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(54) **Drain**

(57) The invention relates to a drain, provided with
- an inlet opening for carrying liquid for draining into the drain;
- an outlet space which is connected to an outlet opening;
and
- one or more unidirectional seals incorporated in the

drain and configured to together close the connection in a starting position, and configured to move into a free passage position under the influence of liquid for draining that is present, wherein the one or more unidirectional seals allow passage of the liquid for draining to the outlet space via a passage opening.

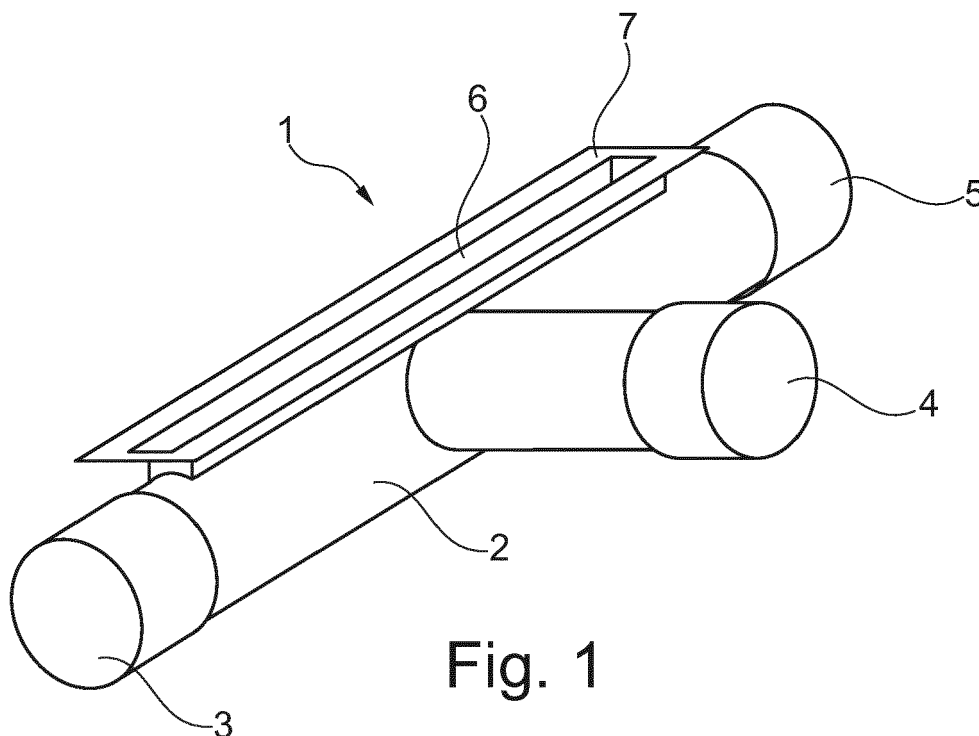


Fig. 1

Description

[0001] The invention relates to a drain provided with an inlet opening for carrying liquid for draining into the drain and an outlet space which is connected to an outlet opening.

[0002] A siphon which seals the outlet pipe against stench nuisance is usually provided between the outlet opening and the outlet pipe. As a result additional space has to be made in the floor close to the outlet opening in order to accommodate the siphon. It is also known to integrate the siphon into the drain. In the case of integration into the drain the height of the drain increases and more space is required in the floor for the drain.

[0003] The operation of a usual siphon is based on the presence of a water seal. According to the applicable regulations such a water seal has to have a determined minimum height, in particular more than 5 centimetres. The height of a siphon is hereby easily 7 to 8 centimetres, while the diameter of an outlet pipe is no more than about 4 or 5 centimetres. It is therefore the siphon which usually determines the overall depth of a drain.

[0004] In some cases there is not enough space in the floor for a siphon.

[0005] Evaporation of the water from the water seal can moreover take place, for instance when the drain is not used for some time. Once the water has evaporated from the water seal, odour from the outlet pipe can escape through the siphon.

[0006] There is further a trend in drains to make the inlet opening as narrow as possible. When the siphon now has to be cleaned or access has to be gained to the outlet pipe, it is sometimes no longer possible because of the narrow inlet opening to remove the removable part of the siphon via the inlet opening.

[0007] It is also known to arrange silicone seals in the outlet pipe. These seals reduce the throughflow area of the outlet pipe, thereby reducing the drainage capacity. It is now possible to increase the diameter of the outlet pipe at the position of this seal, although this in turn increases the overall depth and size.

[0008] It is an object of the invention to provide a drain wherein the above stated drawbacks are reduced or even obviated.

[0009] This objective is achieved according to the invention with a drain provided with

- an inlet opening for carrying liquid for draining into the drain;
- an outlet space which is connected to an outlet opening; and
- one or more unidirectional seals incorporated in the drain and configured to together close the connection in a starting position, and configured to move into a free passage position under the influence of liquid for draining that is present, wherein the one or more unidirectional seals allow passage of the liquid for draining to the outlet space via a shared passage

opening.

