



(12) **EUROPEAN PATENT APPLICATION**

(43) Date of publication:
27.06.2012 Bulletin 2012/26

(51) Int Cl.:
A47K 3/40 (2006.01)

(21) Application number: **11447028.9**

(22) Date of filing: **14.12.2011**

(84) Designated Contracting States:
AL AT BE BG CH CY CZ DE DK EE ES FI FR GB GR HR HU IE IS IT LI LT LU LV MC MK MT NL NO PL PT RO RS SE SI SK SM TR
Designated Extension States:
BA ME

(72) Inventor: **Nivelles, Geert**
3300 Hakendover
Tienen (BE)

(74) Representative: **Van hunsel, Lieven M.S.**
Archimedes Patents
P.O. Box 34
2900 Schoten (BE)

(30) Priority: **23.12.2010 BE 201000758**

(71) Applicant: **Assenti-Lux S.A.**
9952 Drinklange (LU)

(54) **Construction element for making a shower**

(57) Construction element for making a shower, which construction element (1) mainly has the characteristics of a dish or a shallow tub or the like and to that end comprises a bottom (2) and a discharge opening (15) and, in the periphery of the construction element (1), an

overflow brim which predominantly defines a reference plane (A), **characterised in that** the overflow brim mainly joins the bottom (2) at least partly or whereby the overflow brim is at least partly formed by the bottom (2) which to that end slants at least partly in relation to the reference plane (A) formed by the overflow brim.

