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DRAINAGE CHANNEL

The present invention relates to a drainage channel according to the preamble of claim 1, a drainage device having one such drainage channel, and an arrangement of one such drainage device abutting on a wall at least partially in a floor of a room.

Drainage devices which have a drainage opening in the region of the lower edge of the wall are also called wall drains. Wall drains of this sort are usually completely or partially integrated in the wall. The positioning of a drainage device in the floor in front of the wall while maintaining a drainage opening in the wall is currently only rarely used for reasons of technical challenges.

It has frequently proved to be problematic to create a drainage channel and/or a drainage device, while maintaining an attractive outer appearance, which can be mounted with reasonable effort. To this end it would be particularly desirable to transfer the installation work for the drainage channel to the field of responsibility of the tile-layer.

A drainage channel and a drainage device of the initially mentioned sort are known from DE 20 2005 019 964 U1. The drainage channel described there is elongated and has a width of approximately 4 cm. A vertical longitudinal leg of this drainage channel can for example be arranged at a wall. A vertical leg, arranged on the opposite side of the drainage channel and serving as a side wall, is recessed in a central region of the drainage channel, such that the water can emerge laterally in this region. In this region is arranged an inspection opening through which the water can flow into a drainage pot arranged below the inspection opening and below the drainage channel.

From WO 2005/111327 A1 a drainage channel and a drainage device are also known. Also the channel described in this document is comparatively shallow and narrow, such that it can be arranged beneath the lowest wall tile. There results an inlet opening on the floor between the wall tile and the floor tile arranged adjacent thereto. The drainage channel has also a portion in which the side wall is recessed on the side facing away from the wall, such that the water can emerge laterally out of the channel.

From US 6,014,780 is known an arrangement of the drainage device abutting on a wall in the floor of a room, in the case of which the drainage opening is formed as a narrow gap in the wall below the lowest wall tile. In this regard, a drainage channel is provided which comprises a vertical leg on the wall-side and a side wall. Here, the side wall has an extended horizontal offset which serves as a support surface for floor tiles.

The problem upon which the present invention is based is the creation of a drainage channel and a drainage device of the initially mentioned sort which guarantee a minor installation effort and/or an attractive exterior. Furthermore, an initially mentioned arrangement of the drainage device, abutting on a wall at least partially in a floor of a room, is to be proposed.

This problem is solved with regard to the drainage channel by a drainage channel of the initially mentioned sort with the characterising features of claim 1, with regard to the drainage device by a drainage device of the initially mentioned sort with the characterising features of claim 8, as well as with regard to the arrangement by an arrangement of the initially mentioned sort with the characterising features of claim 10. The sub-claims concern preferred embodiments of the invention.

According to claim 1 it is provided that the height of the vertical leg from its, in the installed state, upper end as far as the lower side of the channel floor is less than 5 cm, and that the depth of the drainage channel from the end, facing away from the channel floor, of the vertical leg as far as the end, facing away from the vertical leg, of the side wall is less than 3 cm, and that the side wall in the installed state has a height which is smaller than the height of the vertical leg. The drainage channel can be arranged in the room below the lowest wall tile and/or on the wall-side of the floor tiles. In particular, the drainage channel has both a height and a depth which correspond to usual tile thicknesses in the plumbing field. In this manner there results an optically attractive impression of the drainage device equipped with a drainage channel of this sort.

It can be provided that the drainage channel is suitable to be mounted on the floor screed or on sealing means on the floor screed. The sealing means on the floor screed can for example be a composite seal. This composite seal can be applied before subsequently the drainage channel is placed by a tile-layer and the floor and wall tiles are mounted. In this manner, the installation works influencing the optical impression of the drainage device can be carried out together with the tile-laying works, which guarantees an attractive result. Furthermore, the installation of the drainage channel can be carried out after the conclusion of the sealing of the floor screed and the wall, such that during this installation only few sealing works or no more sealing works need to be undertaken. This simplifies the installation of the drainage device.

It is possible for the drainage channel to have a connecting portion which in the installed state can be arranged on the floor screed or on sealing means on the floor screed

and below a floor tile. This connecting portion can for example have at least one opening through which tile adhesive can pass. The connecting portion can guarantee a stable installation of the drainage channel.

5 In particular, the portion in which the water can emerge laterally from the channel floor is a central portion of the drainage channel. By means of the possibility of the lateral emergence of the water from the drainage channel, the outflow into a drain arranged in the floor screed can be realised even when a drainage channel is set on the composite seal.

10 It is possible for the lower side of the channel floor to be arranged on the same level as the lower side of the connecting portion. In this manner, the water can flow from the channel floor out of the drainage channel approximately on the level of the floor tile.

15 It can be provided that the channel floor has a decline in a longitudinal direction of the drainage channel, in particular has in one or two outer portions a decline in a longitudinal direction towards a central portion. In this manner it is guaranteed that the water reaches the region of the channel out of which it can emerge for example laterally.

Claim 8 provides the use of a drainage channel according to the invention in a drainage device according to the invention.

20 It can be provided that the drainage device includes a cover which has a slope arranged in the installed state at the wall side, below which in the installed state water can flow from the drainage channel to the water inlet opening. In this manner, the water flowing out laterally from the drainage channel can safely reach a water inlet opening of a drainage housing pre-mounted in the floor screed.

25 Claim 10 provides that in the wall between the lower side of at least one wall tile and the floor level is arranged a drainage opening which is in particular formed as a narrow gap between the cover and the lower side of at least one wall tile. This measure results in an attractive exterior of the arrangement.

30 Preferably, the drainage channel is arranged at least partially below the lower side of at least one lowest wall tile and/or at least partially between the wall-side end of at least one floor tile and the wall, in particular arranged on the floor screed or on sealing means on the floor screed. The drainage channel recedes optically in this arrangement and is barely visible for the user. This results in a very attractive appearance.

Further characteristics and advantages of the present invention become clear with the aid of the following description of preferred embodiment examples with reference to the accompanying drawings. There:

- 5 figure 1 shows a perspective exploded view of a part of a drainage device according to the invention;
- figure 2 shows a cross-section through a drainage device according to the invention in the installed state having a mounting frame in a first position;
- figure 2a shows a detail enlargement of figure 2;
- 10 figure 3 shows a view corresponding to figure 2 onto the drainage device having the mounting frame in a second position;
- figure 3a shows a detail enlargement of figure 3;
- figure 4 shows an enlarged perspective section through the device according to figure 2 having the mounting frame in the first position;
- 15 figure 5 shows a schematic plan view onto the drainage device according to figure 2;
- figure 6 shows a bottom view of two different mounting frames for a drainage device according to the invention;
- figure 7 shows a plan view onto the two different mounting frames according to figure 6;
- 20 figure 8 shows a section according to the arrows VIII-VIII in figure 7;
- figure 9 shows a perspective view of a drainage device according to the invention having a drainage channel according to the invention in the installed state;
- 25 figure 10 shows a perspective view of a drainage channel according to the invention;
- figure 11 shows a cross-section through a first portion of a drainage device according to the invention having a drainage channel according to the invention in the installed state;
- 30 figure 12 shows a detail enlargement according to the arrow XII in figure 11;
- figure 13 shows a cross-section through a second portion of a drainage device according to the invention having a drainage channel according to the invention in the installed state;

figure 14 shows a detail enlargement according to the arrow XIV in figure 13;

figure 15 shows a side view of a drainage channel according to the invention;

figure 16 shows a side view of a drainage channel according to the invention
according to the arrow XVI in figure 15;

5 figure 17 shows a section according to the arrows XVII – XVII in figure 15.

In the figures, identical or functionally identical parts are labelled with identical
reference signs.

The embodiment, shown in figure 1, of a drainage device according to the invention
comprises a drainage housing 1 which can be connected via a drainage connecting piece
10 2 to an on-site drainage pipe (not shown). The drainage housing 1 has on its upper side a
water inlet opening 3 having a receiving part 4 surrounding this water inlet opening 3.

The receiving part 4 is firmly connected to the drainage housing 1, for example
adhesively bonded. There is of course the possibility that the drainage housing 1 and the
receiving part 4 are integrally formed, such that the receiving part 4 is designed as a part
15 of the drainage housing 1. In this case, the drainage housing 1 can for example have a
support shoulder surrounding the water inlet opening 3.