[0010] Liquid which is carried via the inlet opening into the drain enters the outlet space because the one or more unidirectional seals move into free passage position due to the presence of this liquid. The one or more unidirectional seals are thus unidirectional seals which can be operated by liquid for draining. The liquid is drained from the outlet space via the outlet opening. In the starting position the one or more unidirectional seals together close the connection between the outlet opening and the inlet opening. With the one or more unidirectional seals in the starting position gas with an unpleasant odour in the outlet space can no longer diffuse through the inlet opening to the outside because of the closed connection. Gas with an unpleasant odour which can no longer diffuse to the outside through the inlet opening will no longer enter the space in which the drain is arranged for the purpose of draining liquid. Despite the connection between the outlet opening and the outlet space, gas with an unpleasant odour can therefore no longer diffuse through the inlet opening from the outlet opening, and so also not from an outlet pipe connected thereto, via the closed part of the connection. When there is overpressure in the outlet space relative to the pressure in the inlet opening, the throughflow of fluids (gases and liquids) from the outlet opening to the inlet opening is prevented because a unidirectional seal is used.

[0011] Because the one or more unidirectional seals are incorporated in the drain and not in the outlet pipe, the throughflow capacity of the one or more unidirectional seals does not depend on the size of the outlet pipe and it is possible to opt for a greater capacity, whereby the resistance to liquid flowing away through the drain decreases and the capacity for draining liquid thus increases. In such a case the surface area of the passage opening is preferably greater than the surface area of the outlet opening.

[0012] The full throughflow capacity of the outlet pipe can moreover be used, which is not the case if a silicone seal is present in this same opening. This is advantageous because outlet pipes are incorporated in the floor and therefore usually have a small diameter and consequently also a small drainage capacity. Of the outlet pipe, although it is possible to opt for a greater capacity. It is of course possible in the prior art to enlarge the diameter of the outlet pipe in order to achieve the same throughflow. This however requires additional operations and increases the overall depth and size of the outlet pipe and drain.

[0013] Because the diffusion of gas is prevented by the drain there is less need for a siphon. If a siphon is omitted the drain can be connected to an outlet pipe, wherein little overall height is necessary for the drain. If the siphon is omitted it is moreover no longer possible for the siphon to become empty due to underpressure in the outlet pipe or due to evaporation of liquid from the water seal of the siphon. If the siphon is omitted the si-

phon no longer forms a hindrance to the drainage capacity, while it is precisely the presence of a siphon which limits the drainage capacity because the siphon provides resistance to a free throughflow. In the absence of a siphon the problem of cleaning the siphon, optionally via a narrow inlet opening in the drain, is of course also obviated.

[0014] There is also less need for a seal in the outlet pipe. When a seal is omitted from the outlet pipe, the full throughflow capacity of the outlet pipe can be used. Because outlet pipes are incorporated in the floor they usually have a small diameter, and consequently also a small drainage capacity. Because a unidirectional seal is incorporated in the drain the throughflow capacity of the unidirectional seal does not depend on the throughflow capacity of the outlet pipe and it is possible to opt for a greater capacity. Because the one or more unidirectional seals are incorporated in the drain, they lie closer to the inlet opening and can be pressed aside more easily. Furthermore, access to the outlet space and the outlet opening can hereby be gained in simple manner.

[0015] The one or more unidirectional seals can be of different materials and return to the starting position on the basis of different principles. They can thus be hard material such as PVC and rotate away about a shaft under pressure load of liquid for draining that is present. Linear movements of the one or more unidirectional seals are also possible.

[0016] A drain is usually elongate, although the direction along which a drain according to the invention extends can also have a curved form and even a closed form, and for instance run in a circular form for the purpose of fully enclosing a shower space or shower cubicle.

[0017] In a preferred embodiment of the invention the connection extends along the direction in which the drain extends.

[0018] The manufacture of the drain is simple because the connection extends along the direction in which the drain extends. It is moreover easy in this way to find space for one or more unidirectional seals which are together sufficiently large to have a passage opening with a surface area greater than the surface area of the outlet opening.

[0019] In a preferred embodiment of the invention the connection and the drain extend in elongate form.

[0020] An elongate drain is easy to produce, for instance via extrusion. An elongate connection in this drain is easy to produce, for instance during the extrusion of the elongate drain or by milling or sawing an elongate opening in the wall of an elongate drain.

[0021] In a preferred embodiment of the invention each of the unidirectional seals comprises an elastically bendable flap configured to bend to the free passage position under pressure from liquid for draining and to bend back elastically in the direction of the starting position in the absence of pressure from liquid for draining.

[0022] Because the elastically bendable flap bends elastically, it acquires a curve during bending along which

the liquid runs and the necessity of an abrupt change in direction of the liquid as it approaches the seal is therefore small, and there is only a low risk of fouling, such as hairs, being left behind. When there are abrupt changes in direction there is after all a risk of locations where the throughflow speed is low, which is precisely how fouling gets left behind. Examples of materials from which the elastically bendable flap can be manufactured are natural and synthetic rubber and silicone or other flexible and resilient materials, including elastomers having a shape memory. The elastically bendable flap can have a uniform or non-uniform thickness in order to thus vary the quantity of water at which the one or more unidirectional seals move out of the starting position and no longer close the connection.

[0023] In a further preferred embodiment of the invention the drain comprises a closing surface which is partially enclosed by the connection and the elastically bendable flap comprises a free edge configured to be pressed against the closing surface in the starting position.

[0024] Because the elastically bendable flap is pressed against the closing surface and the connection partially encloses the closing surface, the closure of the connection becomes more robust and better in the case of higher overpressure in the outlet space than in the inlet opening. There is moreover less chance of stench leakage through the unidirectional seal.

[0025] In a preferred embodiment of the invention the one or more unidirectional seals are removably attached to the drain.