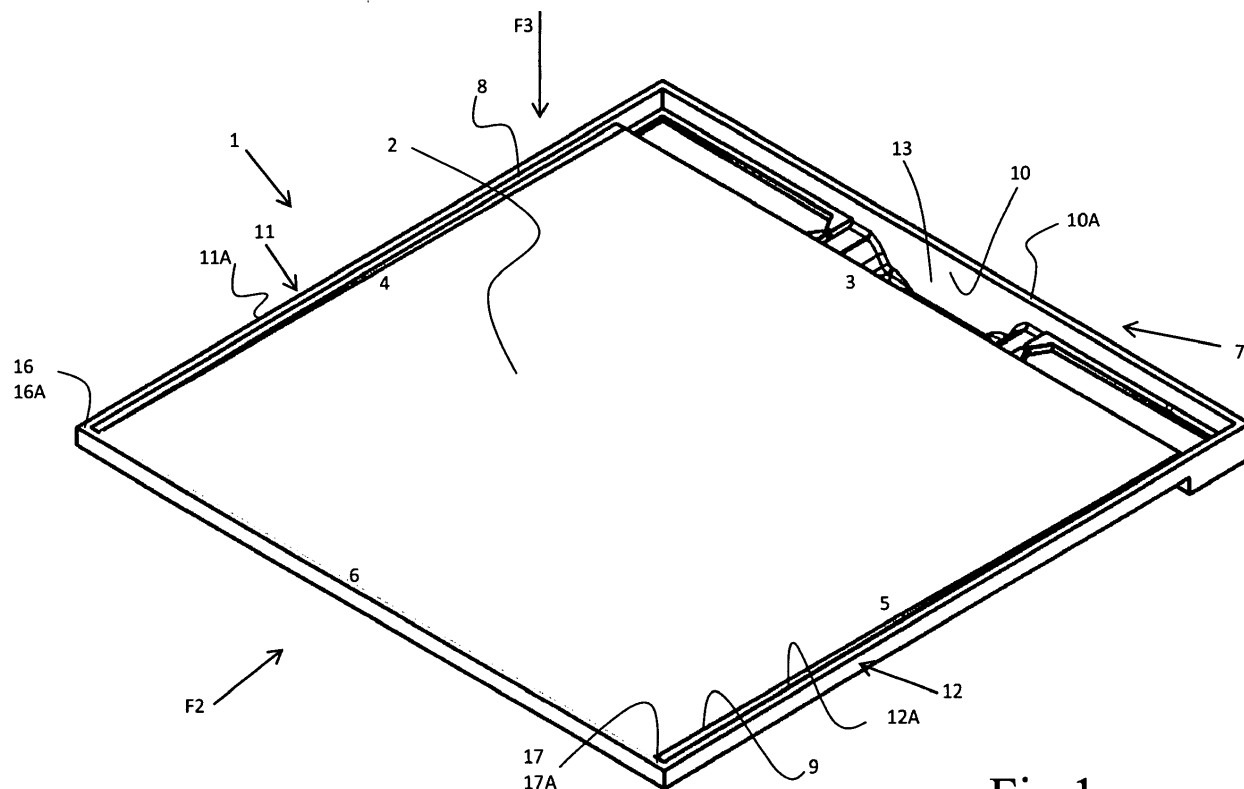


Fig 1

Description

[0001] The present invention concerns a construction element for making a shower.

[0002] Modern showers are often made as what are called walk-in showers, i.e. whereby there is no difference in height between the bottom of the shower and the surrounding floor.

[0003] Walk-in showers with shower trays offer a smooth transition from floor to shower space.

[0004] They give an increased sense of space and offer the possibility for continuous tiling with the surrounding floor.

[0005] It is a great challenge, however, to make such showers watertight.

[0006] An existing method for installing such a shower bottom consists in installing a discharge element, for example a discharge chute, and the discharge pipes on the structural base and subsequently applying the subfloor up to the discharge.

[0007] Next, a specific water sealing is usually provided on the subfloor. Such a water sealing layer usually consists of a cloth which is watertight on the one hand and suitable to be tiled on the other hand.

[0008] Also alternative water sealing systems exist, based on a liquid water sealing layer to be provided.

[0009] The cloth is first glued together with the subfloor, and a tile adhesive is provided on the top side when applying the tiles.

[0010] For that matter, some discharge elements are supplied as fit with a cloth of the above-mentioned type.

[0011] Such discharge elements with a fit cloth simplify the installation and guarantee a good bond of the cloth to the discharge element.

[0012] A problem arises, however, in that additional cloth parts must be provided in the broader outline of the discharge element, and in that bonding of these additional cloth parts often results in leakage.

[0013] Another shortcoming consists in that, where the shower space is to be provided, the subfloor must slant down, such that after the tiling or any other finishing, for example with an epoxy layer, the water will be guided in the direction of the discharge element.

[0014] It is clear that an accurate installation is required and that the slightest inaccuracy will have implications regarding the final result.

[0015] Aesthetic defects are indeed undesirable, but they are negligible when compared with a leak that would occur after completion of the sanitary facility being taken into use.

[0016] Another limitation presents itself when cast floors such as cast subfloors are used.

[0017] It is known that cast floors are self-levelling.

[0018] The material of a cast floor spreads in such a way that a perfectly level floor surface is obtained.

[0019] It is clear that said level construction is undesirable in the actual shower space.

[0020] The present invention aims to remedy the

above-mentioned and/or other disadvantages.

[0021] To this end, the invention concerns a construction element for making a shower, which construction element mainly has the characteristics of a dish or shallow tub or the like and to that end comprises a bottom and a discharge opening, and an overflow brim in the periphery of the construction element, whereby the construction element is **characterised in that** the overflow brim connects at least partly to the bottom, or whereby the overflow brim is at least partly formed by the bottom, which to that end slopes at least partly in relation to the plane formed by the overflow brim.

[0022] The overflow brim is defined as the edge, which preferably forms a plane in this case, and which forms the topmost barrier against overflow if the construction element were to be filled with water for example, particularly when the construction element with the plane formed by the overflow brim is placed horizontally.

[0023] A major advantage which is thus obtained consists in that a shower can be built by simply putting the construction element in place, enclosing the construction element with a subfloor or cast floor or the like, and possibly providing a finishing layer such as an epoxy layer or tiles or the like, which method results in a seamless transition between the floor and construction element, and in that the construction element nevertheless provides a base sloping down to the discharge opening without the installer having had to pay any attention to it.