In the embodiment example shown, the upper end of the drainage housing 1 and
of the receiving part 4 are surrounded by an inlet collar 5 (see figure 1). The inlet collar 5
is a substantially two-dimensional part with a rectangular contour. At the lower side of
20 the inlet collar 5 are mounted four support feet 6 which are in particular height-
adjustable. Furthermore, gratings 7 are connected to the inlet collar 5, protruding
therefrom to the outside, and surround the inlet collar 5 circumferentially. The gratings 7
serve to anchor the drainage device better in a floor construction, wherein where
necessary by means of an inclination of the grating 7 an inclination of the tiles can be
25 predetermined. In the installed state, the inlet collar 5 and the grating 7 are located in the
floor screed 8 (see figure 2 to figure 4).

There is of course the possibility of omitting the grating 7 and/or the inlet collar 5
in a drainage device according to the invention.

Furthermore, the drainage device includes a drainage channel 9 according to the
30 invention through which the water can pass into the water inlet opening 3. The drainage
channel 9 is, in the region of the water inlet opening 3, opened upwardly and to the side
facing away from the wall (see figure 4). The drainage channel 9 has in this region a
substantially L-shaped cross-section, with a leg 9a, vertical in the installed state, which

protrudes upwardly into the wall construction 10 or ends below the lowest wall tile 16, and a horizontal leg, serving as channel floor 9b, in the region of the water inlet opening 3.

The drainage channel 9 is designed differently outside the region of the water inlet opening 3. There, on the side situated opposite the vertical leg 9a, it has a side wall 9c extending upwardly in the shape of a four part circle and a connecting portion 9d extending horizontally below the floor tiles 20 (see figure 3a and figure 10). The side wall 9c extending upwardly in the shape of a four part circle can prevent water from running out of the drainage channel 9 at the tile side. The horizontal connecting portion 9d extending below the floor tiles 20 serves for fixing the drainage channel 9.

The drainage channel 9 in the depicted embodiment example is integrated into the wall construction 10. Here, the wall construction comprises in the depicted embodiment example from left to right in figure 2 and figure 3, or from inside to outside, the brick wall 11, a plaster 12 applied thereon, a decoupling strip 13, a plurality of sealing strips 14, a tile adhesive 15 as well as wall tiles 16 applied thereon.

The drainage channel 9 is positioned with its side on the left in figures 2 to 4, or with its side facing towards the wall, against the sealing strips 14, wherein the vertical leg 9a of the drainage channel 9 protrudes upwardly behind the lowest wall tile 16 and is surrounded by two of the sealing strips 14. Alternatively, the vertical leg 9a can terminate below the lowest wall tile 16. The horizontal leg, serving as channel floor 9b, of the drainage channel 9 is arranged below the lowest wall tile 16, such that the drainage channel 9 does not protrude into the room beyond the wall tile 16. Here, in the embodiment example shown, a tile finishing strip 17 is arranged below the lowest wall tile 16. Between the lower side of the tile finishing strip 17 or between the lower side of the lowest wall tile 16 and the horizontal leg serving as channel floor 9b is formed a drainage opening 18 through which water can flow into the drainage channel 9 integrated into the wall construction 10.

Next to the drainage channel 9 is arranged a cover 19, the upper side of which is located in the shown embodiment example at the same level as the upper side of the floor tile 20. Accordingly, the water to be drained away can travel from the floor tile 20 across the cover 19 through the drainage opening 18 into the drainage channel 9. Here, the left (in figures 2 to 4) side or wall-side side of the cover 19 is aligned substantially flush with the right (in figures 2 to 4) side, or side facing away from the wall, of the wall tile 16. In

this manner there results a drainage opening 18 which is arranged as a narrow gap in the wall at its lower end (see for example figure 2a and figure 4).

5 The left (in figures 2 to 4) side, or side facing the wall, of the cover 19 is sloped such that water located in the drainage channel 9 can travel beneath the slope 31 of the cover 19 through to the water inlet opening 3. The cover 19 can in the installed state be laid loosely on parts of the drainage device or of the floor, such that it can be removed upwardly.

10 In the shown embodiment example, the cover 19 is formed by a surrounding frame 21 into which an inlay part 22 can be introduced. In this regard, the inlay part 22 can consist of the same material as the floor tiles. It can however also be provided to design the cover differently, for example as an integral part made of metal.

15 The drainage device includes further a receiving frame 24 equipped with an opening 23, which receiving frame in the installed state is inserted in a recess of the receiving part 4. The receiving frame has an upper, peripheral collar 25 and a peripheral surface 26 extending downwardly therefrom in the installed state (see figure 8).

In the shown embodiment example, a peripheral seal 27 is arranged on the inner side of the receiving part 4, which seal seals the receiving frame 24 against the receiving part 4. The seal 27 can be designed as a fixed or loose seal.

20 Alternatively thereto, the receiving frame 24 can have a peripheral seal which is not shown. This could be arranged on the lower side of the collar 25 or on the outer side of the surface 26. Alternatively thereto, the receiving frame 24 can be adhesively bonded into the receiving part 4. To this end, adhesive can be applied to the lower side of the peripheral collar 25 and/or peripherally onto the vertical surface 26.

25 The drainage device includes furthermore an odour trap 28 which is held with its upper edge in the installed state in the opening 23 of the receiving frame 24, wherein the remaining portions of the odour trap 28 protrude downwardly through the receiving frame 24. For holding the odour trap 28, the receiving frame 24 has end-side peripheral shoulders 32 which protrude into the opening 23, and a web 33 which extends centrally transversely (see figure 7). The odour trap 28 has a notch 34 (see figure 1) which matches
30 the web 33, and into which the web 33 can engage.

The opening 23 of the receiving frame 24 is in the form of an elongated oval and is delimited by lateral longitudinal portions 29, 30 (see for example figure 1 and figure 5). Here, the opening 23 is preferably not disposed symmetrically in the receiving frame 24

(see figure 1). It can be seen that the first longitudinal portion 29 has a greater width than the second longitudinal portion 30 (see also figure 7 and figure 8).

As a result of this design, by turning the receiving frame 24 about 180° about the vertical direction the distance of the opening 23 to the wall can be altered. Figure 2a shows the first position of the receiving frame 24, in which the first, wider longitudinal portion 29 is arranged on the side facing away from the wall, and the second, narrower longitudinal portion 30 is arranged on the wall side. In this first position, the opening 23 is thus located comparatively close to the wall.

In particular, the distance a_1 between the wall-side boundary of the opening 23 or the odour trap 28 located in the opening 23 and the decoupling strip 13, which at this level constitutes the outer border of the wall, is smaller than the distance a_2 in the second position. In the second position shown in figure 3a, the second narrower longitudinal portion 30 is arranged on the side facing away from the wall, and the first, wider longitudinal portion 29 is located on the wall side. In this second position, the opening 23 is thus comparatively far distanced from the wall.

In the installation situation according to figure 2a, a thinner wall tile is shown than in the installation situation according to figure 3a. It can be seen that by means of the differently wide longitudinal portions 29, 30 and the different positions of the receiving frame 24 it is guaranteed that the distance b_1 , b_2 between the wall-side border of the opening 23 and the side, on the right in figure 2 to figure 4 or facing away from the wall, of the wall tiles 16 is in both cases sufficiently large in order to remove the odour trap 28 upwardly after the cover 19 has been removed.

Figures 6 to 8 show in each case two different receiving frames 24, 24'. These receiving frames 24, 24' differ by means of different widths both of the first longitudinal portions 29, 29' and of the second longitudinal portions 30, 30'. The receiving frame 24 on the left in figure 7 has with the first longitudinal portion 29 the widest longitudinal portion, which accordingly is able to guarantee a position of the opening 23 which is very far distanced from the wall. The receiving frame 24' on the right in figure 7 has a slightly less wide first longitudinal portion 29', which is able to guarantee a position of the opening 23' which is slightly less far distanced from the wall.

The receiving frame 24' on the right in figure 7 has furthermore a second longitudinal portion 30' which is only slightly narrower, which can guarantee a position of the opening 23' which is arranged still closer to the wall. The receiving frame 24 on the

left in figure 7 has with the second longitudinal portion 30 also the narrowest longitudinal portion, which accordingly is able to guarantee a position of the opening 23 arranged very closely to the wall.

By using different receiving frames 24, 24', the user has thus the option that the distance a_1 , a_2 of the opening 23, 23' or of the odour trap 28 from the wall can be adapted even better to the local conditions.

The installation of a drainage device according to the invention takes place in that in a first method step the drainage housing 1 is mounted on the raw floor prior to the application of the floor screed and is connected to a drainage pipe. Subsequently, the floor screed is applied to the raw floor such that the inlet collar and the grating are surrounded at least in sections by the floor screed. Subsequently, the entire floor and wall area, including the drainage parts already mounted, are sealed.

The drainage channel 9 is mounted abutting on the plastered wall, in particular together with sealing strips 14. The wall tiles 16 are applied, adjoining thereon, as a result of which the vertical leg 9a of the drainage channel 9 can, where appropriate, be covered.