[0026] Because the unidirectional seals are removably attached they can be cleaned or replaced. After removal of the unidirectional seals it is moreover easier to gain access via the inlet opening to the outlet space for cleaning thereof and to an outlet pipe connected to the outlet opening for cleaning or unblocking thereof. The one or more unidirectional seals can be removably attached via fixing means such as screws, but for instance also by means of adhesion.

[0027] In a preferred embodiment of the invention the one or more unidirectional seals are arranged on a removable profile.

[0028] Because the profile is removable it is possible to remove the one or more unidirectional seals, for instance in order to gain access to the collecting tray for cleaning thereof and to an outlet pipe connected to the outlet opening for cleaning or unblocking thereof.

[0029] Arranging the one or more unidirectional seals on the profile makes it possible to manufacture the drain and only later, for instance during installation of the drain, to determine the position of the inlet opening and arrange the one or more unidirectional seals via the inlet opening.

[0030] In a preferred embodiment of the invention the one or more unidirectional seals comprise a unidirectional seal with a first free end and a further unidirectional seal with a further free end, configured to lie with the free end and the further free end against each other in the starting position.

[0031] Using the unidirectional seal and a further unidirectional seal lying with their respective first free end and further free end against each other when there is no water to drain (i.e. in the starting position) makes it possible to close different sizes of connection with standard sizes of unidirectional seal. The ends lying against each other here ensures a robust and certain seal with little risk of stench leakage between the unidirectional seal and the further unidirectional seal.

[0032] In a further embodiment of the drain according to the invention the unidirectional seal and the further unidirectional seal are elongate and each have two outer ends, and the unidirectional seal and the further unidirectional seal are clamped between a wedge and a wedge block at each of the two outer ends.

[0033] Clamping the elongate unidirectional seal and the further unidirectional seal between wedges and wedge blocks makes them very simple to arrange and remove by simply pressing on or removing the wedge. If desired the unidirectional seal and the further unidirectional seal can be clamped under tensile stress, whereby it is possible to vary the pressure at which they open in the presence of water for draining.

[0034] In an embodiment of the invention the drain is formed from an outlet pipe, wherein the inlet opening is arranged in the wall in longitudinal direction. The at least one unidirectional seal is then arranged in this inlet opening. Because the seal is placed in longitudinal direction in the wall of the outlet pipe the throughflow is not limited, as is the case with a seal arranged in the throughflow area as in the prior art. The flow through the seal does not take place axially, as in the prior art, but in an at least partially radial and/or tangential direction.

[0035] Because the throughflow of drains according to the invention is further not limited by a siphon or by a seal arranged in the throughflow area of the outlet pipe, the throughflow speed of the water will be higher, whereby the outlet space of the drain and the conduits remain cleaner. In a prior art siphon with a central outlet opening the water will be collected, whereby the speed is reduced. In the drain according to the invention the water is not carried to a central point but can flow via the unidirectional seals into the outlet space without being substantially decelerated.

[0036] A further advantage of a drain formed from an outlet pipe is that the overall depth is determined only by the diameter of the pipe.

[0037] The drain can moreover be formed in a continuous outlet pipe, whereby different drains can easily be placed in series.

[0038] Although the invention is particularly suitable for a drain, this drain can also be incorporated into a shower plate, shower tray or even a washbasin.

[0039] These and other features of the invention are further elucidated with reference to the accompanying drawings of preferred embodiments.

Figure 1 shows a perspective view of a first embod-

iment of a drain according to the invention.

Figure 2 shows a cross-sectional view of the drain according to figure 1.

Figures 3A-3C show three variants of the embodiment according to figure 1.

Figures 4A-4D show four embodiments of a drain with a collecting tray of rectangular cross-section.

Figure 5 shows the seal at the end of the elastically bendable flaps of the example of figures 4D and 3B.

[0040] The embodiments of figures 1-5 have in common that the flexible flaps are elongate in the direction in which the drain extends. Because they are elongate, the passage opening is larger than the outlet opening of these examples.

[0041] In a first embodiment according to the invention drain 1 is elongate (figure 1). Drain 1 has a tubular collecting tray 2 with connecting openings 3, 4, 5 at the end surfaces and in the centre which can be used as desired as outlet opening for draining water out of the tubular collecting tray 2. Of the connecting openings 3, 4, 5 two or more connecting openings 3, 4, 5 can be in use simultaneously as outlet opening in order to increase the drainage capacity. In an alternative embodiment one or two of the connecting openings 3, 4, 5 are in use to mutually connect different components such as drains in series while making use of only one outlet opening. In another embodiment another element is situated at each outlet opening and one of these other elements is connected to an outlet pipe. It will be apparent that the connecting opening to which this element is connected is deemed the outlet opening for the drain. Connecting opening 4 is used in this embodiment as outlet opening.

[0042] Collecting tray 2 is provided on the upper side with an inlet opening 6 bordered by a horizontal flange 7. A sealing membrane can for instance be arranged on this flange 7.

