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(54) **TRAY WITH FLEXIBLE FLANGE FOR A DRAIN**

(57) The invention relates to a collecting tray for a drain, which collecting tray comprises at least a bottom provided with an outflow opening and comprises flanges adjacent to the collecting tray, which flanges are con-

nected via a flexible part to the collecting tray. A collecting tray can further comprise a flat plate which is arranged under the bottom of the collecting tray and wherein the flexible parts are arranged on the edges of the flat plate.

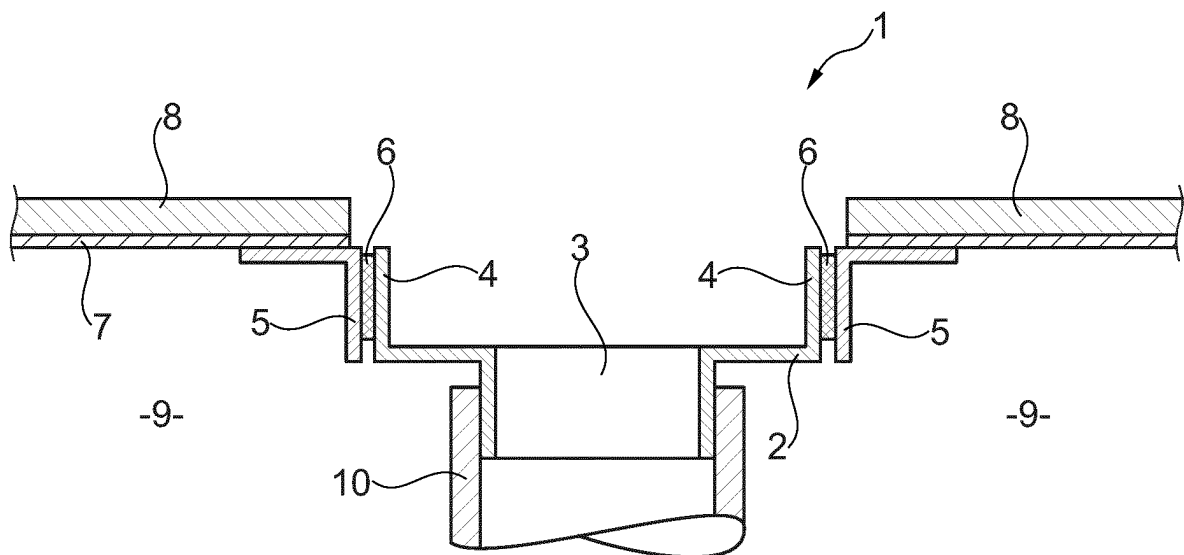


Fig. 1

Description

[0001] The invention relates to a collecting tray for a drain. Water is usually collected in the collecting tray and subsequently guided to an outlet pipe or a siphon connected to an outlet pipe.

[0002] The collecting tray is normally incorporated in a floor. In the case of a cement floor the collecting tray is cast into the cement and the upper surface of the cement floor is arranged to a position close to the upper edge of the collecting tray.

[0003] It is also usual to provide the collecting tray with a horizontal flange along the upper edge. This flange is then used as adhesive surface for fixedly adhering a sealing membrane which is arranged over the cement floor. In some countries, such as the Netherlands, the sealing membrane is also omitted and the horizontal flange is used to skim off the surrounding floor.

[0004] After arranging of the cement floor a tile layer is often adhered to the floor. The horizontal flange comes to lie here in the adhesive layer between the floor and the tiles.

[0005] The drawback of these known collecting trays is that in the course of time cracking occurs in the flange in the adhesive layer, whereby tiles become partially detached and leakage may occur.

[0006] This crack formation is the consequence of the collecting tray expanding and contracting as a result of being heated and cooled by the water flowing in the collecting tray.

[0007] In the known collecting trays the horizontal flange is in addition a fixed distance from the bottom of the collecting tray. During for instance renovation the lower tray cannot always be placed to a desired depth in the floor, whereby an extra cover layer has to be provided in order to ensure that the cover layer lies flush with the horizontal flanges.

