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(54) **Height-adjustable tile strip for sloping shower floor**

Höhenverstellbarer Fliesenstreifen für einen geneigten Duschenboden

Bande de tuile réglable en hauteur pour fond de douche en pente

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## Description

**[0001]** The invention relates to a tile strip comprising:

- a base strip of substantially L-shaped cross-section, wherein the base strip has a bottom surface and an upright surface;
- a decorative strip of substantially U-shaped cross-section arranged over the upright surface of the base strip.

**[0002]** Such a tile strip is known for instance from EP 2353482. This document discloses a tile strip with the features of the preamble of claim 1. Shown in this publication are different tile strips, including a tile strip with a base strip provided with a U-shaped holder in which a flat decorative strip is placed. This flat decorative strip is optionally wedge-shaped.

**[0003]** Also shown in the publication is another embodiment of a tile strip, wherein the base strip consists of the above stated strip with U-shaped holder and flat strip placed in the holder. In addition, a decorative strip of U-shaped cross-section is further provided which is placed as finishing over the upper edge of the flat strip.

**[0004]** Although these known tile strips are height-adjustable to some extent by placing the flat strip to greater or lesser extent into the U-shaped holder, the range is very limited. There is also little possibility of adapting the angle of the decorative strip to the angle of the slope at which the base strip is placed.

**[0005]** These known tile strips are used for a shower floor which is level with the surrounding floor. That is, a shower floor part is provided in for instance a flat bathroom floor, which shower floor part lies at an incline and wherein the walk-in side at which a user walks into the shower part lies flush with the surrounding bathroom floor. The side opposite the walk-in side extends deepest here and normally lies against a wall. Between the walk-in side and the wall side are two sides which are wedge-shaped and wherein the tile strip is arranged for a neat finish of the transition between the horizontal bathroom floor and the sloping shower floor.

**[0006]** It is not always easy to make the angle of the incline of the shower floor part the same as the angle of a prior art tile strip and moreover take a desired tile thickness into account so that accuracy lies within the height adjustment range of the tile strip.

**[0007]** It is now an object of the invention to provide a tile strip according to the preamble wherein the above stated drawbacks are reduced or even obviated.

**[0008]** The object is achieved with a tile strip which is characterized in that the height of the upright surface of the base strip and that of the decorative strip taper in wedge-like manner in longitudinal direction.

**[0009]** Because both the base strip and the decorative strip taper in wedge-like manner in longitudinal direction, a height-adjustment can easily be obtained by sliding the decorative strip in longitudinal direction relative to the

base strip.

**[0010]** In addition, the angle of inclination can also be easily adapted by moving the high side of the decorative strip upward. Because the base strip is also high on this side, sliding is possible over a great height and the decorative strip can hereby be tilted over a wide range. It is hereby possible to easily adapt the decorative strip to an angular difference between the decorative strip and the angle between shower floor and surrounding floor.

**[0011]** The fitting of the decorative strip on the base strip is preferably such that a clamping fit is formed.

**[0012]** In a preferred embodiment of the tile strip according to the invention the height of the bottom surface of the base strip also tapers in wedge-like manner in the same longitudinal direction.

**[0013]** Because both the bottom surface and the upright surface taper in wedge-like manner, the strip can be arranged both on a left-hand side and on a right-hand side of a sloping shower floor. If the bottom surface does not taper in wedge-like manner, it is necessary to provide two types of base strip, i.e. a left-hand embodiment and a right-hand embodiment.

**[0014]** In another embodiment of the tile strip according to the invention the bottom surface of the base strip is provided with openings for adhesion in an adhesive layer.

**[0015]** The bottom surface of the base strip can be pressed with these openings into the tile adhesive, wherein the tile adhesive passes partially through the openings and thus provides for an anchoring of the base strip in the tile adhesive.

**[0016]** In the case the tip of the wedge shape is so narrow that no proper openings can be arranged in this part, a separate plate with opening can be arranged over the tip. Because this plate is anchored in the tile adhesive, the tip of the wedge shape is hereby also anchored. The plate can optionally also be attached to the tip, preferably via a break-off edge, whereby the plate can be detached from the base strip by being broken off.

**[0017]** In another preferred embodiment according to the invention the base strip is constructed from parts placed against each other in longitudinal direction.

