clamping flange of the carrier member and the outwardly directed flange of the discharge chute is achieved. Thanks to the length of the central portion as defined, the obtained elasticity of the

carrier member can be utilized to a maximum without the support flange of the carrier member ever being brought in contact with the mounting flange. A substantially improved and more permanent sealing between the floor mat and the drainage gully is obtained compared with prior art devices.

The invention will be further described below with reference to the accompanying drawings, wherein

fig. 1 is a plan view of a drainage gully with a device according to the invention;

fig. 2 is a section through the drainage gully along the line II-II in fig. 1; and

fig. 3 is a section through the drainage gully along the line II-II in fig. 1, whereby the drainage gully is provided with a device according to the invention having an alternatively constructed mounting means.

The drainage gully 1 illustrated in the drawings is adapted to be mounted in a floor 2 so that a floor mat 3, preferably of a plastic material, provided on the floor 2 can be connected therewith. The purpose herewith is that water on the floor mat 3 shall flow down into the drainage gully 1 and through said drainage gully into a drainage system (not shown).

The drainage gully 1 is four-sided and preferably has a rectangular shape. The bottom 4 thereof has an opening 5 and it slopes towards this opening 5 so that collected water flows down into the opening 5 and through said opening into the drainage system. The drainage gully 1 also includes four sidewalls 6 which are vertically or substantially vertically directed when the drainage gully 1 has been placed in operating position in the floor 2. At the top, each sidewalls 6 is provided with an outwardly directed flange 7 which forms right or substantially right angles to each sidewall 6 and which might include a somewhat upwardly inclined portion.

The outwardly directed flange 7 extends around the entire drainage gully 1 and it is preferably somewhat depressed below the floor level so that the floor mat 3 can engage the upper or top surface thereof without defining a threshold preventing water from flowing down into the drainage gully 1.

A carrier member 8 can be located in the drainage gully 1 and a grating means 9 can be provided in said carrier member. The grating means 9 has the shape of a four-sided frame 10 with a grate which allows water to flow down into the drainage gully 1, but prevents people from treading or driving down therein. The height of the grating means 9 is adapted so that the upper or top side thereof is in level with or somewhat below the upper or top surface of the carrier member 8.

The carrier member 8 includes a central portion 11 which at the top transfers into an outwardly directed clamping flange 12 and down below transfers into an

inwardly directed support flange 13. The length of the central portion 11 is substantially less than the distance between the outwardly directed flange 7 and a mounting flange 14 provided in the drainage gully 1, so that the support flange 13 can not come on contact with said mounting flange. The clamping flange 12 is adapted to engage the floor mat 3 from above and press said floor mat downwards against the outwardly directed flange 7, such that excellent sealing is obtained between the floor mat 3 and the flange 7, whereby water is prevented from penetrating into the floor 2 beside the drainage gully 1. This sealing becomes particularly advantageous since neither the floor mat 3, the outwardly directed flange 7 nor the clamping flange 12 is provided with holes for mounting means or similar.

The carrier member 8 preferably has such an original shape that the angle α between the central portion 11 and the clamping flange 12 is less than 90° , e.g. about 85° , whereby the outer portions 15 of the clamping flange 12 can be brought to engage the floor mat 3 with a larger pressure than inner portions thereof. The original position of the clamping flange 12 is shown with solid lines in fig. 2. The carrier member 8 preferably consists of or includes such resilient material that the clamping flange 12 can be brought to change position relative to the central portion 11 so that said angle α increases to a larger angle α , preferably maximum 90° , when the clamping flange 12 during mounting of the carrier member 8 engages the floor mat 3 and said carrier member is subjected to forces in a downward direction relative to the drainage gully 1, whereby major portions of the width of the clamping flange 12 will engage the floor mat 3. However, outer portions 15 of the clamping flange 12 will still engage the floor mat 3 with a larger pressure than inner portions thereof. Said latter position of the clamping flange 12 is shown with dashed and dotted lines in fig. 2 and with solid lines in fig. 3.