[0024] A possible finishing layer is provided on the construction element as well as in the surrounding area. Consequently, after applying the finishing layer, the construction is mainly coated, either or not but preferably with the same finishing material as the surrounding floor parts next to and/or round the construction element. Naturally, the construction element can also be made such that applying a finishing layer is not required.

[0025] According to a preferred embodiment, the construction element comprises a mainly flat bottom with a preferably rectangular or square shape, whereby in this case three out of four sides have a standing edge whose upward-facing flanks form a reference plane, and whereby the bottom slants in relation to said reference plane, such that, on its fourth side, the bottom reaches up to said reference plane and completes the overflow brim there.

[0026] In order to better explain the characteristics of the invention, the following preferred embodiment of a device according to the invention is described with reference to the accompanying drawings, in which:

figure 1 shows a preferred embodiment of a construction element according to the invention, seen in perspective;

figure 2 shows a view of the construction element in figure 1 according to arrow F2;

figure 3 shows a top view of the construction element in figure 1 according to arrow F3;

figures 4 to 8 show profiles belonging to the con-

struction element of figure 1.

[0027] Figures 1 to 3 represent a construction element 1 according to the invention for building a shower.

[0028] In the given embodiment, the construction element 1 comprises a predominantly square bottom 2 with four sides 3, 4, 5 and 6.

[0029] Connecting onto the side 3, in particular on the side away from the bottom 2, is provided a discharge chute 7, and on the two adjacent sides 4 and 5 is provided a groove 8, 9 respectively which opens in the above-mentioned discharge chute 7.

[0030] In the given embodiment, the discharge chute 7 is integrated with the other parts of the construction element 1 and consequently is a part thereof.

[0031] Further in the periphery of the discharge chute 7, i.e. on the side away from the bottom 2, is provided a standing edge 10, and in the periphery of the grooves 8 and 9 are provided connecting standing edges 11 and 12.

[0032] In this embodiment, the upward-facing flanks 10A, 11A and 12A of the above-mentioned standing edges 10, 11 and 12 as shown in figure 1 form a reference plane A.

[0033] The bottom 2 is made flat here and slants in relation to the reference plane A, such that the bottom 2, on its side 6 which has not been mentioned until now, mainly reaches up to the reference plane A.

[0034] In the discharge chute 7 is centrally provided a recess 13 in this case. The bottom parts of the discharge chute 7 next to the recess 13 are in this case, though not necessarily, slightly sloping towards the recess 13.

[0035] Said recess 13 is predominantly tub-shaped in this case and, in the wall part 14 directed to the side 6 of the bottom 2 as shown in figures 2 and 3, it is provided with a discharge opening 15.

[0036] The recess 13 is merely preferred and guarantees the good working of a siphon which can be provided in the latter, which is desirable but not necessary since a discharge opening as such may suffice.

[0037] It is clear that the discharge opening 15 can also be provided somewhere else, for example in the standing edge 10, in the bottom of the recess 13 or for example in one of the side walls of the discharge chute 7.

[0038] The grooves 8 and 9 have a width of 1 cm in this case, and the depth in relation to the upward-facing flanks 11A and 12A of the leaning standing edges 11 and 12 also amounts to 1 cm in this case. It is clear that the given dimensions are not limiting but are only intended to clarify the given embodiment.

[0039] The slanting arrangement of the bottom 2 in relation to the upward-facing flanks 11A and 12A, i.e. in relation to the reference plane A, results in the characteristic that the grooves 8 and 9 become gradually less deep in relation to the bottom 2 as one gets closer to the discharge chute 7.

[0040] At their far ends near the side 6 of the bottom 2, the grooves 8 and 9 are confined by standing edge parts 16 and 17 whose upward-facing flanks 16A and

17A are also situated in the reference plane A.

[0041] Figures 4 to 6 represent three profiles 18, 19 and 20 that can be used in combination with the construction element 1 as discussed and as represented in figures 1 to 3.

[0042] Note that these profiles 18 to 20 have an L-shaped section.

[0043] Profiles 18 and 19 have a cut-out 21 on one of the far ends, whereas profile 20 has a cut-out 21 on both far ends.