**[0018]** For a good support of the decorative strip it is not essential for the base strip to extend over the whole length of the decorative strip, since the decorative strip itself already has a certain stiffness. It is for instance possible, by further constructing the base strip from separate parts, to use two base parts of forty centimetres for a decorative strip of a length of one metre. The two base parts can then also slide in longitudinal direction in order to thus place the decorative strip at the correct height.

**[0019]** In addition, it is not essential in this embodiment of the base strip to shorten the base strip to the correct length.

**[0020]** In a further preferred embodiment of the tile strip according to the invention the length of the decorative strip is smaller than the length of the base strip.

**[0021]** By giving the base strip a length which is greater than the length of the decorative strip a product is pro-

vided which is suitable for a wide range of height differences and tile thicknesses. During placing of the tile strip the correct part is sawn out of the base strip, whereby following placing of the decorative strip the height adjustment of the tile strip falls within the desired height which depends on, among other factors, the tiles selected.

**[0022]** In a further embodiment of the tile strip according to the invention an adhesive such as a mastic is arranged between the decorative strip and the upright surface of the base strip.

**[0023]** The decorative strip can be held at the correct height and angle with the adhesive.

**[0024]** In yet another embodiment of the tile strip according to the invention a sealing membrane is clamped between the decorative strip and the upright surface of the base strip.

**[0025]** It is usual to arrange a sealing membrane under a tile layer of a bathroom floor. This membrane preferably runs without interruption from the bathroom floor into the shower floor part. The membrane can run here over the upright surface of the base strip, while the membrane can be clamped fixedly on this surface with the decorative strip. The decorative strip will hereby no longer slide and the membrane is moreover fixed.

**[0026]** Another option is to give the base strip a folded-double form on one side, whereby a sealing membrane can be clamped therebetween. Since the base strip normally lies enclosed between tiles, it is even possible to omit the other side of the base strip, whereby a flat U-shaped cross-section results with the membrane clamped therebetween.

**[0027]** The invention further relates to a shower floor, comprising:

- a horizontal floor part;
- an inclining flat floor part at least partially surrounded by the horizontal floor part, wherein one side of the inclining floor part connects flush to the horizontal floor part;
- a first tile strip arranged adjacently of a sloping edge of the inclining flat floor part and adjacently of the horizontal floor part, wherein the bottom surface of the base strip rests on the inclining flat floor part; and
- a finishing layer such as a tile layer extending over both the horizontal floor part and the inclining flat floor part, wherein the upper edge of the decorative part of the first tile strip lies flush with the upper surface of the finishing layer on the horizontal floor part.

**[0028]** A preferred embodiment of the shower floor according to the invention further comprises a second tile strip arranged parallel to the first tile strip adjacently of a second sloping edge of the inclining flat floor part and adjacently of the horizontal floor part.

**[0029]** These and other features of the invention are further elucidated with reference to the accompanying drawings.

Figure 1 is a perspective view of an embodiment of a shower floor according to the invention.

Figure 2 is a perspective view of an embodiment of the tile strip according to the invention.

Figures 3 and 4 show the tile strip according to figure 2 in side view and in two different positions.

Figure 5 is a cross-sectional view of the shower floor according to figure 1 along the line V-V.

Figure 6 shows the shower floor according to figure 1 with partially cut-away parts.

**[0030]** Figure 1 is a perspective view of an embodiment of a shower floor 1 according to the invention. Shower floor 1 has a horizontal floor part 2 which is provided with a tile layer. Surrounded by this horizontal floor part 2 is an inclining floor part 3 which connects flush with horizontal floor part 2 along edge 4. This inclining floor part 3 is also provided with a tile layer.

**[0031]** Tile profiles 7 as shown for instance in figure 2 are arranged on wedge-shaped edges 5, 6 for the purpose of finishing the side of the tile layer of horizontal floor part 2.

**[0032]** The tile profile 7 as shown in figure 2 has a base strip with a bottom surface 8 and an upright surface 9. Both bottom surface 8 and upright surface 9 taper in wedge-like manner in longitudinal direction and are further provided with openings 10 for a better adhesion to for instance a tile adhesive.