The carrier member 8 can be drawn down into the drainage gully 1 by means of mounting means 16 of a suitable type. These mounting means are threaded through holes 17 in the support flange 13 and they are screwed down into or cooperate in another way with the mounting flange 14 so that the carrier member 8 can be drawn or pulled downwards relative to the mounting flange 14 by screwing down the mounting means 16 in relation thereto. Hereby, the carrier member 8 can be screwed downwards so far that the clamping flange 12 press the floor mat 3 downwards against the outwardly directed flange 7 with a large pressure which can be maintained for a long time even if the floor mat 3 is compressed. This function is improved while the carrier member 8 has resilient properties and/or thanks to the shape of the carrier member and particularly the original shape of the clamping flange 12. The spring means described below also contribute to a certain degree to this improved function.

In the embodiment illustrated in fig. 2, each mounting means 16 consists of a screw 18 with a threaded

portion 19 through which it is screwed into a threaded hole 20 in the mounting flange 14. The screw 18 can be screwed down into the hole 20 until the clamping flange 12 attains said clamping effect against the floor mat 3.

In the embodiment illustrated in fig. 3, each mounting means 16 consists of another type of screw 21, namely a screw with a part 22 which with clearance protrudes down through a hole 23 in the mounting flange 14. This part 22 has a threaded portion 24 onto which a nut 25 is provided and between the mounting flange 14 and said nut 25 there is located at least one spring means 26 so that said spring means through the screw 21 exerts downwardly directed forces on the carrier member 8 and its clamping flange 12. The spring means 26 can be a helical spring threaded onto the screw, one or more cup springs or another suitable type of permanently functioning springs with required endurance.

The support flange 13 preferably has recessed portions 27 around each hole 17 for the mounting means 16. These recessed portions 27 are formed so that they accommodate the parts 28, preferably so called screw heads, of the mounting means 16 located above the support flange 13, so that said parts 28 do not protrude up and above those engaging surfaces 29 on the support flange 13 which the frame 10 of the grating means 9 is adapted to engage. These recessed portions 27 can be defined by bending down the support flange 13 around the holes 17 or in any other suitable way. The recessed portions 27 see to that the grating means 9 does not directly load the mounting means 16 and that said parts 28 of said mounting means can not wear out the frame 10 of the grating means 9.

The mounting flange 14 preferably consists of a section which is fixedly mounted on the sidewalls 6 a distance above the bottom 4 and which preferably extends in a closed shape e.g. as a closed frame, internally along the walls of the drainage gully 1, which means that the section provides an advantageous reinforcement of the drainage gully 1. The section may have one or more holes 17 for the mounting means 16 at each side of the drainage gully 1 and it is preferably attached to all four sides 6 of said drainage gully.

The mounting flange 14 preferably further includes an L-section, one shank 30 of which is directed downwards and attached to the sidewall 6 of the drainage gully 1, while the other shank 31 protrudes out from said sidewall 6, whereby it preferably forms right angles with the shank 30.

The mounting means 16 preferably are provided in the support flange 13 so that they are covered by the frame 10 of the grating means 9, the support flange 13 preferably is as wide or wider than the mounting flange 14 so that said support flange 13, seen from above, covers said mounting flange 14 and the outer portions 15 of the clamping flange 12 preferably has a chamber 32 down below at the outer edge for permitting advantageous connection with the floor mat 3.

Mounting of the device described above is carried

through by placing the carrier member 8 in the drainage gully 1, screwing down the mounting means 16 until the clamping flange 12 engages the floor mat 3 with the required pressure, whereafter the grating means 9 is finally located on the support flange 13.

The invention is not limited to what is described above and illustrated in the drawings, but may vary within the scope of the following claims. As examples of not further described alternatives it can be mentioned that the drainage gully 1 can be of another type of discharge device for draining off water from floors; the drainage gully can have a totally different shape than that shown and also the carrier member to a certain extent and/or the mounting flange and/or the grating means can have another shape or other shapes than those shown.