The receiving frame 24 is inserted such that the wall-side end of the odour trap 28 to be inserted into the receiving frame 24 has in a horizontal direction a sufficient distance b_1 , b_2 from the outer side of the wall tiles 16 that it can still be removed upwardly. Alternatively, from a plurality of receiving frames 24, 24' is selected a suitable receiving frame 24, 24' which guarantees the removability of the odour trap 28 in the suitable position.

Subsequently, the receiving frame 24, 24' is adhesively bonded, or fastened via seals 27, in the receiving part 4 or the upper side of the overrun housing 1. The odour trap 28 is inserted and the cover 19 is loosely laid on the upper side of the odour trap 28. Subsequently, the floor tiles 20 can be worked in and fitted to the cover 19.

By means of this design it is guaranteed that, despite the installation of the drainage device very close to the wall, the odour trap 28 can be removed at any time after removal of the cover 19 and can be cleaned.

Figure 9 shows the drainage device in the installed state. In figure 9, a drainage channel 9 according to the invention, the cover 19, the slot-shaped drainage opening 18 as well as the wall tiles 16 and the floor tiles are visible. It can in particular be seen that the cover is arranged only in the central region of the drainage channel 9.

Figure 10 and figure 15 show that the depicted embodiment of a drainage channel 9 according to the invention is divided in a longitudinal direction into three portions 35, 36, 37. Here, in the installed state, the central portion 36 is located in the region of the water inlet opening 3, in contrast to which the outer portions 35, 37 are arranged outside the region of the water inlet opening 3 or of the cover 19.

In the central portion 36, the drainage channel 9 has a substantially L-shaped cross-section, with the leg 9a, vertical in the installed state, which protrudes upwardly into the wall construction 10 or culminates beneath the lowest wall tile 16, and a horizontal leg serving as a channel floor 9b. In the central portion 36, thus, the water can emerge directly horizontally to the side out of the drainage channel 9, because in the central portion 36 no side wall 9c is provided situated opposite the vertical leg 9a.

Thus, in the central region 36, the side wall 9c, which is provided in the two outer portions 35, 37 and which is formed from the quarter-circle-shaped portion extending upwardly, is cut out or omitted (see figure 10 and figure 17). Furthermore, in the central portion 36, also the horizontal connecting portion 9d which extends horizontally below the floor tiles 20 is omitted.

The connecting portion 9d provided in the outer portions 35, 37 has openings 38 through which tile adhesive can pass, in order to fasten the drainage channel 9 on the upper side of the floor screed or sealing layers arranged thereon.

The channel floor 9b has in the two outer portions 35, 37 a decline in a longitudinal direction towards the central portion 36.

Figure 16 shows that the depicted embodiment of the drainage channel 9 consists of two parts 39, 40 connected to one another. The first part 39 comprises two portions, outer in figure 16, of the vertical leg 9a, which transition into one another at the top by folding, as well as an upper portion of the channel floor 9b and the side wall 9c. The second part 40 includes a portion, inner in figure 16, of the vertical leg 9a, a lower portion of the channel floor 9b and the connecting portion 9d. Here, the portion, belonging to the second part 40, of the vertical leg 9a extends between the two portions, belonging to the first part 39, of the vertical leg 9a (see figure 16).

The formation of the drainage channel 9 from the two described parts 39, 40 offers manufacturing benefits, because the two parts 39, 40 can be manufactured separately from one another and can be joined together in a comparatively simple manner to form the drainage channel 9.

Figures 11 to 14 show an embodiment of a simply constructed drainage device in which the odour trap 28 cannot be installed into different positions. Furthermore, the vertical leg 9a does not protrude behind the lowest wall tiles 16 into the construction of the sealing strips but rather culminates below the lowest wall tile 16.

Figure 11 and figure 12 show the drainage device in the region of one of the outer portions 35, 37 of the drainage channel 9. In this region, water can admittedly flow through the drainage opening 18 into the drainage channel 9. However, the water cannot flow out laterally because the side wall 9c is provided in this region. The outer side, arranged on the right in figure 12, of the side wall 9c can serve as a support surface for the floor tiles 20.

Owing to the decline of the channel floor 9b, the water runs from the outer portions 35, 37 across said channel floor into the central portion 36 of the drainage channel 9. This central portion 36 of the drainage channel 9 and the region, belonging thereto, of the drainage device are shown in figure 13 and figure 14. In this region, the side wall 9c is not provided, such that the water can pass below the slope 31 of the cover 19 through to the water inlet opening 3.

The drainage channel 9 is according to figures 11 to 14 arranged in an intermediate space between the lower side of the lowest wall tile 16 and the upper side, where appropriate equipped with a sealing, of the floor screed 8. The height H of the drainage channel 9, that is the course from the lower side of the channel floor 9b as far as the upper side of the vertical leg 9a (see for example figure 16) should thus be in particular smaller than approximately 5 cm, preferably smaller than approximately 3 cm.

The drainage channel is according to figure 11 to 14 arranged in an intermediate space between the outer side of the nearest floor tile 20 and the upper surface, where appropriate equipped with a sealing strip 14, of the plaster 12 wall 10. The depth T_2 of the drainage channel 9, that is the course from the rear side, arranged on the left in figure 17, of the vertical leg 9a as far as the outer side, arranged on the right in figure 17, of the side wall 9c should therefore be smaller than approximately 5 cm, preferably smaller than approximately 3 cm. Furthermore, also the depth T_1 of the drainage channel 9, that is the course from the rear side, arranged on the left in figure 17, of the vertical leg 9a as far as the room-side end of the channel floor 9b should therefore be in particular smaller than approximately 5 cm, preferably smaller than approximately 3 cm.

There exists the possibility of providing for the drainage channel 9 a preferably shallow depression in the floor screed 8, into which the drainage channel 9, where appropriate after sealing of the region, can be introduced, at least in sections.

Patentkrav

- 1.** Afløbskanal (9) til en afløbsindretning indrettet mindst delvist i et gulv i et rum, ved siden af en væg (10), idet afløbskanalen (9) er udformet således, at i den installerede tilstand kan der dannes en afløbsåbning (18) i området ved
- 5 underkanten af væggen (10), og idet afløbskanalen (9) omfatter et kanalgulv (9b) og et vertikalt ben (9a), som i den installerede tilstand kan indrettes ved væggen (10), idet afløbskanalen (9) i det mindste i afsnit omfatter en sidevæg (9c), som slutter tæt på kanalgulvet (9b) på den side, der vender væk fra det vertikale ben (9a), idet sidevæggen (9c) i et afsnit (36) af afløbskanalen (9) ikke er tilvejebragt
- 10 eller sænket, således at i dette afsnit (36) kan vand løbe lateralt ud fra kanalgulvet (9b), **kendetegnet ved, at** højden (H) af det vertikale ben (9a) fra dets installerede tilstands øvre ende til undersiden af kanalgulvet (9b) er mindre end 5 cm, at dybden (T_2) af afløbskanalen (9) fra den ende, der vender væk fra kanalgulvet (9b) af det vertikale ben (9a) til den ende, der vender væk fra det
- 15 vertikale ben (9a) af sidevæggen (9c), er mindre end 3 cm, og at sidevæggen (9c) i den installerede tilstand har en højde, som er mindre end højden (H) af det vertikale ben (9a).
- 2.** Afløbskanal (9) ifølge krav 1, **kendetegnet ved, at** afløbskanalen (9) er egnet
- 20 til at monteres på det støbte gulv (8) eller på tætningsmidler på det støbte gulv (8).
- 3.** Afløbskanal (9) ifølge et af kravene 1 eller 2, **kendetegnet ved, at** afløbskanalen (9) har et forbindelsesafsnit (9d), som i den installerede tilstand
- 25 kan indrettes på det støbte gulv (8) eller på tætningsmidler på det støbte gulv (8) og under en gulvflise (20).
- 4.** Afløbskanal (9) ifølge krav 3, **kendetegnet ved, at** forbindelsesafsnittet (9d) har mindst en åbning (38), gennem hvilken fliseklæbestoffet kan gå igennem.
- 30
- 5.** Afløbskanal (9) ifølge et af kravene 1 til 4, **kendetegnet ved, at** afsnittet (36) i hvilket vandet kan løbe ud lateralt fra kanalgulvet (9b), er et midterafsnit (36) af afløbskanalen (9).

6. Afløbskanal (9) ifølge et af kravene 1 til 5, **kendetegnet ved, at** kanalgulvet (9b) har et fald i længderetningen af afløbskanalen (9), især i et eller to udvendige afsnit (35, 37) har et fald i længderetningen mod et midterafsnit (36).