**[0033]** Tile profile 7 further has a decorative strip 11 which has a U-shaped cross-section and is pushed over the upright surface 9. Decorative strip 11 also tapers in wedge-like manner in longitudinal direction.

**[0034]** Figure 3 shows a side view of tile strip 7 wherein decorative strip 11 is tilted relative to upright surface 9, whereby the angle of tile strip 7 can vary between  $\alpha_1$  and  $\alpha_2$ . The inclination of tile strip 7 can hereby be easily adapted to the inclination of inclining floor part 3.

**[0035]** Figure 4 likewise shows a side view of tile strip 7. Decorative strip 11 has been displaced in longitudinal direction here relative to upright surface 9. Owing to this displacement the upper edge of the decorative strip can be adjusted in the height between height  $h_1$  and  $h_2$ . In addition, decorative strip 11 can also be displaced or tilted in vertical direction over a limited height relative to upright surface 9. Tile strip 7 can hereby also be easily adapted to the thickness of the applied tiles.

**[0036]** Figure 5 is a cross-sectional view of shower floor 1 according to figure 1 along line V-V. The base strip is arranged with upright surface 9 against the height difference between horizontal floor 2 and inclining floor part 3. Bottom surface 9 of the base strip rests on inclining floor part 3.

**[0037]** Arranged over both the horizontal floor part 2 and the inclining floor part 3 is a sealing membrane 12 which is also folded round upright surface 9. Decorative strip 11 is then clamped round this membrane.

**[0038]** A tile layer 13, 14 is further arranged over sealing membrane 12. Although not shown in the figures, it

will be apparent to the skilled person that tiles 13, 14 and sealing membrane 12 are placed in a tile adhesive and that possible gaps between tile layers 13, 14 and decorative strip 11 can be filled with a sealing mastic.

[0039] Figure 6 shows shower floor 1 according to figure 1 with partially cut-away parts. It will be apparent from this figure 6 that base strip 8, 9 has been shortened to a size at which the desired range in height-adjustability of tile strip 7 can be obtained. This shortened part 8, 9 is further arranged here at a desired position on inclining floor part 3 so that decorative strip 11 can finish the side edge of tile layer 14 along the desired length.

## Claims

### 1. Tile strip (7), comprising:

- a base strip (8, 9) of substantially L-shaped cross-section, wherein the base strip (8, 9) has a bottom surface (8) and an upright surface (9);
- a decorative strip (11) of substantially U-shaped cross-section arranged over the upright surface (9) of the base strip (8, 9), whereby

the height of the decorative strip (11) tapers in wedge-like manner in longitudinal direction, **characterized in that** the height of the upright surface (2) of the base strip (8, 9) tapers in wedge-like manner in longitudinal direction.

### 2. Tile strip (7) as claimed in claim 1, wherein the height of the bottom surface (8) of the base strip (8, 9) also tapers in wedge-like manner in the same longitudinal direction.

### 3. Tile strip (7) as claimed in claim 1 or 2, wherein the bottom surface (8) of the base strip (8, 9) is provided with openings (10) for adhesion in an adhesive layer.

### 4. Tile strip (7) as claimed in any of the foregoing claims, wherein the base strip (8, 9) is constructed from parts placed against each other in longitudinal direction.

### 5. Tile strip (7) as claimed in any of the foregoing claims, wherein the length of the decorative strip (11) is smaller than the length of the base strip (8, 9).

### 6. Tile strip (7) as claimed in any of the foregoing claims, wherein an adhesive such as a mastic is arranged between the decorative strip (11) and the upright surface of the base strip (9).

### 7. Tile strip (7) as claimed in any of the foregoing claims, wherein a sealing membrane (12) is clamped between the decorative strip and the upright surface of the base strip (9).

### 8. Shower floor (1), comprising:

- a horizontal floor part (2);
- an inclining flat floor part (3) at least partially surrounded by the horizontal floor part (2), wherein one side (4) of the inclining floor part (3) connects flush to the horizontal floor part (2);
- a first tile strip (7) according to any of the preceding claims arranged adjacently of a sloping edge (5, 6) of the inclining flat floor part (3) and adjacently of the horizontal floor part (2), wherein the bottom surface (8) of the base strip (8, 9) rests on the inclining flat floor part (3); and
- a finishing layer (13, 14) such as a tile layer extending over both the horizontal floor part (2) and the inclining flat floor part (3), wherein the upper edge of the decorative part (11) of the first tile strip (7) lies flush with the upper surface of the finishing layer (14) on the horizontal floor part (2).