[0043] Figure 2 shows a cross-sectional view of the embodiment according to figure 1. Arranged in inlet opening 6 is an elastically bendable flap 8 which is arranged with the upper side on a wall 9 adjacently of inlet opening 6. Wall 9 forms together with a further wall 10 a boundary of the connection between the inlet opening and an outlet space 12. The elastically bendable flap 8 is manufactured from silicone. A free lower edge of flap 8 lies in the starting position against a closing surface on the inner side of the tubular collecting tray 2 and can be pressed away by the weight of water flowing in via inlet opening 6. Following inflow via inlet opening 6 the weight presses on the elastically bendable flap 8, whereby it bends to a free passage position in the presence of water for draining. The free passage position is shown in broken lines. In the free passage position a passage opening 11 provides space for passage of liquid for draining. Passage opening 11 is also elongate, as is flexible flap 8. Depending on the extent of bending of flexible flap 8, the surface area of passage opening 11 becomes greater than that of outlet opening 4, among other reasons because of the length

of passage opening 11 in the direction perpendicularly of the figure. The space in the drawing under flexible flap 8 in collecting tray 2 is an outlet space for liquid. In the starting position, drawn in full lines, the elastically bendable flap 8 closes the connection between the outlet space and the inlet opening. Flexible flap 8 hereby functions as a unidirectional seal for the connection between inlet opening 6 and outlet space 12.

[0044] In an alternative embodiment of the invention drain 20 comprises a tubular drain tray 21. A cross-section of this embodiment in use is shown in figure 3A. The drain is elongate and extends in the direction perpendicularly of that of the cross-section. The tubular drain tray 21 comprises a first wall 23 and a second wall 24 which bound an inlet opening 22 on either side. First wall 23 and second wall 24 are provided with a horizontal flange 25 on which the tiles 26 of a finishing floor rest during use.

[0045] Arranged in inlet opening 22 is an elastically bendable flap 27 which is manufactured from silicone and which lies with a first free end 127 against first wall 23 and with a second free end 128 against second wall 24. In the centre of the elastically bendable flap 27 the elastically bendable flap 27 is attached to a bridge part 28 which spans inlet opening 22 in a direction at a right angle to the drawn cross-section.

[0046] The elastically bendable flap 27 functions as unidirectional seal. In the drawn starting position the elastically bendable flap closes a first passage opening on the side of the first free end 127 and a second passage opening on the side of the second free end 128. The tubular drain tray 21 bounds together with the elastically bendable flap 27 an outlet space to an outlet opening (not drawn).

[0047] Provided on the elongate, tubular drain tray 31 in a further alternative embodiment is an elongate inlet opening 32 in which is arranged a profile 33 which lies sealingly against fixed walls 34 of the drain. Profile 33 is removable. This embodiment of a drain 30 according to the invention is shown in figure 3B.

[0048] Arranged on profile 33 at the position of a connection 37 are two elastically bendable flaps 35, 36 which each lie with a free end against each other when they are each in a starting position. Because they lie against each other, they together close connection 37. The two elastically bendable flaps 35, 36 are manufactured from silicone and function as unidirectional seals. Water for draining admitted via inlet opening 32 can press the two elastically bendable flaps 35, 36 apart, after which it can flow into the tubular drain tray 31 via a passage opening then formed between the two elastically bendable flaps 35, 36. The tubular drain tray 31 hereby comprises an outlet space to an outlet opening (not drawn).

[0049] Figure 5 shows how a seal is obtained at the end of the elongate, elastically bendable flaps. The elastically bendable flaps 35, 36 are clamped by a wedge 96 and a wedge block 97 at the two outer ends lying at a distance from each other in the direction in which the elongate drain extends.

[0050] A further embodiment of the invention is formed by a drain 40. This drain is shown in figure 3C. In this embodiment a first wall 43 lies adjacently of an inlet opening 45 and a second wall 44 lying opposite the first wall also lies adjacently of the inlet opening. A first flap 41 and a second flap 42, both manufactured from silicone, are likewise provided in this embodiment. First flap 41 is arranged directly on first wall 43. Second flap 42 is arranged directly on second wall 44. First flap 41 and second flap 42 function as unidirectional seals. The second flap is straight in the starting position and the first flap is bent in the starting position such that it spans the distance between first wall 43 and second wall 44. In their respective starting positions the first flap and the second flap hereby close the whole passage from the outlet space to inlet opening 45. Water for draining, which has been collected by inlet opening 45 and lies between first flap 41 and second flap 42, exerts pressure on first flap 41 and second flap 42, whereby at least one of the two flaps 41, 42 will bend out of the starting position and into a free passage position, drawn in broken lines. In this situation the liquid will flow via a passage opening 47 to an outlet space in collecting pipe 46 and from here to an outlet opening (not drawn). The asymmetrical initial shapes of first flap 41 and second flap 42 can impart direction to the water flowing into collecting pipe 46, which can improve the further drainage of water.

[0051] Figure 4A shows another embodiment of drain 50 according to the invention, once again during use. Drain 50 has a collecting tray with a bottom 51, upright walls 52 and a horizontal flange 53. Provided in bottom 51 of the collecting tray is an outlet opening to which an outlet pipe 54 is connected.

[0052] A sealing membrane 55 on which tiles 56 are arranged is provided on horizontal flange 53.

[0053] Provided in inlet opening 57 of collecting tray 51, 52, 53 is a height-adjustable adjusting frame 58 which seals against walls 52. Further provided in inlet opening 57 is a bridge part 59 on which an elastically bendable flap 60 is arranged. The elastically bendable flap 60 is manufactured from silicone. This elastically bendable flap 60 has a free end 61, 62 on either side of bridge part 59. In the starting position the free ends lie against adjusting frame 58. In free passage position a free end 61 lies clear, or both free ends lie clear, of adjusting frame 58. The figure shows that a free end 61 lies clear of adjusting frame 58, wherein a passage opening 63 is formed. Adjusting frame 58 is arranged as padding. This is advantageous if, without padding, walls 52 were to lie too far away for a good sealing by flexible flap 60, and gas could for instance leak past flexible flap 60 to inlet opening 57 from the outlet space in the drain for the liquid for draining downstream of the elastically bendable flap 60.