[0044] Profiles 18 and 19 differ in that said cut-out 21 is provided on opposite far ends.

[0045] Figures 7 and 8 represent profiles 22 and 23 which are variants of the profiles 18 and 19 as shown in figures 4, 5 respectively. These profiles 22 and 23 differ from the profiles 18 and 19 in that the flank part which does not have a cut-out 21 is provided with two standing wall parts, such that the part shown at the top corresponds to a U-profile.

[0046] Thus, the profiles 22 and 23 have a mainly μ -shaped section.

[0047] These profiles 22 and 23 as well can be used in combination with the construction element 1 as discussed above and as represented in figures 1 to 3.

[0048] The method for installing such a construction element 1 according to the invention, possibly in combination with one or several of the profiles 18 to 20 and/or 22 and 23, is simple and can be executed as follows.

[0049] Starting, for example, from a concrete floor as a structural base and discharge pipes that have already been provided, the construction element 1 according to the invention is installed at an appropriate height, i.e. such that the reference plane A mainly corresponds to the upper surface of the subfloor or cast floor to be provided.

[0050] In other words, the height of the reference plane is aligned with the aimed height of the finished bathroom floor, taking into account the finishing layers to be provided, such as for example an epoxy layer or tiling or the like.

[0051] Appropriate adjustable supports can be provided for said alignment. The construction element 1 can thereby be mounted in a floating or fixed manner.

[0052] The discharge pipes are appropriately connected to the discharge opening 15.

[0053] In a next step, the subfloor or cast floor can be provided.

[0054] In the case of a cast floor such as a cast subfloor, the cast material will spread, such that a level top surface is obtained.

[0055] It should be noted that the bottom of the construction element 1 does not have any cavities or holes and is made flat in this case, save for the drain.

[0056] The bottom of the construction element 1 is in this case even made parallel to the reference plane A, but this is not strictly necessary.

[0057] Indeed, the bottom of the floor may slant in relation to the reference plane A, for example parallel to

the bottom 2, such that the bottom plate has a constant thickness.

[0058] The bottom of the construction element 1 can also be made non-flat, as long as cavities are avoided which would result in air bubbles when applying cast floors, resulting in adverse noise effects.

[0059] Indeed, the restriction of noise is a major parameter nowadays which the construction element 1 according to the invention meets efficiently.

[0060] Sound transfer is restricted thanks to the predominantly corresponding density between the material out of which the construction element 1 is made, being 16 kilograms per square metre per centimetre thickness in case cast marble is used on the one hand, and the density of commonly used cast floor materials such as anhydrite subfloor, being 20 kilograms per square metre per centimetre thickness on the other hand.

[0061] It is known that a density deviation of up to 20% for the assembled materials gives good results when it comes to reducing sound transmission.

[0062] It is therefore crucial to prevent air bubbles, which is obtained thanks to the absence of cavities in the bottom of the construction element 1.

[0063] When applying cast floors, it is essential to cast exactly the right amount, such that the cast floor or subfloor reaches up to the reference plane A without a considerable difference in height.

[0064] In general we can say that the space between the structural or supporting base and the construction element 1 according to the invention is preferably entirely filled, for example by means of the mortar used when applying the cast floor. This prevents the formation of any cavities, which promotes the acoustic properties of the final result.

[0065] It is clear that the above-mentioned space can also be filled with other materials such as for example polyurethane or PUR foam.

[0066] A subfloor requires a more laborious installation, but it offers the advantage that any surplus can be more easily removed. The edges 10, 11, 12, 16 and 17 will serve as a reference or straightedge.

[0067] After the curing is obtained a level floor which reaches up to the standing edges 10, 11, 12, 16 and 17 at the construction element and up to the bottom 2 which reaches up to the reference plane A on its side 6.

[0068] In particular, the cast floor mainly joins or reaches up to right beneath the upward-facing flanks 10A, 11A, 12A, 16A and 17A of the respective edges 10, 11 and 12 or edge parts 16 and 17, and joins the bottom 2 where the latter completes the overflow brim.