### 9. Shower floor (1) as claimed in claim 8, further comprising a second tile strip (7) arranged parallel to the first tile strip (7) adjacently of a second sloping edge (5, 6) of the inclining flat floor part (3) and adjacently of the horizontal floor part (2).

## Patentansprüche

### 1. Fliesenleiste (7), die Folgendes umfasst:

- eine Basisleiste (8, 9) mit einem im Wesentlichen L-förmigen Querschnitt, wobei die Basisleiste (8, 9) eine untere Fläche (8) und eine aufrechte Fläche (9) aufweist;
- eine Zierleiste (11) mit einem im Wesentlichen U-förmigen Querschnitt, die über der aufrechten Fläche (9) der Basisleiste (8, 9) angeordnet ist, wobei die Höhe der Zierleiste (11) sich in Längsrichtung in keilförmiger Weise verjüngt, **dadurch gekennzeichnet, dass** die Höhe der aufrechten Fläche (9) der Basisleiste (8, 9) sich in Längsrichtung in keilförmiger Weise verjüngt.

### 2. Fliesenleiste (7) nach Anspruch 1, wobei die Höhe der unteren Fläche (8) der Basisleiste (8, 9) sich in derselben Längsrichtung ebenfalls in keilförmiger Weise verjüngt.

### 3. Fliesenleiste (7) nach Anspruch 1 oder 2, wobei die untere Fläche (8) der Basisleiste (8, 9) mit Öffnungen (10) zum Anhaften in einer Klebschicht versehen ist.

### 4. Fliesenleiste (7) nach einem der vorhergehenden Ansprüche, wobei die Basisleiste (8, 9) aus Teilen zusammengebaut ist, die in Längsrichtung aneinander gelegt werden.

5. Fliesenleiste (7) nach einem der vorhergehenden Ansprüche, wobei die Länge der Zierleiste (11) kürzer ist als die Länge der Basisleiste (8, 9).
6. Fliesenleiste (7) nach einem der vorhergehenden Ansprüche, wobei ein Klebstoff wie Mastix zwischen der Zierleiste (11) und der aufrechten Fläche der Basisleiste (9) angeordnet ist.
7. Fliesenleiste (7) nach einem der vorhergehenden Ansprüche, wobei eine Dichtungsmembran (12) zwischen der Zierleiste und der aufrechten Fläche der Basisleiste (9) festgeklemt ist.
8. Duschboden (1), der Folgendes umfasst:
  - einen waagrechten Bodenteil (2);
  - einen geneigten flachen Bodenteil (3), der zumindest teilweise von dem waagrechten Bodenteil (2) umgeben ist, wobei eine Seite (4) des geneigten Bodenteils (3) bündig mit dem waagrechten Bodenteil (2) verbunden ist;
  - eine erste Fliesenleiste (7) nach einem der vorstehenden Ansprüche, die neben einer Abschrägungsfläche (5, 6) des geneigten flachen Bodenteils (3) und neben dem waagrechten Bodenteil (2) angeordnet ist, wobei die untere Fläche (8) der Basisleiste (8, 9) auf dem flachen Bodenteil (3) liegt; und
  - eine Endschicht (13, 14) wie eine Fliesen-schicht, die sich sowohl über den waagrechten Bodenteil (2) als auch über den geneigten flachen Bodenteil (3) erstreckt, wobei die obere Kante der Zierleiste (11) der ersten Fliesenleiste (7) bündig mit der oberen Fläche der Endschicht (14) auf dem waagrechten Bodenteil (2) liegt.
9. Duschboden (1) nach Anspruch 8, der ferner eine zweite Fliesenleiste (7) umfasst, die parallel zur ersten Fliesenleiste (7) neben einer zweiten Abschrägungsfläche (5, 6) des geneigten flachen Bodenteils (3) und neben dem waagrechten Bodenteil (2) angeordnet ist.