[0054] Figure 4B shows an alternative embodiment of drain 70. This embodiment 70 has a collecting tray 71 with an outlet opening to which an outlet pipe 72 is connected. A bridge part 74 having a U-shaped cross-section

with two legs is arranged in inlet opening 73 of drain 70. Arranged on the mutually facing sides of the legs of this U-shape are elastically bendable flaps 75, 76 which lie with free ends in a direction toward each other against the bottom of collecting tray 71. In the drawn starting position the surface of each elastically bendable flap 75, 76 forms a connection between inlet opening 73 and an outlet space 77 enclosed by the U-shaped bridge part, the elastically bendable flaps and the bottom of collecting tray 71. The elastically bendable flaps are manufactured from silicone. The inner side of bridge part 74, the elastically bendable flaps 75, 76 and the bottom of the drain tray form an outlet space for draining liquid to outlet opening 72. During use the water supplied through inlet opening 73 lifts the elastically bendable flaps 75, 76 out of the drawn starting position to a free passage position. The free passage position is shown with broken lines. This creates a passage opening 78 through which the liquid can flow into the outlet space. Figure 4B shows a cross-section of the drain perpendicularly of the direction in which the drain extends. The passage opening is elongate in the same direction and has a surface area greater than outlet opening 72.

[0055] Figure 4C shows a further alternative embodiment of a drain 80 according to the invention. Drain 80 likewise has a collecting tray 81 with an outlet opening to which an outlet pipe 82 is connected. A grating 83 with a number of inlet openings 84 is arranged in collecting tray 81. Grating 83 here seals against collecting tray 81.

[0056] Below the upper side of grating 83 elastically bendable flaps 85, 86 are attached on either side of a connection 87 such that in the starting position the free ends of the elastically bendable flaps 85, 86 are in contact with each other. This position is drawn in figure 4C. Further pairs of elastically bendable flaps lie at other locations along the longitudinal direction of drain 80. These further pairs of elastically bendable flaps overlap each other in the starting position in the same way as the above stated elastically bendable flaps 85, 86. The pairs moreover overlap in the manner of roof tiles in the direction in which the drain extends. The elastically bendable flaps 85, 86 are manufactured from silicone, as are those in the further pairs. When water falls via inlet openings 84 onto the elastically bendable flaps 85, 86 the free outer ends will be pressed apart so that the water can be drained via an outlet space to the outlet opening.

[0057] In the starting position each of the elastically bendable flaps 85, 86 and the further pairs close a part of the connection between the outlet space and inlet openings 84. Because the free ends are in mutual contact, they together close the whole connection between the outlet space and inlet openings 84.

[0058] Figure 4D shows a further embodiment of a drain 90 according to the invention. Drain 90 once again has a collecting tray 91 with a grating 92 therein. This grating 92 lies against the upright walls of collecting tray 91. Figure 4D shows a cross-section perpendicularly of the direction in which the elongate drain extends.

[0059] One or more inlet openings 93 are provided in grating 92. Arranged on either side of inlet openings 93 are downward directed, elongate elastically bendable flaps 94, 95 with the free ends lying against each other in a starting position. The downward directed elastically bendable flaps 94, 95 are manufactured from silicone. When liquid flows through one or more of the inlet openings onto the downward directed elastically bendable flaps 94, 95, at least one of the flaps will bend to a free passage position, whereby the liquid will flow into the outlet space lying below.

[0060] In the starting position each of the elastically bendable flaps 94, 95 closes a part of the connection between the outlet space and inlet openings 93. Together they close the whole connection in the starting position and thus ensure a complete seal against stench.

[0061] Figure 5 also shows for this exemplary embodiment how a seal is obtained at the end of the elongate, elastically bendable flaps. The elastically bendable flaps 94, 95 are clamped by a wedge 96 and a wedge block 97 at both outer ends lying at a distance from each other in the direction in which the elongate drain extends.

[0062] Only examples of embodiments are described in the foregoing. The described examples are intended by way of illustration, not limitation. The skilled person will therefore appreciate that the invention also has other embodiments which are also in accordance with the teaching of the invention.

[0063] It is thus possible for instance that, while the unidirectional seal serves to close an elongate inlet opening, it is attached at right angles to the longitudinal direction of the inlet opening and bends in the longitudinal direction.

[0064] In all the above examples the flexible bendable flaps are manufactured from silicone. It is possible according to the invention that a material other than silicone is used to manufacture a flexible bendable flap.