5 **7.** Afløbskanal (9) ifølge et af kravene 3 til 6, **kendetegnet ved, at** undersiden af kanalgulvet (9b) er indrettet på samme niveau som undersiden af forbindelsesafsnittet (9d).

8. Afløbsindretning som ved siden af en væg (10) kan indrettes mindst delvist i et gulv i et rum, således at især en afløbsåbning (18) kan dannes i området af underkanten af væggen (10), omfattende

- et afløbshus (1), som kan indsættes i gulvet i et rum, hvilket afløbshus har en vandindløbsåbning (3) og kan på en strømningsteknisk måde forbindes med et udløbsrør,
- 15 - såvel som en afløbskanal (9) hvori vand kan løbe ind gennem afløbsåbningen (18), og hvorfra vand kan løbe ud i vandindløbsåbningen (3),

kendetegnet ved, at afløbskanalen (9) er en afløbskanal (9) ifølge et af kravene 1 til 7.

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9. Afløbsindretning ifølge krav 8, **kendetegnet ved, at** afløbsindretningen har en afdækning (19), som i installeret tilstand har en hældning (31) indrettet ved vægsiden, under hvilken i den installerede tilstand vand kan strømme fra afløbskanalen (9) til vandindløbsåbningen (3).

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10. Anordning af en afløbsindretning ifølge et af kravene 8 eller 9 ved siden af en væg (10) mindst delvist i et gulv i et rum, **kendetegnet ved, at** i væggen (10), mellem undersiden af den mindst ene vægflise (16) og gulvniveauet er der indrettet en afløbsåbning (18), som især er udformet som en smal spalte mellem afdækningen (19) og undersiden af mindst en vægflise (16).

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11. Anordning ifølge krav 10, **kendetegnet ved, at** afløbskanalen (9) er indrettet mindst delvist under undersiden af mindst en nederste vægflise (16), og/eller at afløbskanalen (9) er indrettet mindst delvist mellem vægsideenden af mindst en

gulvflise (20) og væggen (10).

12. Anordning ifølge et af kravene 10 eller 11, **kendetegnet ved, at**
afløbskanalen (9) er indrettet på det støbte gulv (8) eller på tætningsmidler på
5 det støbte gulv (8).

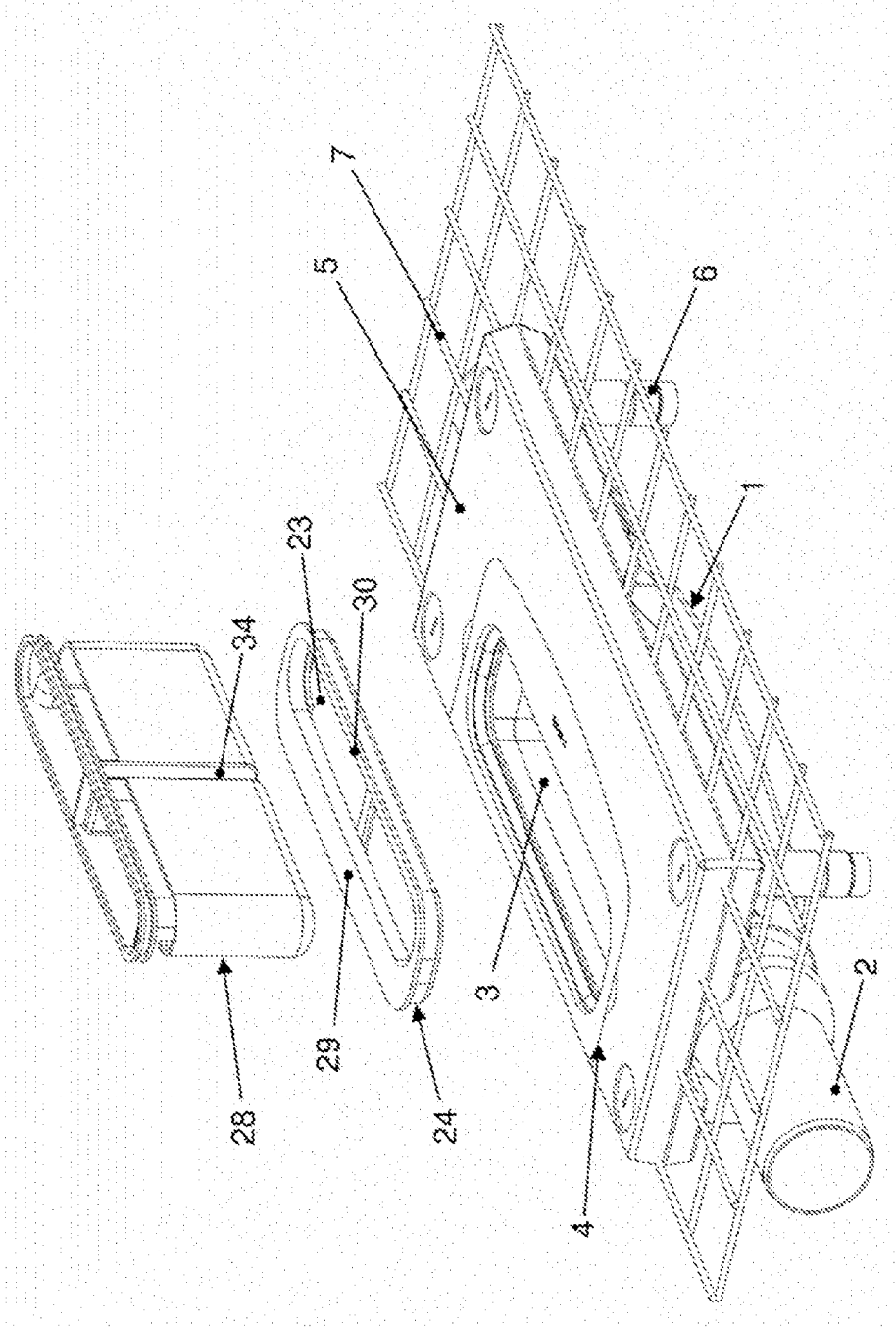


Fig. 1

Fig. 3

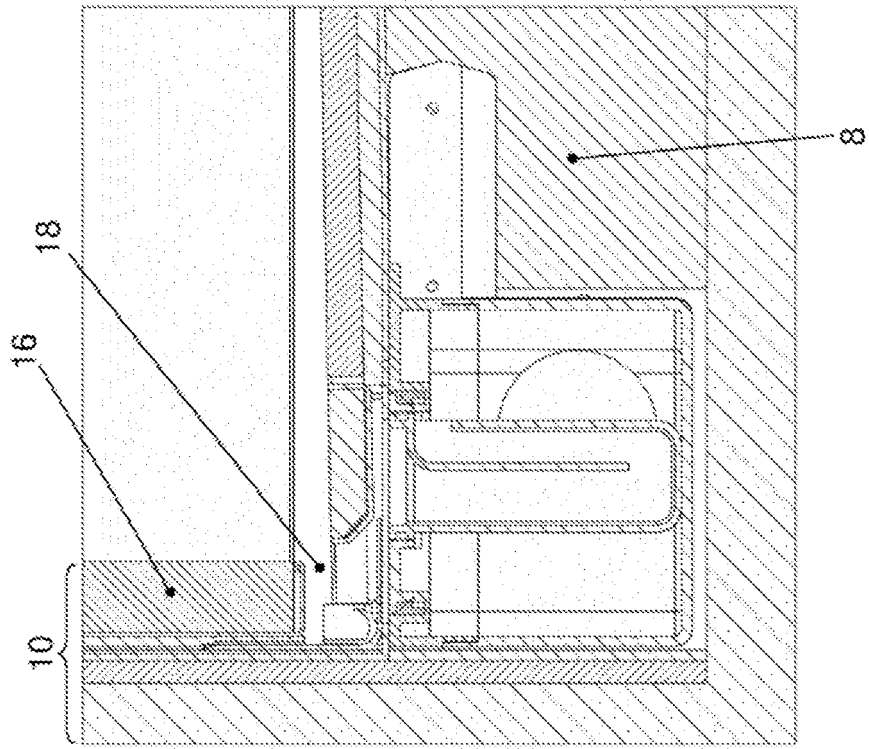
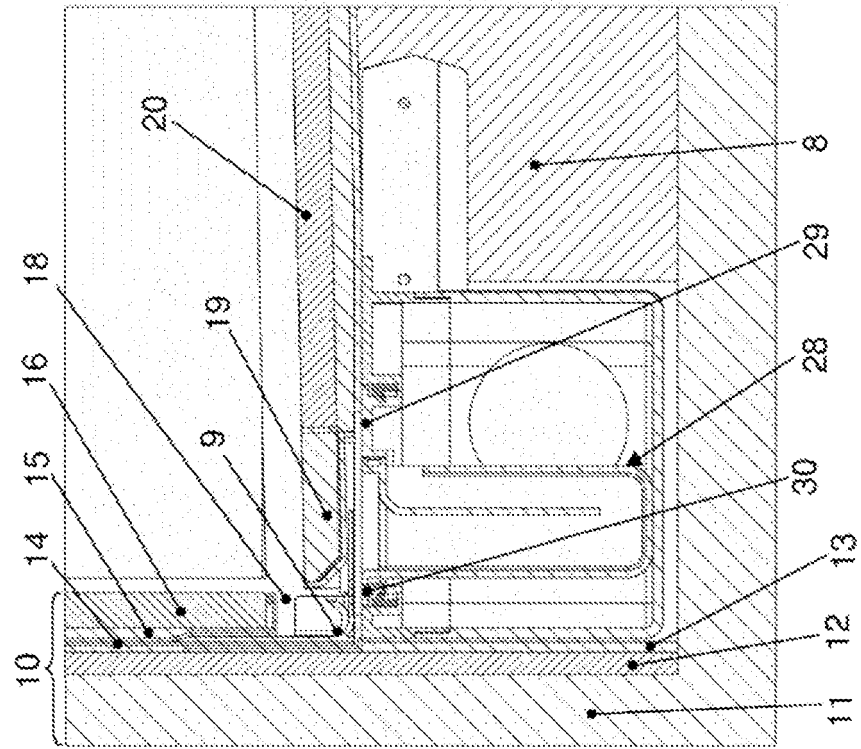