## Revendications

1. Bande de tuile (7), comprenant :

- une bande de base (8, 9) de section transversale sensiblement en forme de L, dans laquelle la bande de base (8, 9) a une surface inférieure (8) et une surface dressée (9) ;
- une bande décorative (11) de section transversale sensiblement en U aménagée sur la surface dressée (9) de la bande de base (8, 9), dans laquelle :

la hauteur de la bande décorative (11) s'amincit à la manière d'un coin dans la direction longitudinale, **caractérisée en ce que** la hauteur de la surface dressée (9) de la bande de base (8, 9) s'amincit à la façon d'un coin dans la direction longitudinale.

2. Bande de tuile (7) selon la revendication 1, dans laquelle la hauteur de la surface inférieure (8) de la bande de base (8, 9) s'amincit également à la manière d'un coin dans la même direction longitudinale.
3. Bande de tuile (7) selon la revendication 1 ou 2, dans laquelle la surface inférieure (8) de la bande de base (8, 9) est pourvue d'ouvertures (10) pour adhérer à une couche adhésive.
4. Bande de tuile (7) selon l'une quelconque des revendications précédentes, dans laquelle la bande de base (8, 9) est constituée de parties placées l'une contre l'autre dans la direction longitudinale.
5. Bande de tuile (7) selon l'une quelconque des revendications précédentes, dans laquelle la longueur de la bande décorative (11) est plus petite que la longueur de la bande de base (8, 9).
6. Bande de tuile (7) selon l'une quelconque des revendications précédentes, dans laquelle un adhésif, tel qu'un mastic, est aménagé entre la bande décorative (11) et la surface dressée de la bande de base (9).
7. Bande de tuile (7) selon l'une quelconque des revendications précédentes, dans laquelle une membrane d'étanchéité (12) est serrée entre la bande décorative et la surface dressée de la bande de base (9).

8. Sol de douche (1), comprenant :

- une partie de sol horizontale (2) ;
- une partie de sol plate inclinée (3) entourée au moins en partie par la partie de sol horizontale (2), dans lequel un côté (4) de la partie de sol inclinée (3) se raccorde de niveau avec la partie de sol horizontale (2) ;
- une première bande de tuile (7) selon l'une quelconque des revendications précédentes, aménagée adjacente à un bord en pente (5, 6) de la partie de sol plate inclinée (3) et adjacente à la partie de sol horizontale (2), dans lequel la surface inférieure (8) de la bande de base (8, 9) repose sur la partie de sol plate inclinée (3) ; et
- une couche de finition (13, 14), telle qu'une couche de tuile s'étendant par-dessus à la fois la partie de sol horizontale (2) et la partie de sol plate inclinée (3), dans lequel le bord supérieur

de la partie décorative (11) de la première bande de tuile (7) repose de niveau avec la surface supérieure de la couche de finition (14) sur la partie de sol horizontale (2).

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9. Sol de douche (1) selon la revendication 8, comprenant en outre une seconde bande de tuile (7) aménagée parallèlement à la première bande de tuile (7) adjacente à un second bord en pente (5, 6) de la partie de sol plate inclinée (3) et adjacente à la partie de sol horizontale (2).