[0008] In other applications it is desired to have the vertical wall of the collecting tray be a finish for the tile layer. In such a case use cannot be made of a horizontal flange along the upper edge of the collecting tray. When however the horizontal flange is arranged on the underside of the collecting tray, it may be that the height of the collecting tray is greater than the thickness of the tiles, and this space has to be filled with an extra-thick layer of tile adhesive.

[0009] It is an object of the invention to reduce or even obviate the above stated drawbacks.

[0010] This object is achieved according to the invention with a collecting tray, which collecting tray comprises at least a bottom provided with an outflow opening and comprises flanges adjacent to the collecting tray, which flanges are connected via a flexible part to the collecting tray.

[0011] Arranging a flexible part between a flange and the collecting tray enables the movements of the collecting tray resulting from heating and cooling to be absorbed by the flexible part. In addition, the flexible part isolates

the flange from the collecting tray so that vibrations and heat are transmitted less or not at all. The chance of cracking close to the flange is hereby considerably reduced.

[0012] The height of the flanges can in addition be adjusted as desired because they are mounted flexibly on the lower tray. It is thus possible to place the lower tray and then set the flanges to a desired height. Supports can optionally be provided to fix the flanges at the desired height.

[0013] An embodiment of the collecting tray according to the invention further comprises a flat plate which is arranged under the bottom of the collecting tray and wherein the flexible parts are arranged on the edges of the flat plate.

[0014] By arranging the flange with flexible parts on a flat plate it is possible to opt whether or not to provide the collecting tray with flanges. The flat plate is arranged under the bottom of the collecting tray so that the flanges protrude on either side of the collecting tray. The flanges can then be arranged in the line of the flat plate, or they can be arranged at a desired height adjacently of the collecting tray.

[0015] The flanges are preferably rigid. With rigid flanges an adjacent floor can be skimmed off in simple manner. A sealing membrane can in addition be adhered easily to a rigid flange.

[0016] In another embodiment of the collecting tray according to the invention the collecting tray comprises upright walls arranged along the periphery of the bottom.

[0017] In a further preferred embodiment of the collecting tray according to the invention the flanges have an L-shaped cross-section, and one leg of the L-shaped cross-section is arranged parallel to an upright wall via a flexible layer.

[0018] This embodiment corresponds in greater part to existing collecting trays, with the exception of the arranged flexible layer which ensures that the changes in shape of the collecting tray are not imparted to the flanges. This embodiment can thus easily serve as replacement for existing collecting trays without the skilled person having to give much attention to the changed construction. A skilled person can thus arrange this embodiment in the same way as an existing collecting tray.

[0019] These and other features of the invention are further elucidated with reference to the accompanying drawings.

Figure 1 shows a cross-sectional view of a first embodiment of the collecting tray according to the invention.

Figure 2 shows a cross-sectional view of a second embodiment of the collecting tray according to the invention.

Figure 3 shows a cross-sectional view of a third embodiment of the collecting tray according to the invention.

Figure 4 shows a cross-sectional view of a fourth

embodiment of the collecting tray according to the invention.

Figure 5 shows a cross-sectional view of a fifth embodiment of the collecting tray according to the invention.

Figure 6 shows a cross-sectional view of a sixth embodiment of the collecting tray according to the invention.

[0020] Figure 1 shows a first embodiment 1 of the collecting tray according to the invention. Collecting tray 1 has a bottom 2 with an outflow opening 3 which connects to an outlet pipe 10. Upright walls 4 are provided around bottom 2.

[0021] Angle profiles 5 of L-shaped cross-section are provided parallel to upright walls 4. These profiles 5 are connected with one leg to upright walls 4 via a flexible layer 6.

[0022] When expansion of collecting tray 2, 4 now takes place this will be absorbed by flexible layer 6, whereby no cracking will occur around profiles 5 in the adhesive layer 7 with which tiles 8 are arranged on floor 9.

[0023] Figure 2 shows a second embodiment 20 of a collecting tray according to the invention. The collecting tray has a bottom 21 with upright walls 22. An outflow opening 23 is arranged in bottom 21. Further provided under bottom 21 is a flat plate 24 to which rigid flanges 25 are connected on either side via a flexible part 26. Flexible parts 26 can for instance be made of a rubber such as EPDM.