Fig. 2



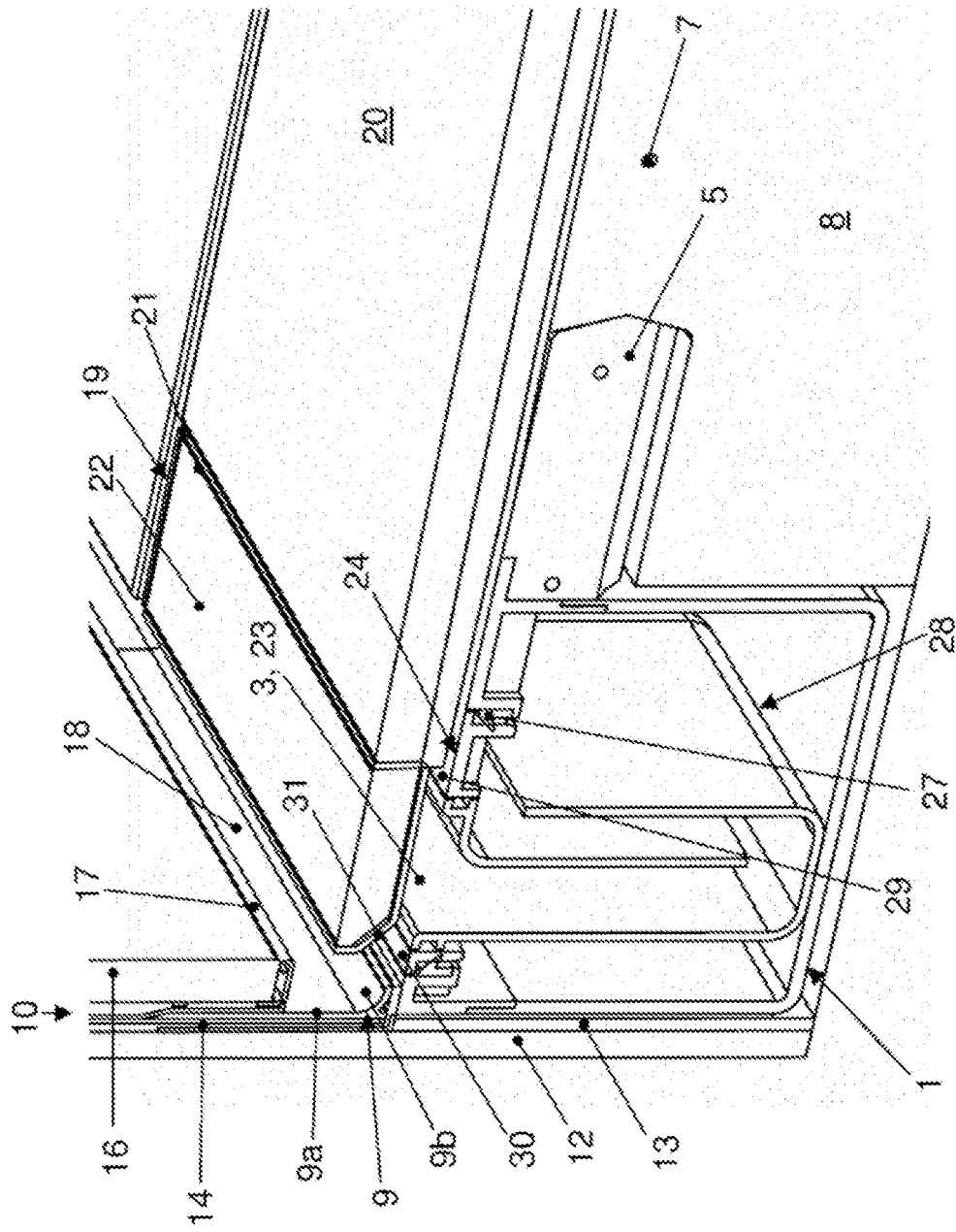


Fig. 4

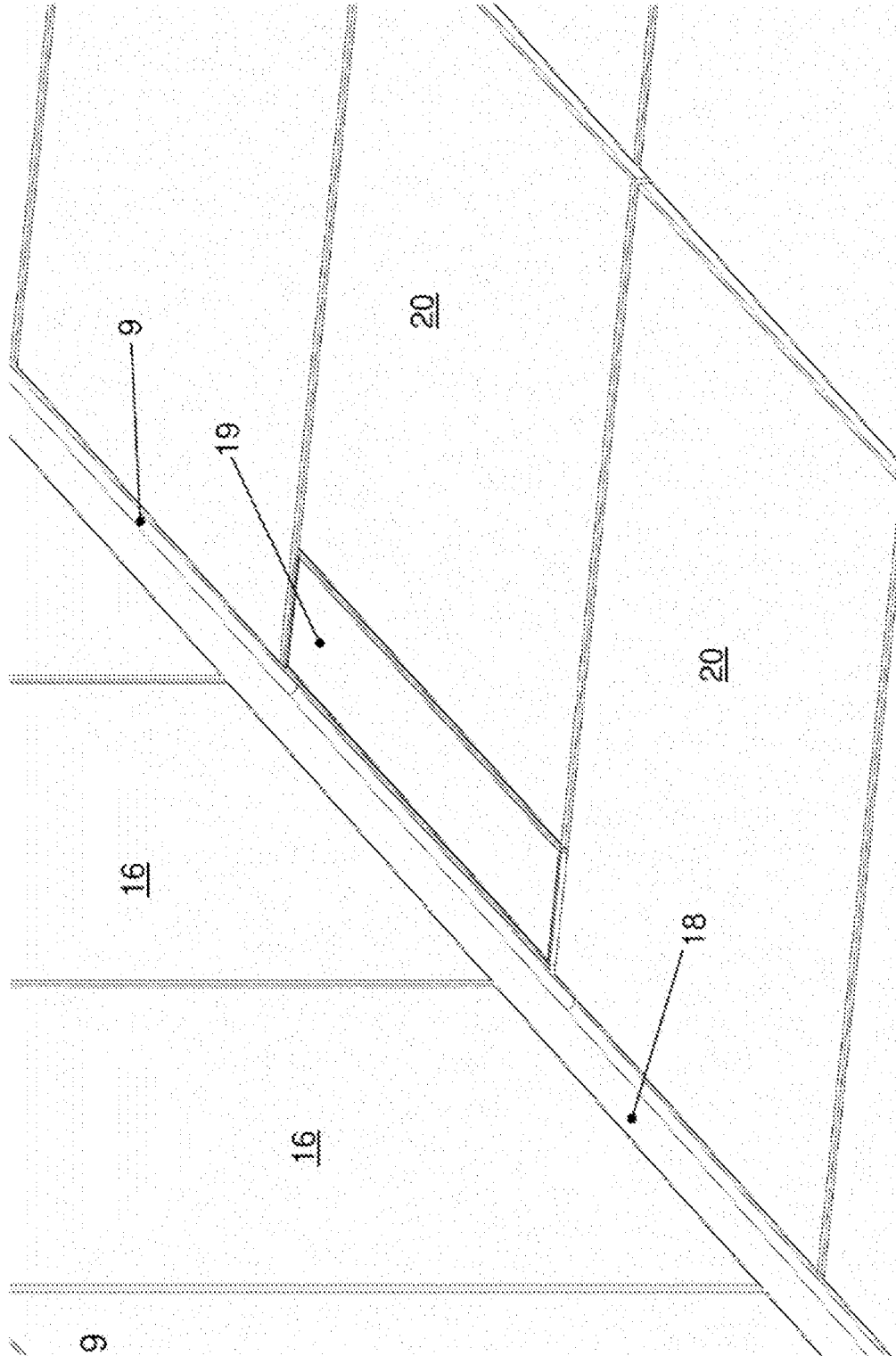
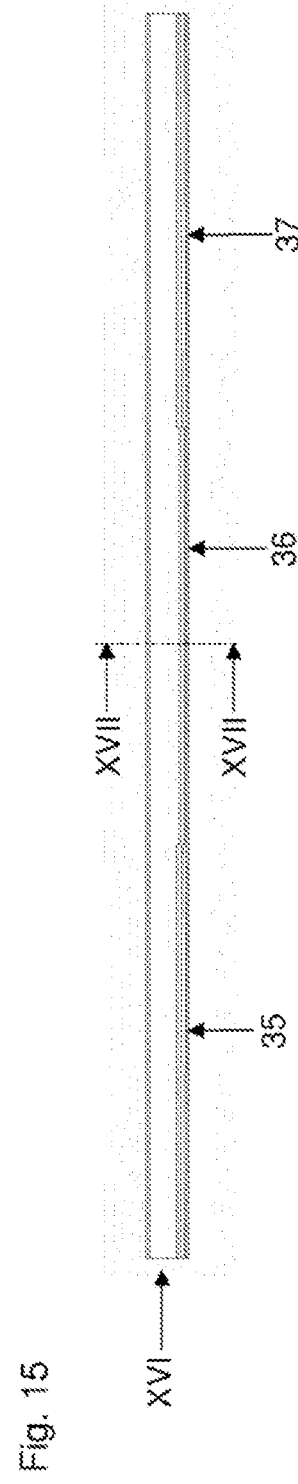
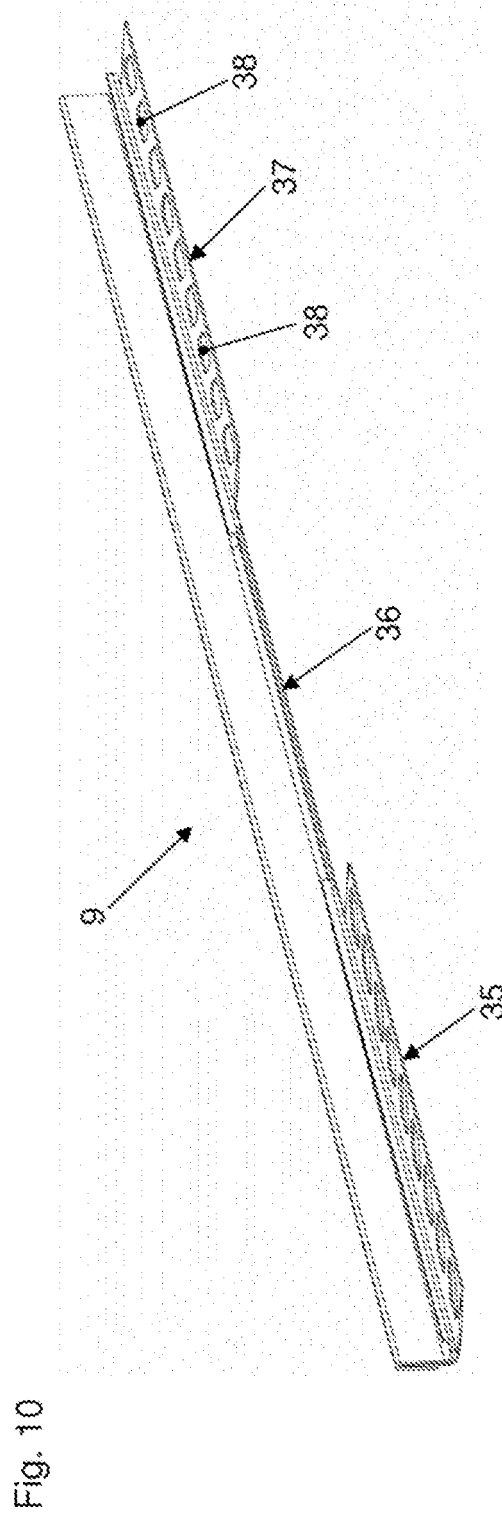