Claims

1. Clamping device at a drainage gully or similar, whereby the drainage gully (1) at the top is provided with an outwardly chute directed flange (7) which is engaged by a floor mat (3), preferably of a plastic material, and whereby the drainage gully includes a carrier member (8) for grating means (9) which carrier member engages the floor mat and cooperates through mounting means (16) with a mounting flange (14) provided in the drainage gully in such a way that the carrier member press the floor mat against the outwardly directed flange of the drainage gully, **characterized in** that the carrier member (8) includes a central portion (11) which at the top transfers into an outwardly directed clamping flange (12) for clamping the floor mat (3) against the outwardly directed flange (7) of the drainage gully (1), and which down below transfers into an inwardly directed support flange (13) which is engaged by the grating means (9) and which through the mounting means (16) cooperates with the mounting flange (14) of the drainage gully, that the carrier member (8) consists of or includes resilient material so that the clamping flange (12) thereof can adapt to the floor mat (3) even if said floor mat is compressed, and that the length of the carrier member (8) is less than the distance between the outwardly directed flange (7) of the drainage gully (1) and the mounting flange (14) provided in the drainage gully (1) so that the support flange (13) is not brought in contact with the mounting flange when said support flange is in its lowermost position.
2. Clamping device according to claim 1, **characterized in** that the carrier member (8) has such a shape that the angle (α) between the central portion (11) thereof and the clamping flange (12) is less than 90°, preferably about 85°, whereby outer portions (15) of the clamping flange (12) can be brought to engage the floor mat (3) with a larger pressure

than inner portions thereof and that the carrier member (8) consists of or includes such resilient material that the clamping flange (12) can be made to spring upwards relative to the central portion (11) so that said angle (α) increases to a larger angle (α), preferably maximum 90°, when the clamping flange (12) during mounting of the carrier member (8) engages the floor mat (3) and said carrier member is subjected to forces in a downward direction relative to the drainage gully (1).

3. Clamping device according to claim 2, **characterized in** that the carrier member (8) through the mounting means (16) can be brought to engage the mounting flange (14) in such a way that outer portions (15) of the clamping flange (12) engage the floor mat (3) with greater clamping forces than inner portions of said clamping flange.
4. Clamping device according to any preceding claim, **characterized in** that the mounting flange (14) consists of a section which is fixedly mounted on side-walls (6) of the discharge chute (1) a distance above the bottom (4) of said drainage gully and which internally extends around the drainage gully (1) in a closed shape, whereby the section reinforces the drainage gully (1).
5. Clamping device according to claim 4, whereby the discharge chute (1) is foursided and has a rectangular shape, **characterized in** that the support flange (13) is provided to extend as a closed frame located internally in the drainage gully (1), which is attached to all four sides of said drainage gully and that the mounting flange (14) has holes (17) for mounting means (16) along all four sides of said drainage gully.
6. Clamping device according to any preceding claim, **characterized in** that the mounting flange (14) consists of an L-section, one shank (30) of which is directed downwards and attached to the sidewall (6) of the drainage gully (1) while the other shank (31) protrudes out from said sidewall (6) and has holes (17) for the mounting means (16).

Patentansprüche

1. Klemmvorrichtung an einer Entwässerungsrinne oder dergleichen, wobei die Entwässerungsrinne (1) an der Oberseite mit einem nach außen gerichteten Flansch (7) versehen ist, der an einer Bodenmatte (3), vorzugsweise aus einem Kunststoff, anliegt, und wobei die Entwässerungsrinne ein Trägerorgan (8) für einen Gitterrost (9) enthält, wobei das Trägerorgan an der Bodenmatte anliegt und über Befestigungsmittel (16) mit einem Halte-