[0069] The overflow brim is defined as the edge, situated in the reference plane A in this case, forming the topmost barrier against overflow if the construction element 1 according to the invention, which has the shape of a dish or shallow tub or the like, were to be filled with water for example, and whereby the construction element 1 with the reference plane A is placed horizontally.

[0070] Any further finishing of the shower and floor is

very simple, which is, combined with the guaranteed watertightness of the bottom of the shower, a major advantage of the construction element 1 according to the invention.

[0071] Indeed, if tiles are applied on the half-finished floor, said tiles can be provided up to the upward-facing flanks 10A, 11A, 12A, 16A and 17A of the edges 10-17 in places where the edges 10-17 are located away from the walls, as well as adjacent to the walls, where the wall tiles can be provided up to these edges 10-17 then.

[0072] Near the transition of the floor in the bottom 2, i.e. near the side edge 6 of the bottom 2, the tiles can be applied right up to or right past said transition.

[0073] Subsequently the bottom 2 itself can then be tiled in a continuous manner, such that a seamless transition of the floor to the shower tray is obtained.

[0074] Possibly, a watertight and tileable cloth of the type as mentioned above can be provided beforehand at the transition of the floor into the bottom 2, i.e. near the side edge 6 of the bottom 2.

[0075] The profiles 18 to 20 can be used in applications where the construction element 1 is installed such that it connects to the wall or the like.

[0076] On the spot where the construction element 1 connects to a wall, a profile 18, 19 or 20 can be provided before the wall tiles are applied.

[0077] Profiles 18 and 19 are designed to be applied on the standing edges 11, 12 respectively, for example when they are provided leaning against a wall, in particular such that the cut-out 21 coincides with and provides space for the edge part 16, 17 respectively.

[0078] Thanks to the width of the grooves 8 and 9, such a profile 18 and/or 19 can be provided at an appropriate distance from the wall or the accompanying side edge, among others as a function of the thickness of the wall tiles to be applied.

[0079] These profiles 18 and/or 19 thus visually seal the opening between the wall tiles and the floor tiles on the bottom 2.

[0080] The profiles 18 and 19, when provided on the standing edges 11 and 12, can also be used to finish the cut tile edge of the bathroom floor or the finishing edge of any other floor covering of the bathroom floor in combination with the construction element 1.

[0081] Profile 20 is designed to be provided on the standing edges 10, for example when they are installed leaning against a wall, in particular such that the cut-outs 21 coincide with and offer space to the standing edges 11 and 12.

[0082] It is clear that the use of the profiles is optional.

[0083] It is also possible to provide, under said profile and under the connecting wall tiles, an appropriate sealing cloth or an appropriate sealing layer which is partly provided on the wall to be tiled, over the upward-facing flank 11A and/or 12A of the standing edges 11 and/or 12 concerned, and up into the groove 8 and/or 9.

[0084] The profiles 18, 19 and/or 20 hide such a possible layer from view.

[0085] Note that the grid which can be provided over the discharge chute can be tiled as well. Openings between the grid and the construction element 1 allow water to be drained.

[0086] The profiles 22 and 23 as represented in figures 7 and 8 can be used for installing a glass wall or the like, for example on an edge of the construction element 1. It is clear that these profiles 22 and 23 can be composed of for example an L-profile of the type as represented in figures 4 to 6 onto which is provided a U-profile.

[0087] It is clear that such a construction element 1 can also be used in applications on wooden floors or the like.

[0088] It is also clear that the shape of the bottom 2 may be square or may assume other shapes.

[0089] Thus, the construction element may also consist of a shallow round or oval dish with a concave bottom, defining an overflow brim around its entire perimeter. Preferably, a discharge is provided at the lowest point, which is not necessarily situated in the centre.

[0090] A construction element 1 according to the invention must not necessarily be provided with a predominantly flat bottom. Indeed, the bottom may be concave or comprise different flat surface areas which preferably slant towards the discharge point where a recess is optionally provided in which can be preferably but not necessarily provided a siphon which is accessible via the top side, at least when the construction element is installed, for cleaning or the like.