Fig. 9



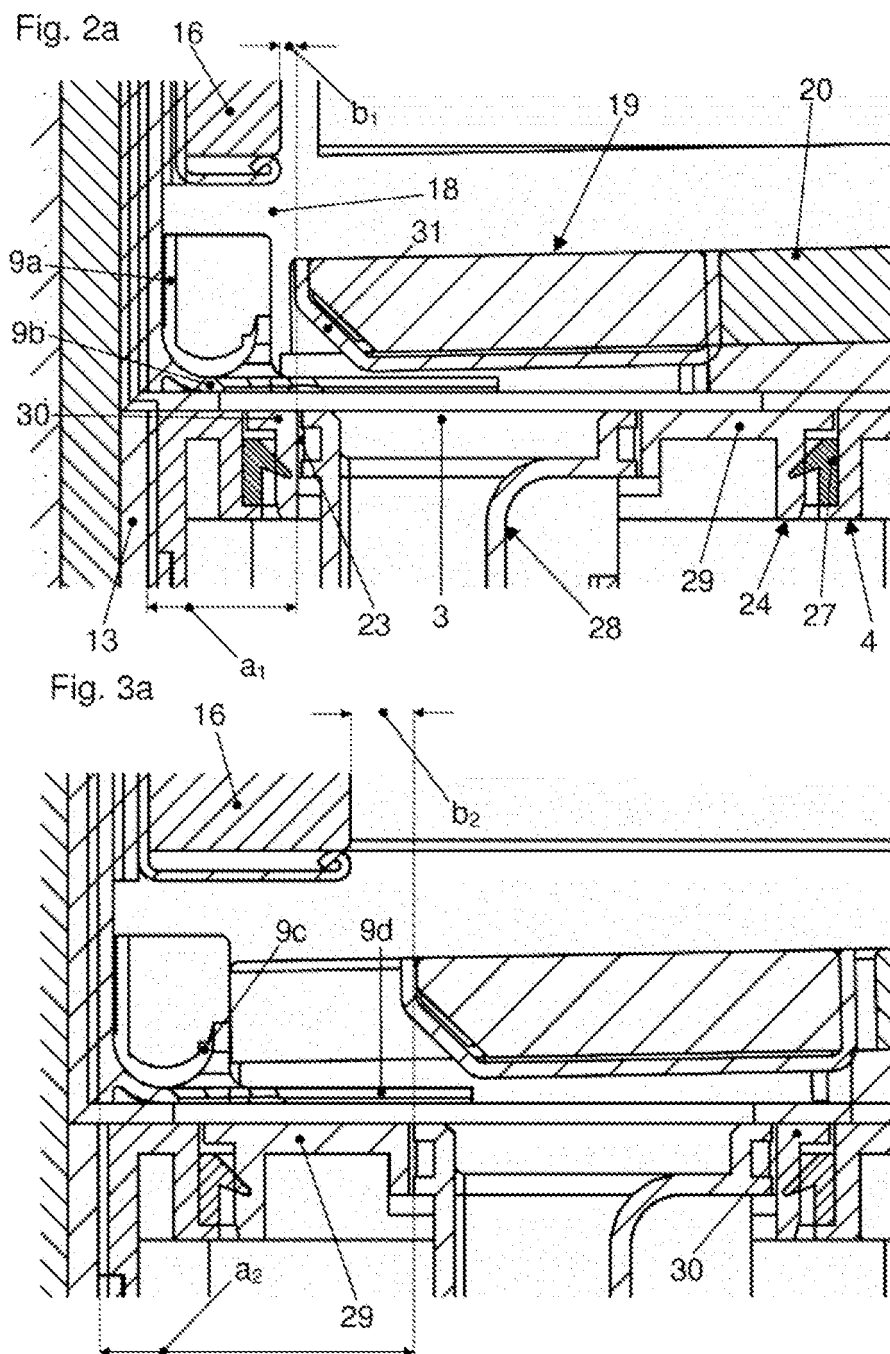


Fig. 5

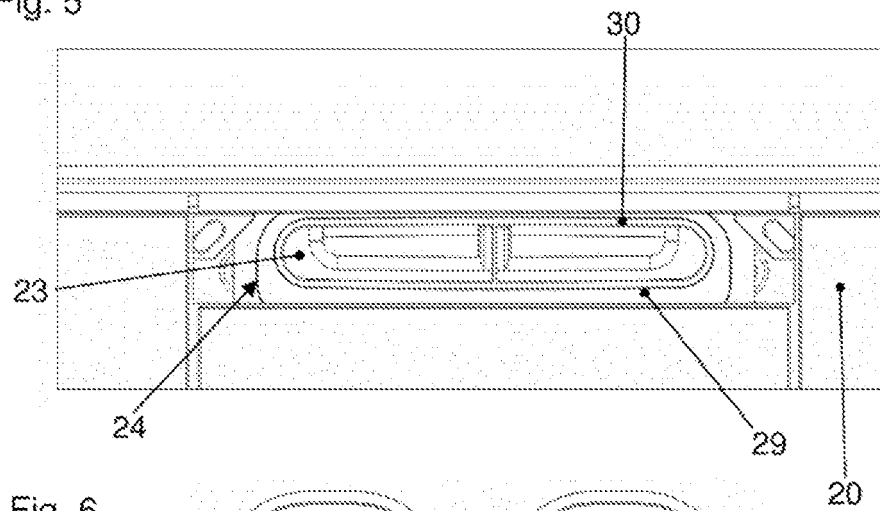


Fig. 6

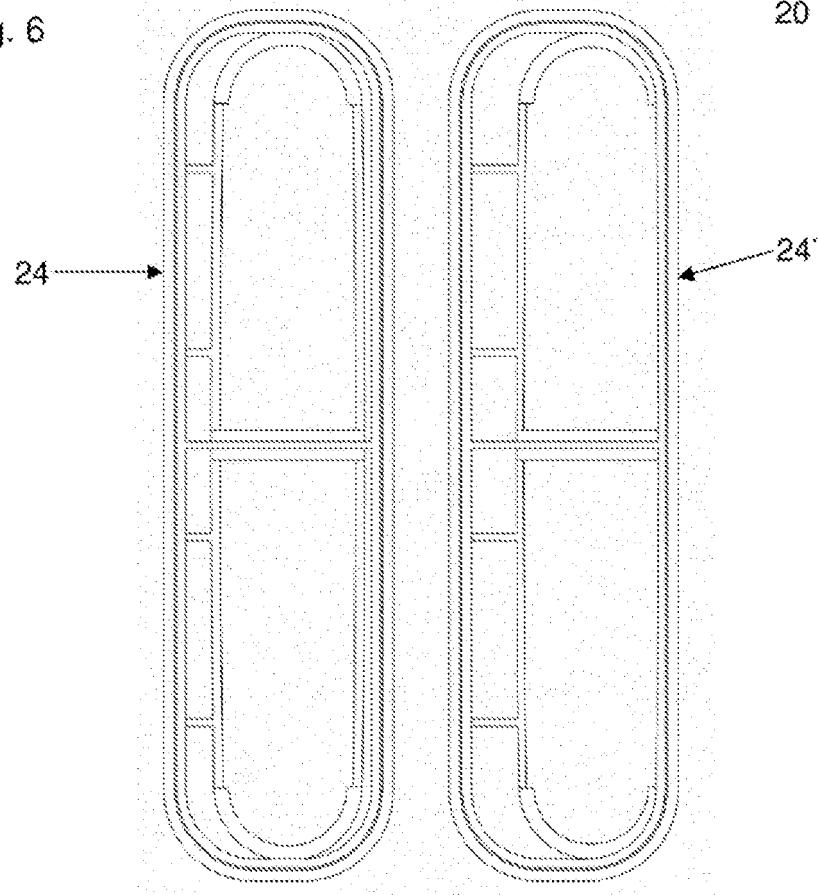


Fig. 7