[0024] Figure 3 shows a third embodiment 30 of the collecting tray according to the invention. The collecting tray here also has a bottom 31 with an outflow opening 32 and upright walls 33.

[0025] Provided under bottom 31 is a flat plate 34 on which flexible strips 35 with rigid flanges 36 are arranged. Because flexible strips 35 are relatively wide, the height of flanges 36 can be adjusted relative to collecting tray 31, 33.

[0026] Figure 4 shows a variant 40 of the embodiment according to figure 3. Provided in this variant 40 is a flat plate 41 with a central opening 42. Flexible strips 43, on which metal flanges 44 are for instance arranged, are provided on either side of flat plate 41.

[0027] Flanges 44 are shown at two different heights in figure 4. Flanges 44 can thus be arranged in the same plane as flat plate 41 or be raised, whereby a drain tray is formed.

[0028] An outflow 45 of a conventional collecting tray 46 can optionally be inserted into the central opening.

[0029] Figure 5 shows a cross-sectional view of a fifth embodiment 50 of the collecting tray according to the invention. In this embodiment a flexible layer 53 is arranged on either side against underside 51 of a lower tray 52. Further arranged on the free edge of this flexible layer 53 are flanges 54 which are height-adjustable relative to lower tray 52 by means of flexible layer 53. Provided for the purpose of supporting flanges 54 at a certain

height are support pins 55 which are for instance easily bendable. Support pins 55 can for instance also be arranged between flanges 54 and lower tray 52, or optionally even be incorporated in flexible layer 53.

[0030] Figure 6 shows a cross-sectional view of a sixth embodiment 60 of the collecting tray according to the invention. In this embodiment 60 a flat plate 63 with central opening 64 is placed against the underside of lower tray 62 around outflow 61.

[0031] Arranged over the upper side of flat plate 63 is a flexible layer 65 which protrudes over the outer edges of flat plate 63 so that flanges 66 are arranged flexibly. Flexible layer 65 also protrudes partially into central opening 64 of flat plate 63 so that when outflow 61 of lower tray 62 is inserted a seal is effected between flat plate 63 and outflow 61.

Claims

1. Collecting tray for a drain, which collecting tray comprises at least a bottom provided with an outflow opening and comprises flanges adjacent to the collecting tray, which flanges are connected via a flexible part to the collecting tray.
2. Collecting tray as claimed in claim 1, further comprising a flat plate which is arranged under the bottom of the collecting tray and wherein the flexible parts are arranged on the edges of the flat plate.
3. Collecting tray as claimed in claim 1 or 2, wherein the flanges are rigid.
4. Collecting tray as claimed in any of the foregoing claims, wherein the collecting tray comprises upright walls arranged along the periphery of the bottom.
5. Collecting tray as claimed in claim 4, wherein the flanges have an L-shaped cross-section, and wherein one leg of the L-shaped cross-section is arranged parallel to an upright wall via a flexible layer.