Claims

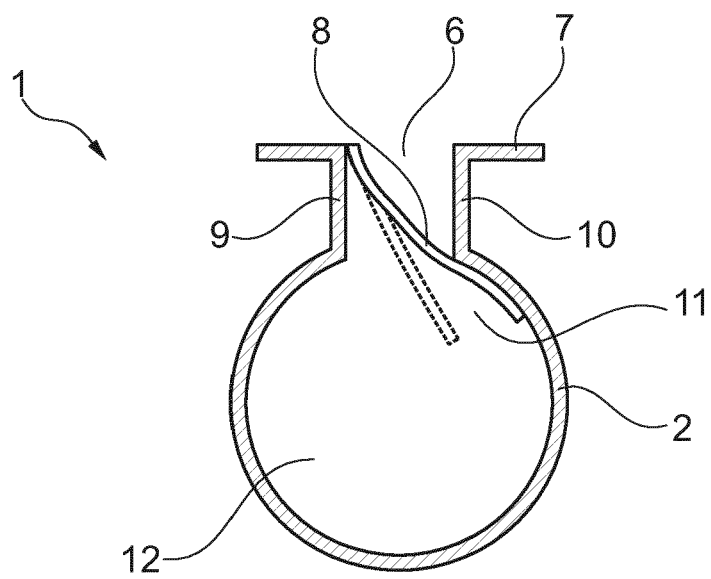
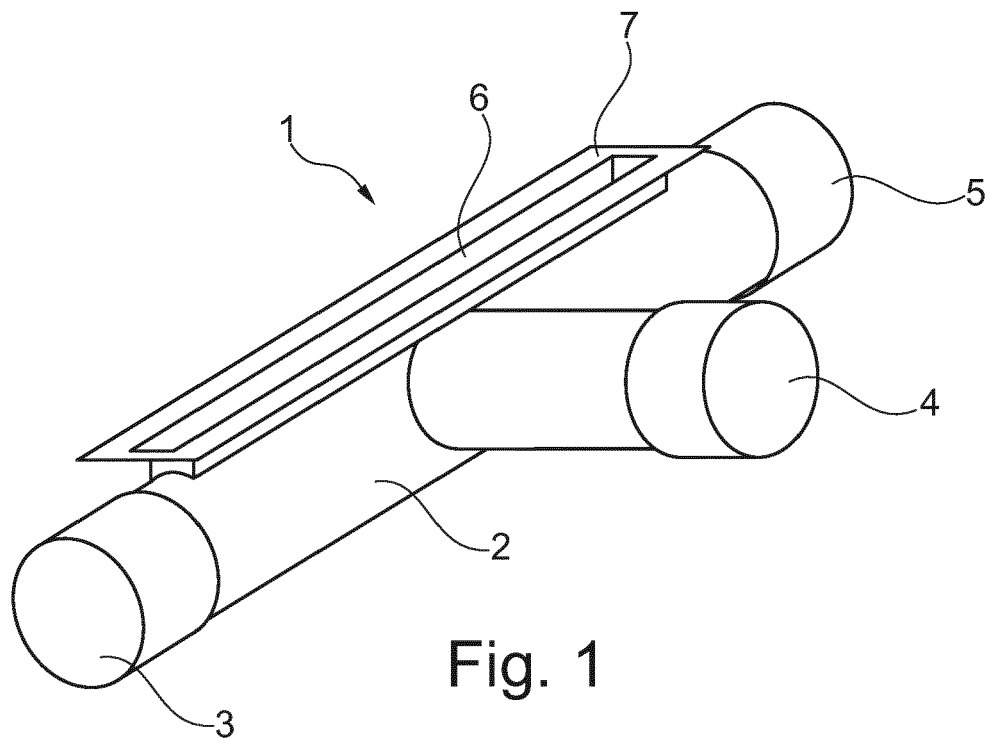
1. Drain (1,20,30,40,50,70,80,90) provided with

- an inlet opening (6) for carrying liquid for draining into the drain;
- an outlet space which is connected to an outlet opening (3,4,5); and
- one or more unidirectional seals (8,27,35,36,41,42,60,75,76,85,86,94,95) incorporated in the drain and configured to together close the connection (37,87) in a starting position, and configured to move into a free passage position under the influence of liquid for draining that is present, wherein the one or more unidirectional seals allow passage of the liquid for draining to the outlet space via a passage opening (11, 47, 63).

2. Drain as claimed in claim 1, wherein the connection extends along the direction in which the drain extends.
3. Drain as claimed in claim 2, wherein the connection and the drain extend in elongate form. 5
4. Drain as claimed in claim 1, 2 or 3, wherein each of the one or more unidirectional seals comprises an elastically bendable flap (8) configured to bend to the free passage position under pressure from liquid for draining and to bend back elastically in the direction of the starting position in the absence of pressure from liquid for draining. 10
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5. Drain as claimed in claim 4, wherein the drain comprises a closing surface which is partially enclosed by the connection and the elastically bendable flap comprises a free edge configured to be pressed against the closing surface in the starting position. 20
6. Drain as claimed in any of the foregoing claims, wherein the one or more unidirectional seals are removably attached to the drain. 25
7. Drain as claimed in any of the foregoing claims, wherein the one or more unidirectional seals are arranged on a removable profile (33).
8. Drain as claimed in any of the claims 1 to 7, wherein the one or more unidirectional seals comprise a unidirectional seal (35,36,41,42,85,86) with a first free end and a further unidirectional seal (35,36,41,42,75,76,85,86) with a further free end, configured to lie with the free end and the further free end against each other in the starting position. 30
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9. Drain as claimed in claim 8, wherein the unidirectional seal and the further unidirectional seal are elongate and each have two outer ends, and wherein the unidirectional seal and the further unidirectional seal are clamped between a wedge and a wedge block at each of the two outer ends. 40
10. Drain as claimed in any of the foregoing claims, wherein the surface area of the passage opening is greater than the surface area of the outlet opening. 45