flansch (14) zusammenwirkt, der in der Entwässerungsrinne derart vorgesehen ist, daß das Trägerorgan die Bodenmatte gegen den nach außen gerichteten Flansch der Entwässerungsrinne drückt, dadurch gekennzeichnet, daß das Trägerorgan (8) einen Mittelteil (11) aufweist, der oben in einen nach außen gerichteten Klemmflansch (12) zum Festklemmen der Bodenmatte (3) gegen den nach außen gerichteten Flansch (7) der Entwässerungsrinne (1) übergeht, und der unten in einen nach innen gerichteten Stützflansch (13) übergeht, an welchem der Gitterrost (9) angreift und der durch die Haltemittel (16) mit dem Halteflansch (14) der Entwässerungsrinne zusammenwirkt, daß das Trägerorgan (8) aus elastischem Material besteht oder solches enthält, so daß der Klemmflansch (12) desselben sich an die Bodenmatte (3) anpassen kann, auch wenn die Bodenmatte zusammengepreßt ist, und daß die Länge des Trägerorgans (8) geringer ist als der Abstand zwischen dem nach außen gerichteten Flansch (7) der Entwässerungsrinne (1) und dem in der Entwässerungsrinne (1) vorgesehenen Halteflansch (14) so daß der Stützflansch (13) nicht in Berührung mit dem Halteflansch steht, wenn der Stützflansch sich in seiner untersten Stellung befindet.

2. Klemmvorrichtung nach Anspruch 1, dadurch gekennzeichnet, daß das Trägerorgan (8) so geformt ist, daß der Winkel (α) zwischen dem Mittelteil (11) desselben und dem Klemmflansch (12) kleiner als 90° , vorzugsweise etwa 85° , ist, wodurch äußere Teile (15) des Klemmflansches (12) zur Anlage an der Bodenmatte (3) mit einem größeren Druck als innere Teile desselben gebracht werden kann, und daß das Trägerorgan (8) aus derart elastischem Material besteht oder solches enthält, daß der Klemmflansch (12) nach oben bezüglich des Mittelteils (11) federn kann, so daß der Winkel (α) sich in einem größeren Winkel (α), vorzugsweise maximal 90° , vergrößert, wenn der Klemmflansch (12) bei der Montage des Trägerorgans (8) an der Bodenmatte (3) angreift und das Trägerorgan nach unten bezüglich der Entwässerungsrinne (1) gerichteten Kräften ausgesetzt ist.
3. Klemmvorrichtung nach Anspruch 2, dadurch gekennzeichnet, daß das Trägerorgan (8) durch die Halteeinrichtung (16) veranlaßt werden kann, am Halteflansch (14) derart anzugreifen, daß äußere Teile (15) des Klemmflansches (12) an der Bodenmatte (3) mit größeren Klemmkraften als innere Teile des Klemmflansches angreifen.
4. Klemmvorrichtung nach einem der vorangehenden Ansprüche, dadurch gekennzeichnet, daß der Halteflansch (14) aus einem Profilverteil besteht, das an den Seitenwänden (6) der Entwässerungsrinne (1)

in einem Abstand oberhalb des Bodens (4) der Entwässerungsrinne befestigt ist und sich innen links um die Entwässerungsrinne (1) in geschlossener Form erstreckt, wodurch das Profilverteil die Entwässerungsrinne (1) verstärkt.

5. Klemmvorrichtung nach Anspruch 4, wobei die Entwässerungsrinne (1) vier Seiten besitzt und eine rechteckige Form aufweist, dadurch gekennzeichnet, daß der Stützflansch (13) so ausgebildet ist, daß er sich als geschlossener Rahmen innen in der Entwässerungsrinne (1) erstreckt, der an allen vier Seiten der Entwässerungsrinne befestigt ist, und daß der Halteflansch (14) Löcher (17) für Befestigungsmittel (16) längs aller vier Seiten der Entwässerungsrinne aufweist.
6. Klemmvorrichtung nach einem der vorangehenden Ansprüche, dadurch gekennzeichnet, daß der Halteflansch (14) aus einem L-Profilverteil besteht, wobei ein Schenkel (30) desselben nach unten gerichtet und an der Seitenwand (6) der Entwässerungsrinne (1) befestigt ist, während der andere Schenkel (31) aus der Seitenwand (6) vorsteht und Löcher (17) für die Haltemittel (16) enthält.