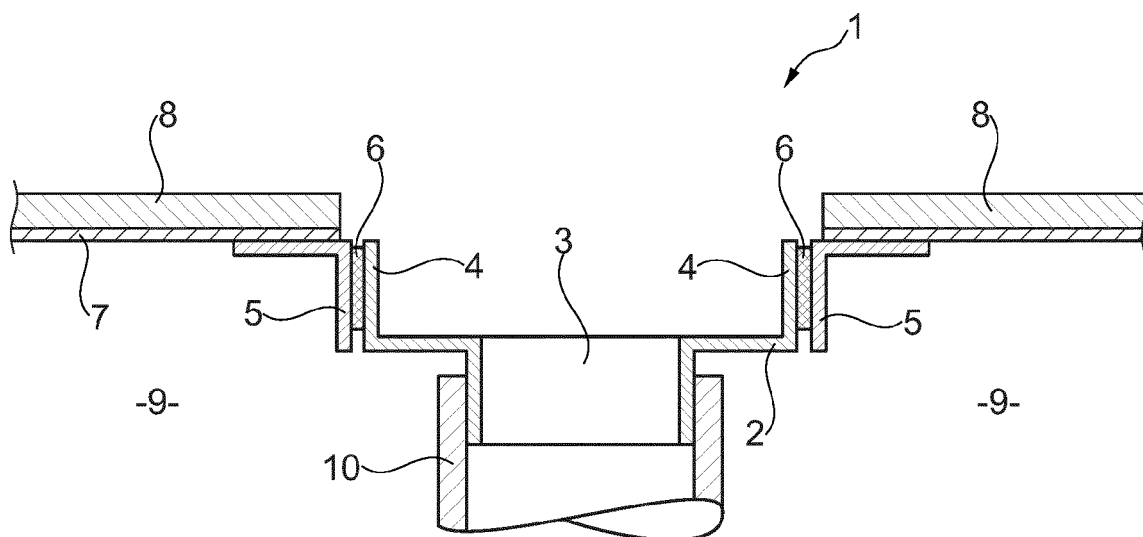


Fig. 1

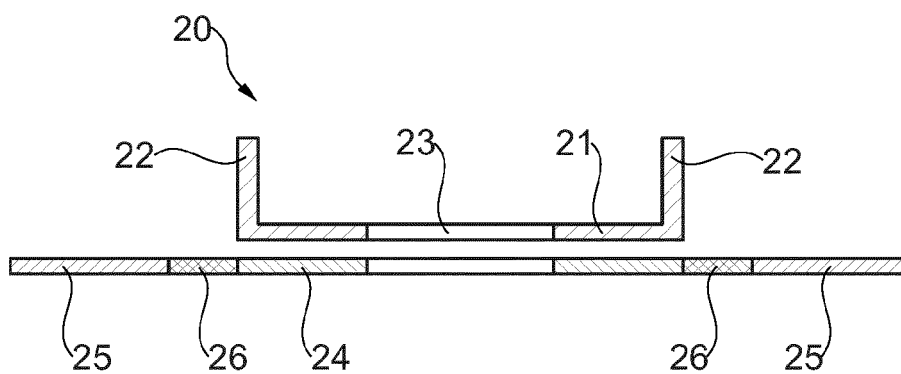


Fig. 2

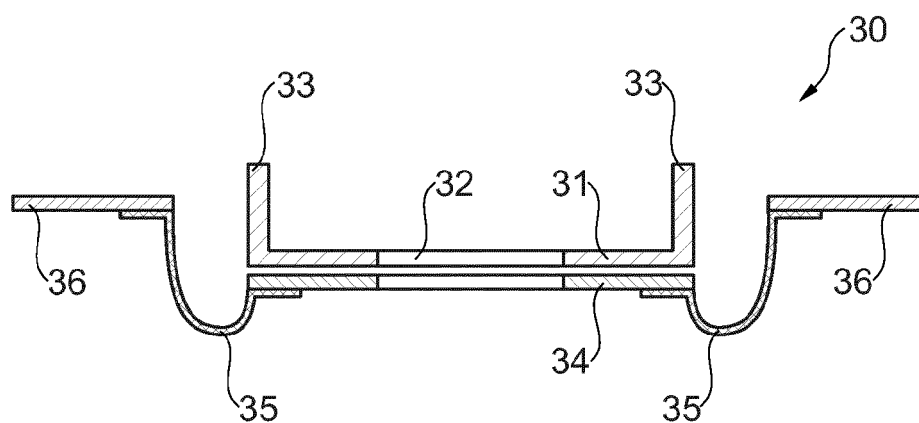


Fig. 3

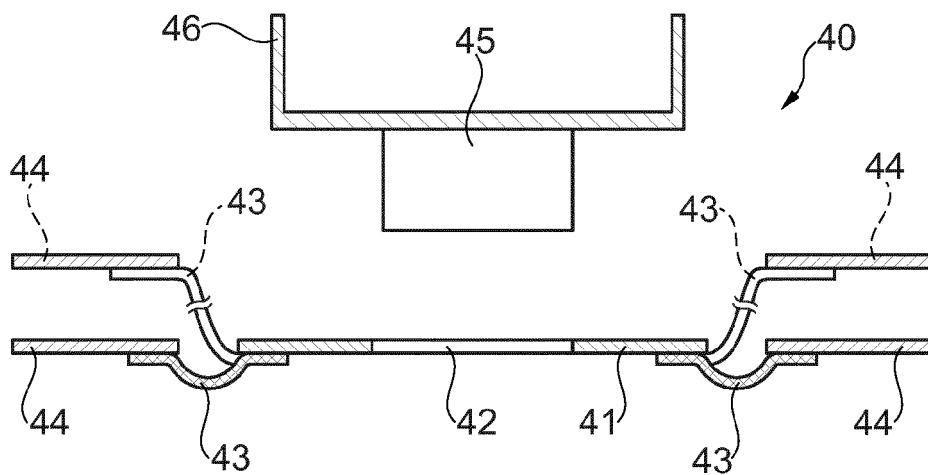


Fig. 4

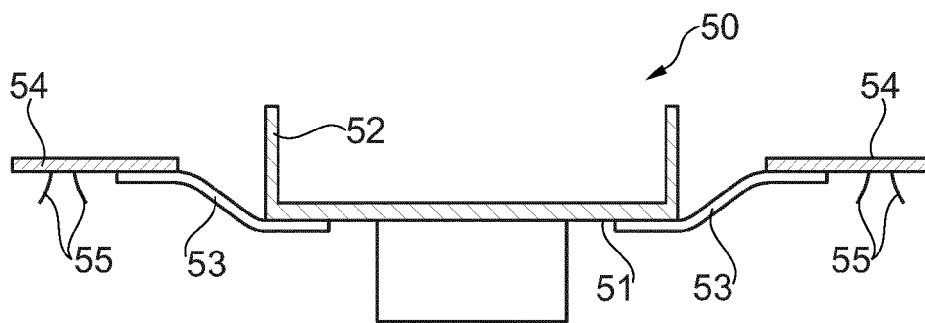


Fig. 5

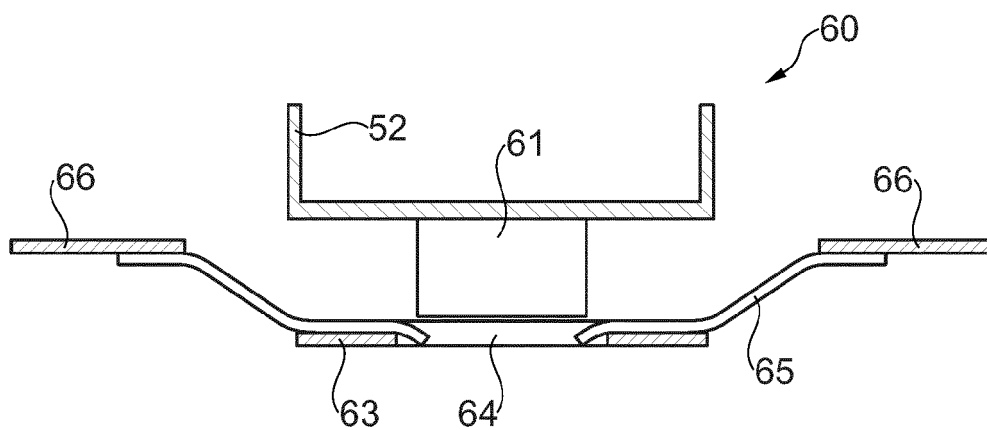


Fig. 6



EUROPEAN SEARCH REPORT

 Application Number
 EP 15 15 3592

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DOCUMENTS CONSIDERED TO BE RELEVANT			
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			TECHNICAL FIELDS SEARCHED (IPC)
			E03F
The present search report has been drawn up for all claims			
Place of search The Hague		Date of completion of the search 8 June 2015	Examiner De Coene, Petrus
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ANNEX TO THE EUROPEAN SEARCH REPORT
ON EUROPEAN PATENT APPLICATION NO.

EP 15 15 3592

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The members are as contained in the European Patent Office EDP file on
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