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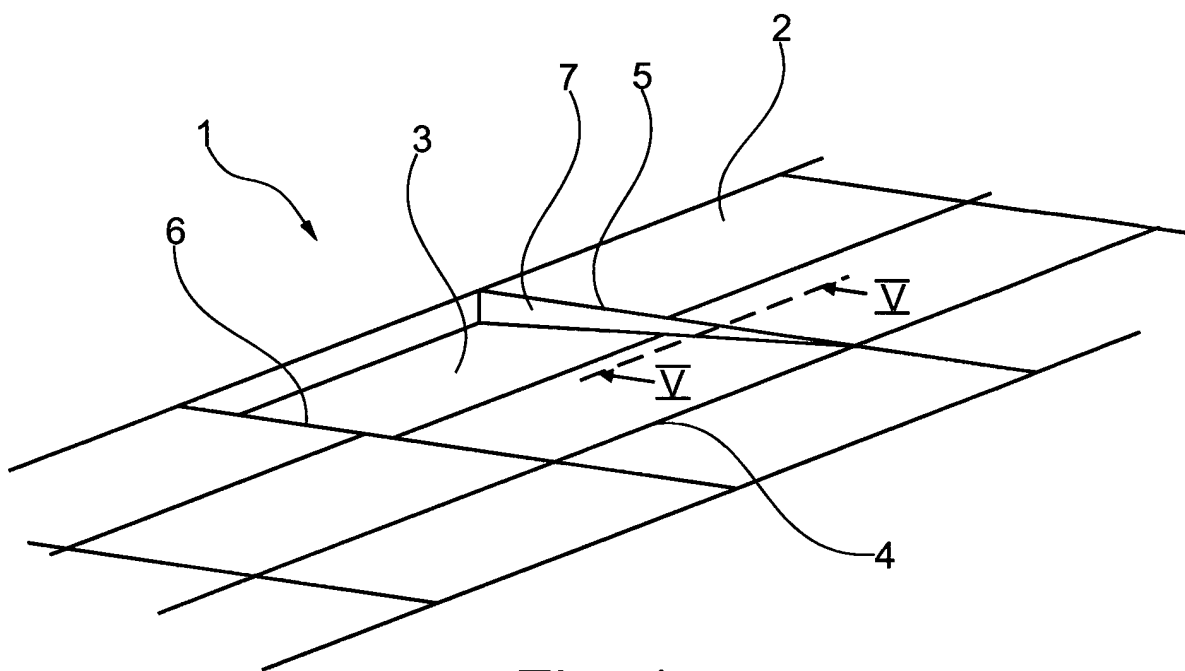