Revendications

1. Dispositif de serrage pour une bouche d'égout ou analogues, par lequel la bouche d'égout (1) est munie en son sommet d'une bride (7) orientée vers l'extérieur qui vient se mettre en contact avec une couche de revêtement (3), de préférence en une matière plastique, et par lequel la bouche d'égout englobe un élément de support (8) pour un moyen de couronnement (9), ledit élément de support venant se mettre en contact avec la couche de revêtement et coopérant, via un moyen de montage (16), avec une bride de montage (14) prévue dans la bouche d'égout de telle sorte que l'élément de support presse la couche de revêtement contre la bride de la bouche d'égout, orientée vers l'extérieur, caractérisé en ce que l'élément de support (8) englobe une portion centrale (11) qui en son sommet se transforme en une bride de serrage (12) orientée vers l'extérieur pour serrer la couche de revêtement (3) contre la bride (7) de la bouche d'égout (1), orientée vers l'extérieur, et qui, plus bas, se transforme en une bride de support (13) orientée vers l'intérieur, qui vient se mettre en contact avec le moyen de couronnement (9) et qui, via le moyen de montage (16), coopère avec la bride de montage (14) de la bouche d'égout, en ce que l'élément de support (8) est constitué d'une matière résiliente ou englobe cette dernière, si bien que sa bride de serrage (12) est à même d'épouser la forme de la couche de revêtement (3) même lorsque ladite couche

de revêtement est comprimée, et en ce que la longueur de l'élément de support (8) est inférieure à la distance s'étendant entre la bride (7) de la bouche d'égout (1), orientée vers l'extérieur, et la bride de montage (14) prévue dans la bouche d'égout (1), si bien que la bride de support (13) ne vient pas se mettre en contact avec la bride de montage lorsque ladite bride de support se trouve dans sa position la plus basse.

2. Dispositif de serrage selon la revendication 1, caractérisé en ce que la configuration de l'élément de support (8) est telle que l'angle (α) formé entre sa portion centrale (11) et la bride de serrage (12) est inférieur à 90°, de préférence s'élève à environ 85°, par lequel des portions externes (15) de la bride de serrage (12) peuvent venir se mettre en contact avec la couche de revêtement (3) avec une pression supérieure à celle exercée par les portions internes, et en ce que l'élément de support (8) est constitué d'une matière résiliente ou englobe cette dernière, si bien que la bride de serrage (12) peut faire saillie vers le haut par rapport à la portion centrale (11) donnant lieu à une augmentation dudit angle (α) pour atteindre un angle (α) supérieur, de préférence au maximum de 90°, lorsque la bride de serrage (12) au cours du montage de l'élément de support (8) vient se mettre en contact avec la couche de revêtement (3) et lorsque ledit élément de support est soumis à des forces s'exerçant vers le bas par rapport à la bouche d'égout (1).
3. Dispositif de serrage selon la revendication 2, caractérisé en ce que l'élément de support (8) via le moyen de montage (16) peut être amené en contact avec la bride de montage (14) de telle sorte que les portions externes (15) de la bride de serrage (12) viennent se mettre en contact avec la couche de revêtement (3) avec des forces de serrage supérieures à celles exercées par les portions internes de ladite bride de serrage.
4. Dispositif de serrage selon l'une quelconque des revendications précédentes, caractérisé en ce que la bride de montage (14) est constituée d'un profilé qui est monté à demeure sur les parois (6) de la bouche d'égout (1) à une certaine distance au-dessus du fond (4) de ladite bouche d'égout et qui s'étend vers l'intérieur autour de la bouche d'égout (1) à l'état fermé, par lequel le profilé renforce la bouche d'égout (1).
5. Dispositif de serrage selon la revendication 4, dans lequel la bouche d'égout (1) est un quadrilatère et possède une forme rectangulaire, caractérisé en ce que la bride de support (13) est prévue pour s'étendre à la manière d'un cadre fermé disposé à l'intérieur de la bouche d'égout (1), qui est fixé à l'en-

semble des quatre côtés de ladite bouche d'égout, et en ce que la bride de montage (14) comporte des trous (17) destinés à des moyens de montage (16) le long de l'ensemble des quatre côtés de ladite bouche d'égout.