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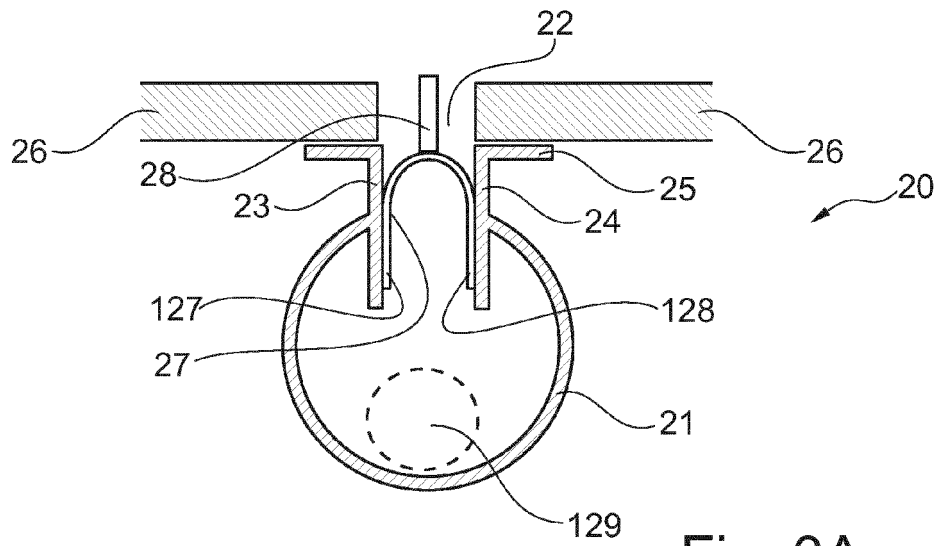