[0091] However, such a variant of the embodiment with a concave bottom or a bottom with flat surface areas is less suitable to be tiled, since an entirely flat bottom, i.e. formed of a single plane, is preferred to that end.

[0092] A concave dish can for example be used in combination with an epoxy finishing layer or the like, provided on a cast floor or a subfloor or the like, and applied continuously on the construction element.

[0093] Although in the embodiment described above and represented in the figures, the construction element 1 is integrated with among others the discharge chute 7, it is clear that such an integrated embodiment is not a requirement.

[0094] The mentioned subparts can be supplied in separate parts.

[0095] Thus, the construction element 1 according to the invention can be made of a base dish, i.e. a flat bottom surrounded by a standing edge having the same height all over, and in which an obliquely sloping plate or obliquely sloping massive block or the like is placed, in short called an insert element, whose maximum height mainly corresponds to the height of the standing edge of the last-mentioned base dish.

[0096] The insert element may be somewhat smaller than the base dish, such that spaces are created which assume the function of the grooves 8 and 9 and possibly also a space which assumes the function of the discharge chute 7.

[0097] A thus or otherwise assembled whole may be

equivalent to the integrated construction element 1.

[0098] A discharge chute 7 or the like may possibly be added to it.

[0099] Finally, it is also clear that a recess 13 and/or a discharge opening 15 must not be provided centrally in a discharge chute 7.

[0100] The present invention is by no means restricted to the embodiments described by way of example and represented in the accompanying figures; on the contrary, such a construction element according to the invention can be made in all sorts of shapes and dimensions while still remaining within the scope of the invention.

15 Claims

1. Construction element for making a shower, which construction element (1) mainly has the characteristics of a dish or a shallow tub or the like and to that end comprises a bottom (2) and a discharge opening (15) and, in the periphery of the construction element (1), an overflow brim which predominantly defines a reference plane (A), whereby the overflow brim mainly joins the bottom (2) at least partly or whereby the overflow brim is at least partly formed by the bottom (2) which to that end slants at least partly in relation to the reference plane (A) formed by the overflow brim, whereby the bottom (2) is mainly flat and has a predominantly quadrilateral perimeter, for example a rectangular or square perimeter, and thus comprises four sides (3-6), whereby at least in the periphery of three out of the four sides (3-5) is provided a standing edge (10, 11, 12) whose flanks (10A, 11A, 12A) which are away from the bottom (2) form the reference plane (A), and whereby the bottom (2) slants in relation to said reference plane (A) and in particular evolves gradually towards the reference plane (A) and joins it on the fourth side (6), whereby the construction element (1) is provided with a discharge chute (7) or the like, whereby the discharge chute or the like (7) connects onto a side (3) of the construction element (1), **characterised in that** on the two sides (4,5) of the construction element (1) adjoining the discharge chute or the like (7) is provided a groove (8,9), and **in that** in the periphery of the discharge chute (7), i.e. on the side away from the bottom (2), is provided the standing edge (10), and **in that** in the periphery of the grooves (8,9) are provided the standing edges (11, 12).
2. Construction element according to claim 1, **characterised in that** the discharge chute or the like (7) is provided with a recess (13) in which is provided the discharge opening (15).
3. Construction element according to claim 2, **characterised in that** the recess offers sufficient space to provide a siphon in or the like which is accessible

via the top side of an installed construction element (1) for cleaning or the like.