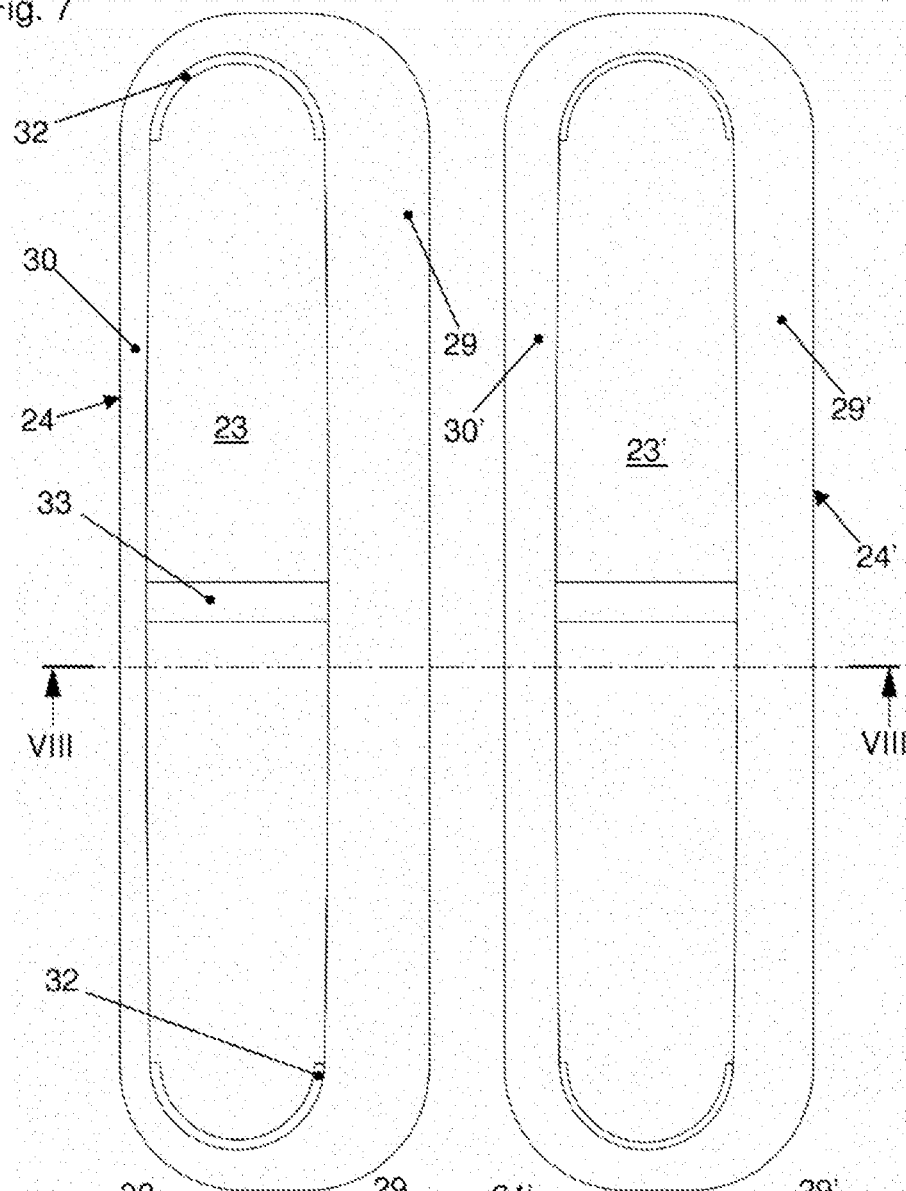


Fig. 8

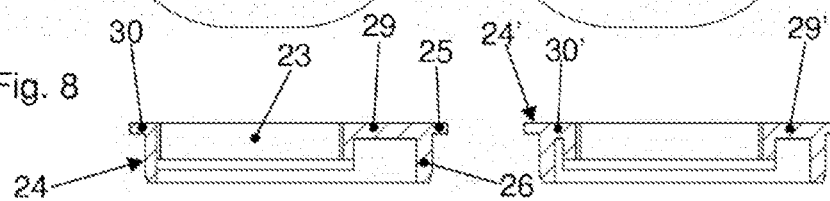


Fig. 11

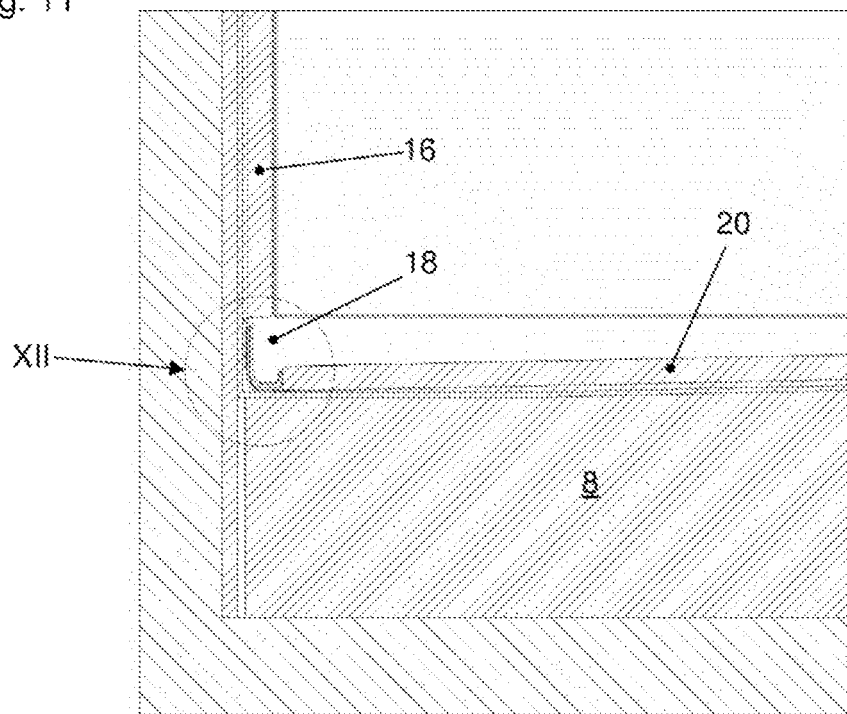


Fig. 12

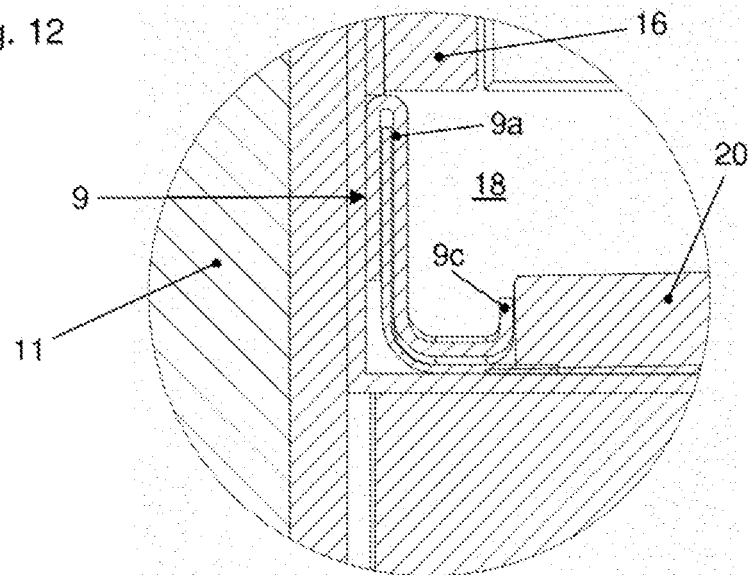