Fig. 1

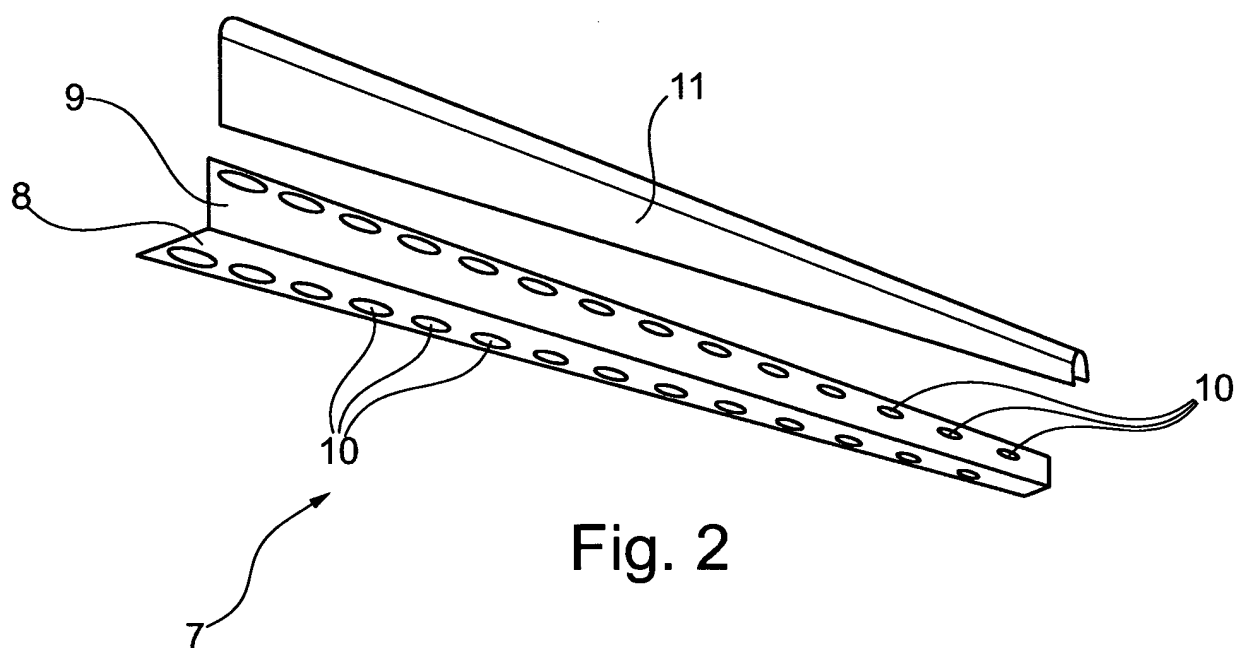


Fig. 2

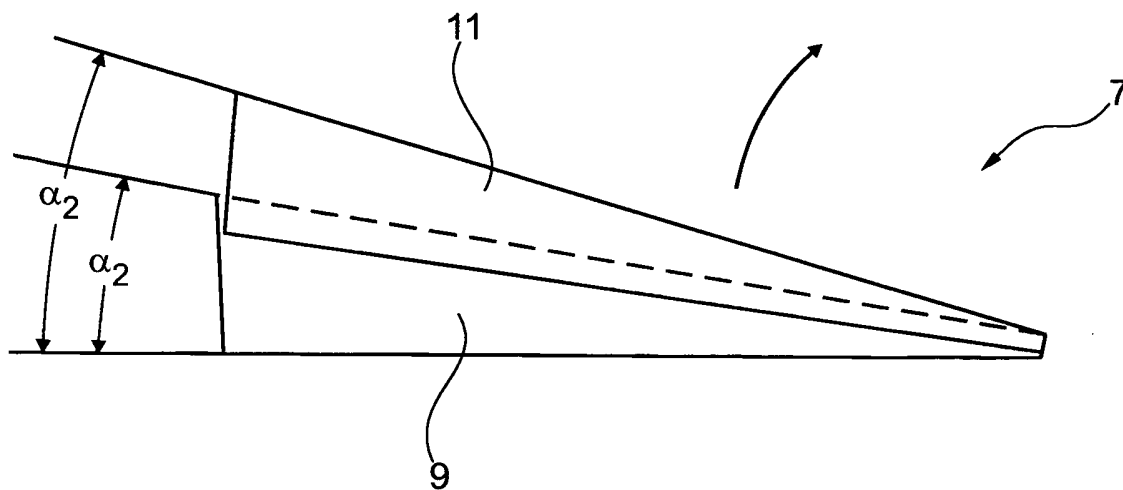


Fig. 3

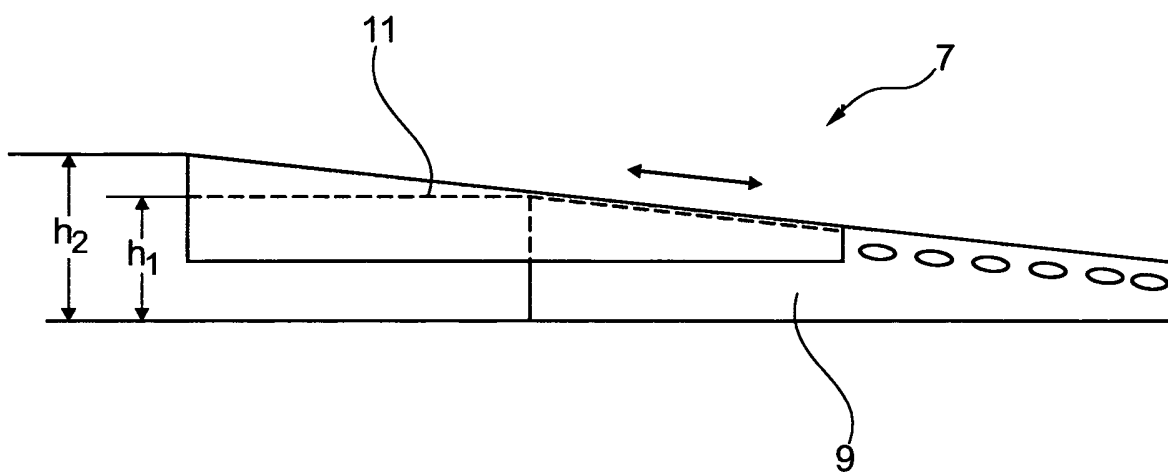


Fig. 4