6. Dispositif de serrage selon l'une quelconque de revendications précédentes, caractérisé en ce que la bride de montage (14) est constituée d'un profilé en L dont une branche (30) est orientée vers le bas et fixée à la paroi latérale (6) de la bouche d'égout (1), tandis que l'autre branche (31) fait saillie vers l'extérieur par rapport à ladite paroi latérale (6) et comporte des trous (17) destinés aux moyens de montage (16).

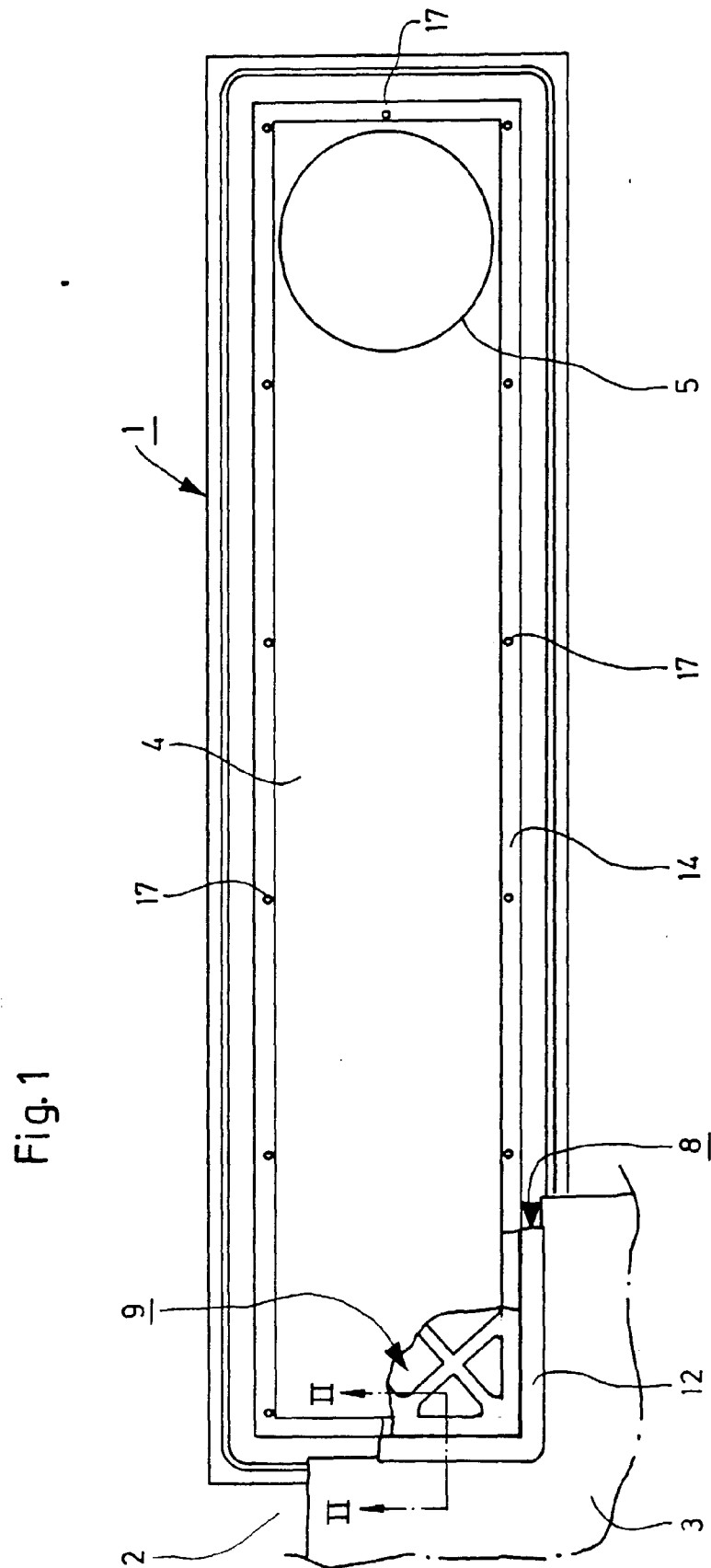


Fig. 2

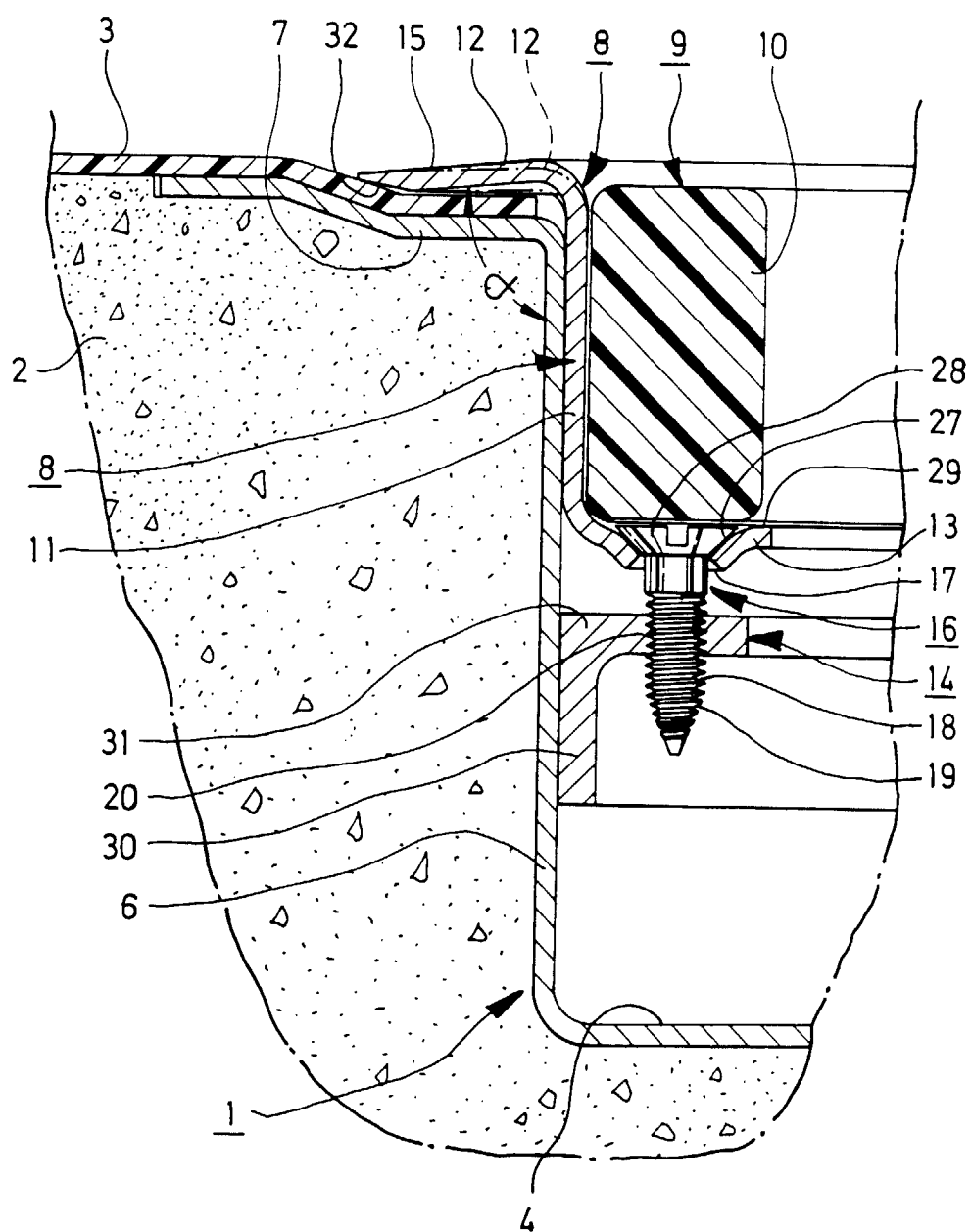


Fig. 3