Fig. 13

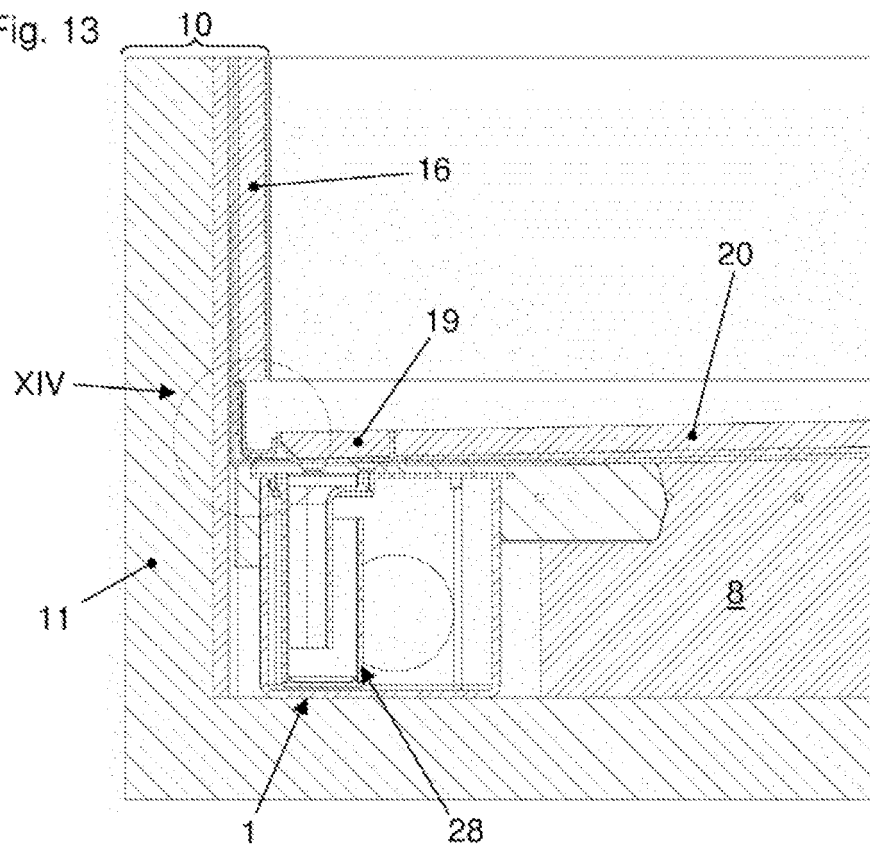


Fig. 14

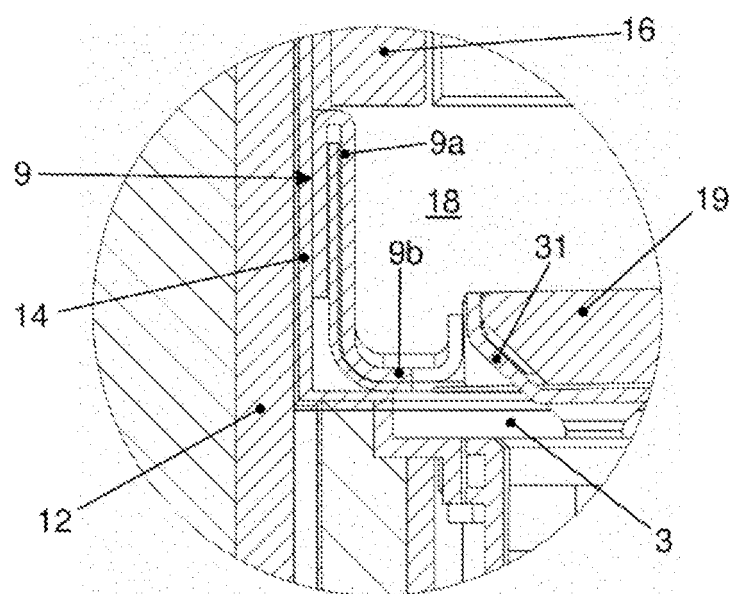


Fig. 16

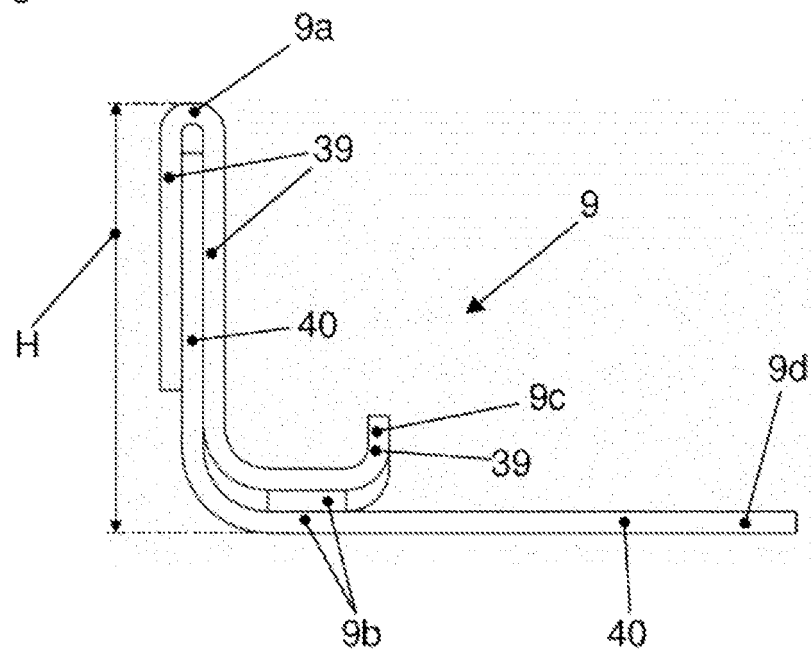


Fig. 17