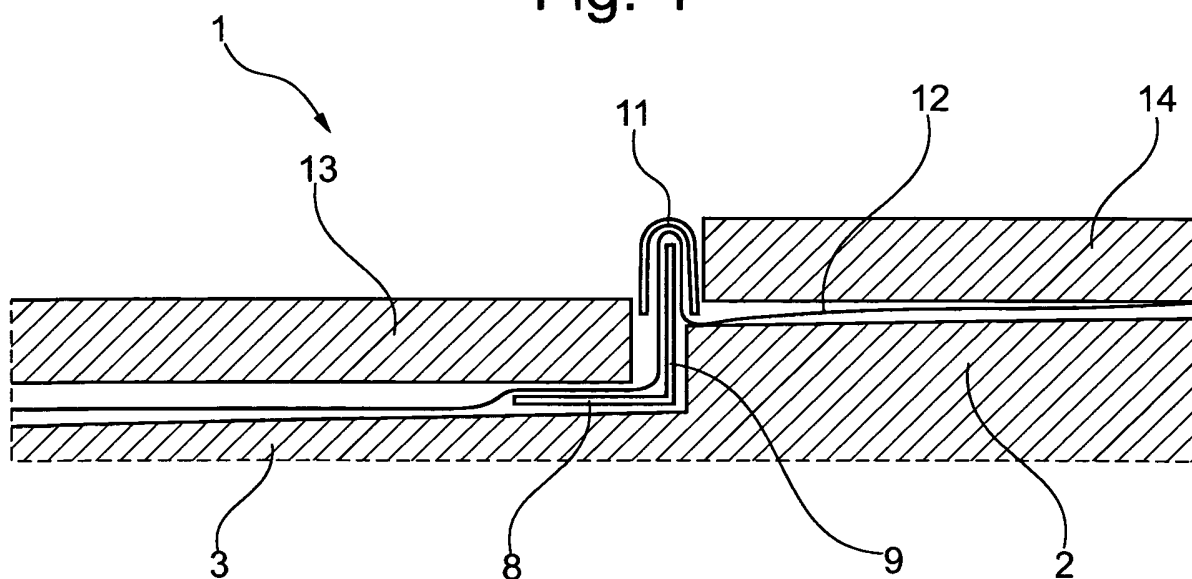


Fig. 5



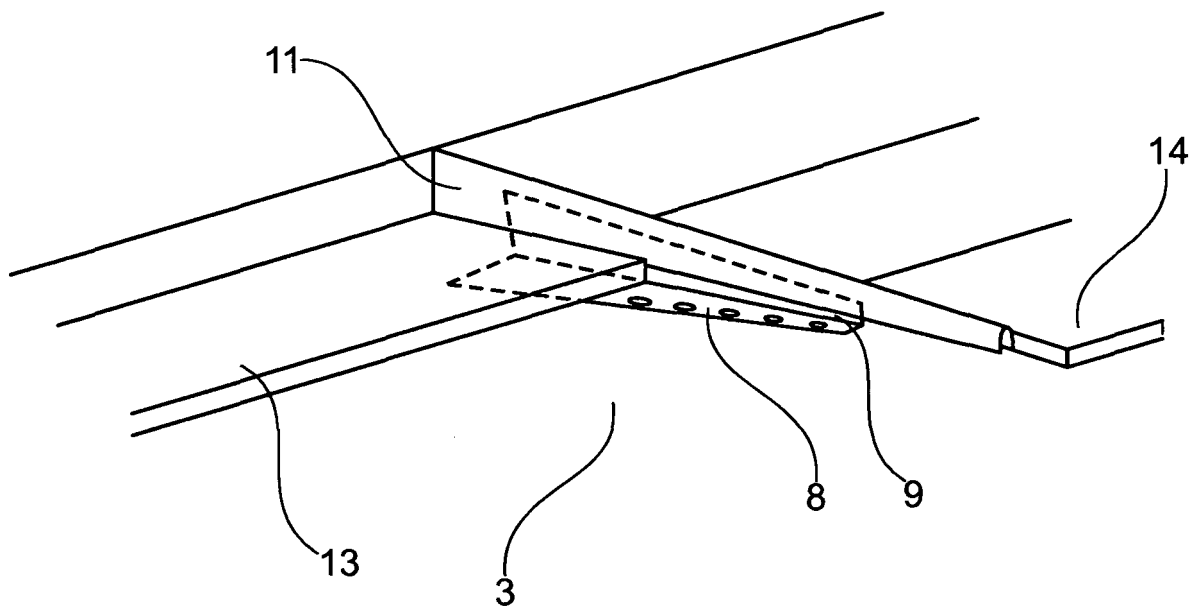


Fig. 6

**REFERENCES CITED IN THE DESCRIPTION**

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