Fig. 3A

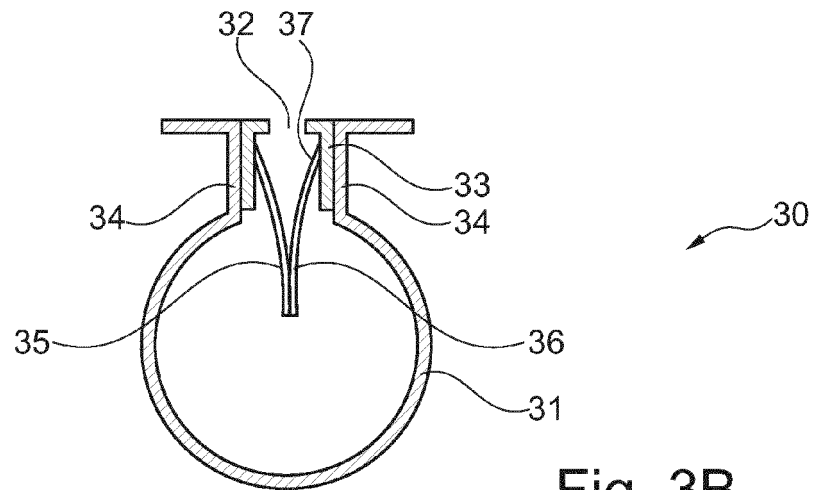


Fig. 3B

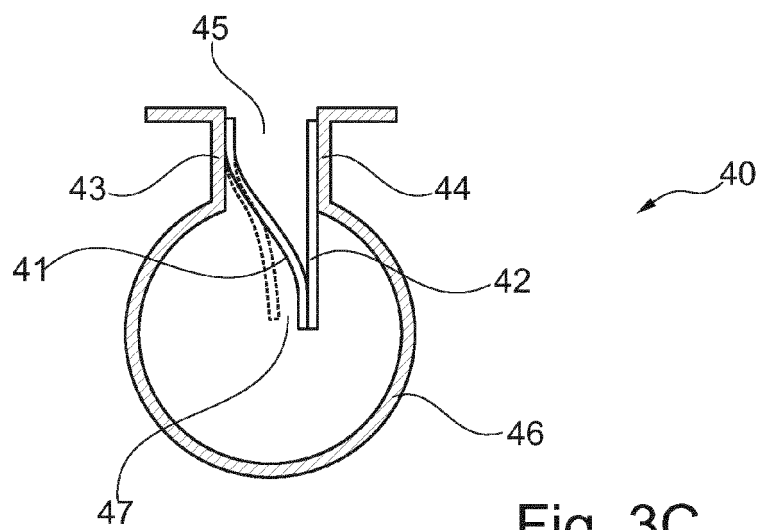
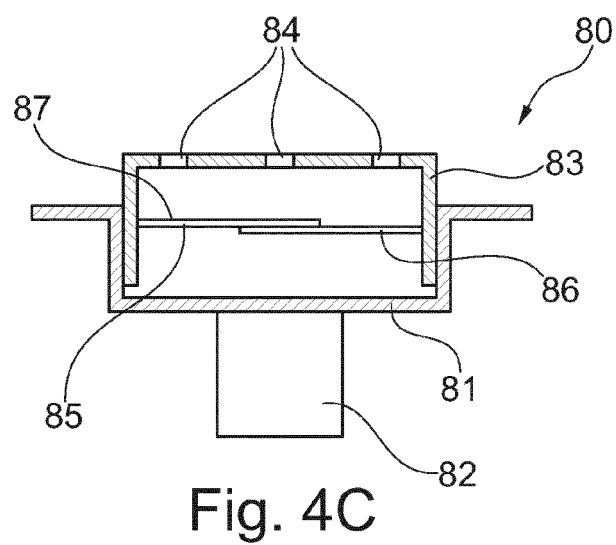
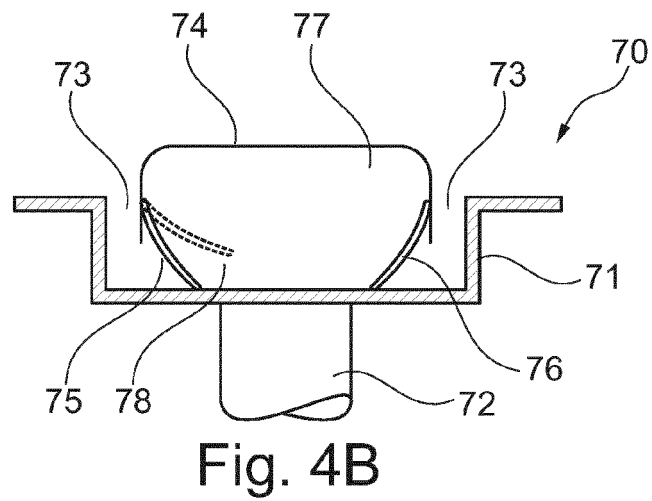
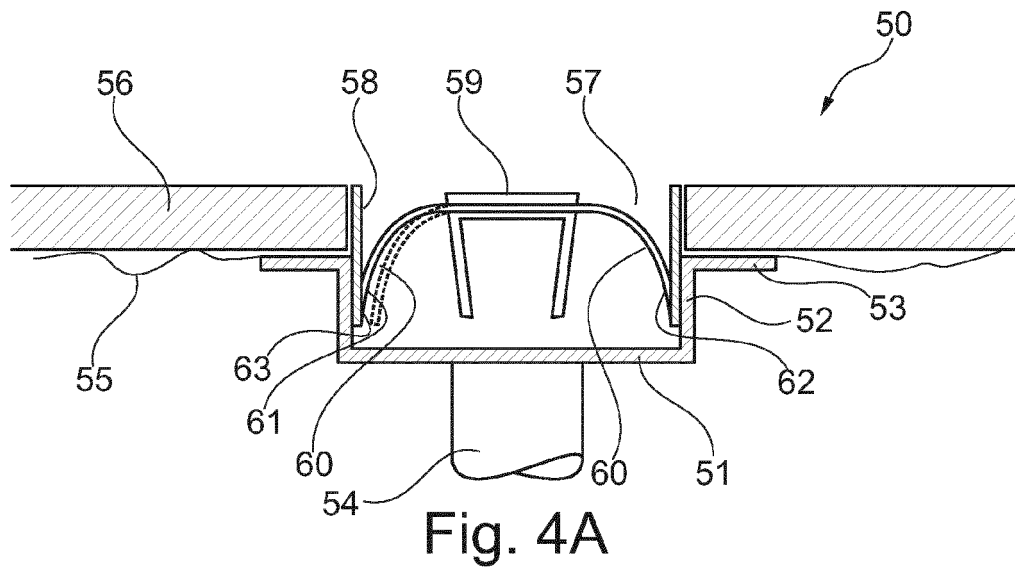


Fig. 3C



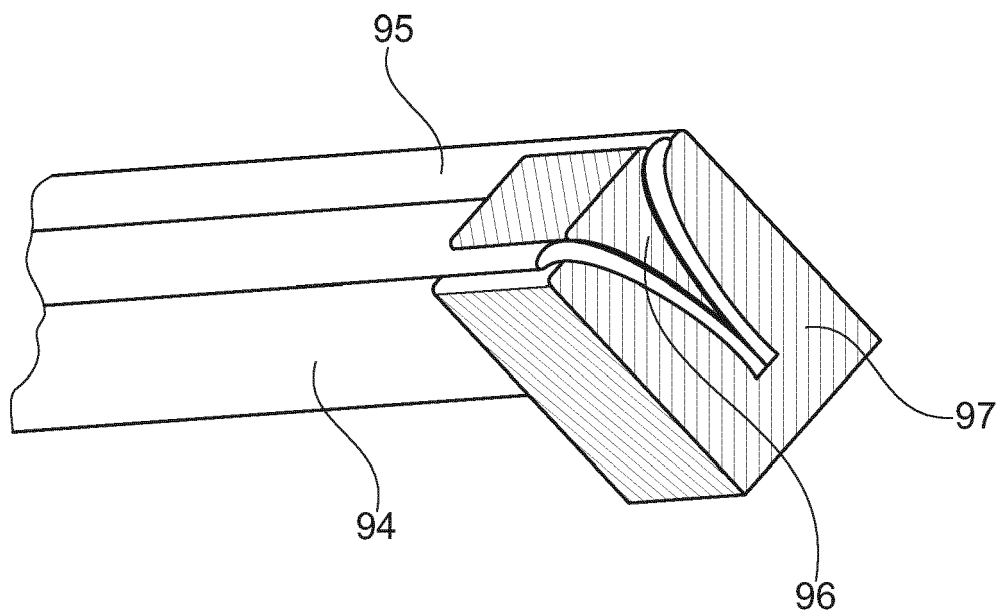


Fig. 5



EUROPEAN SEARCH REPORT

 Application Number
 EP 14 15 1269

DOCUMENTS CONSIDERED TO BE RELEVANT			
Category	Citation of document with indication, where appropriate, of relevant passages	Relevant to claim	CLASSIFICATION OF THE APPLICATION (IPC)
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