4. Construction element according to claim 1, 2 or 3, **characterised in that** the bottom of the construction element (1) has no cavities. 5
5. Profile to be used in combination with a construction element (1) according to one or several of the preceding claims, **characterised in that** it has an L-shaped section, whereby at least one of the flanks is provided with a cut-out (21) on at least one of the far ends. 10
6. Profile to be used in combination with a construction element (1) according to one or several of claims 1 to 4, **characterised in that** it has a μ -shaped section, whereby at least the protruding flank is provided with a cut-out (21) on at least one of the far ends. 15

20

25

30

35

40

45

50

55

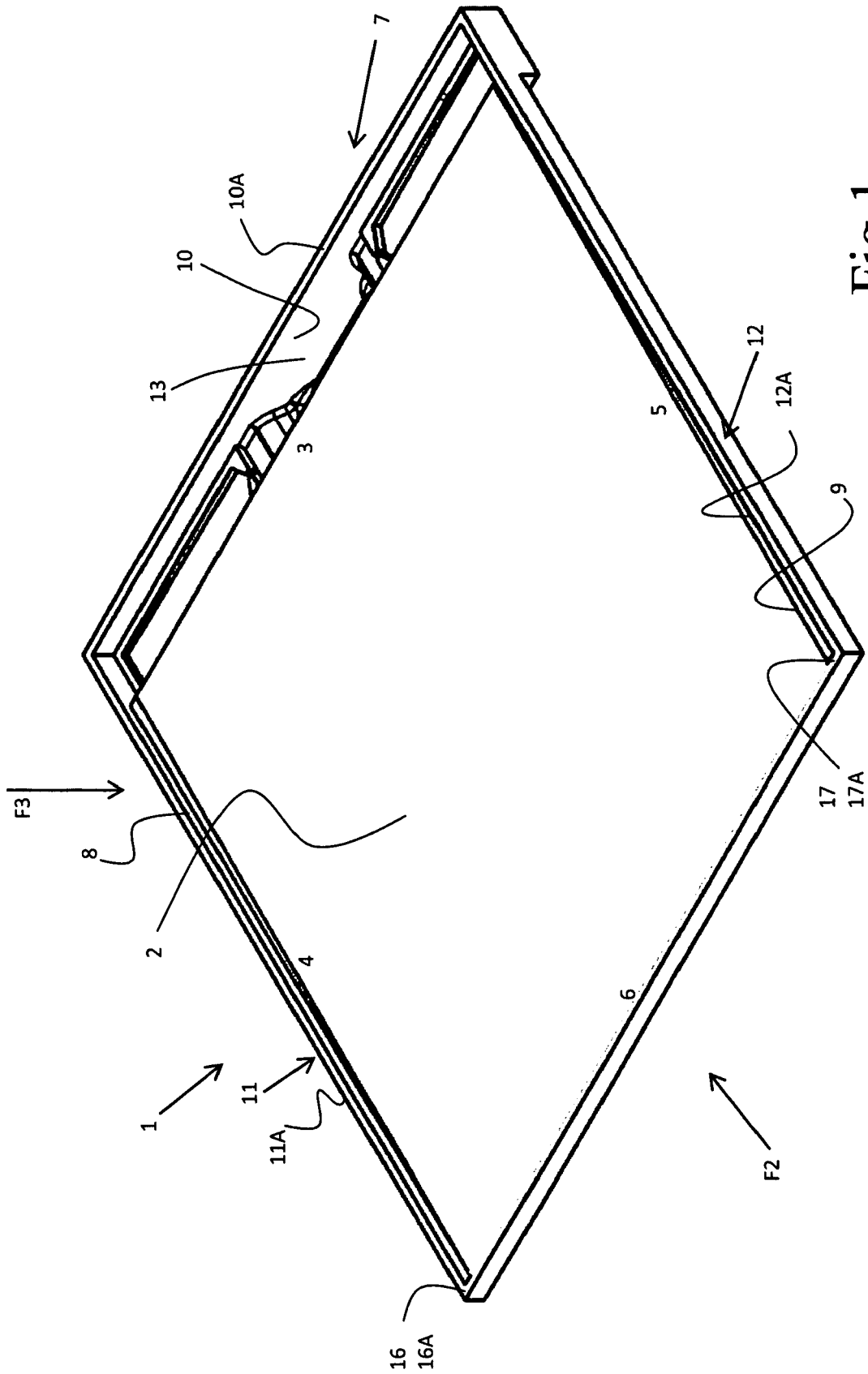


Fig 1

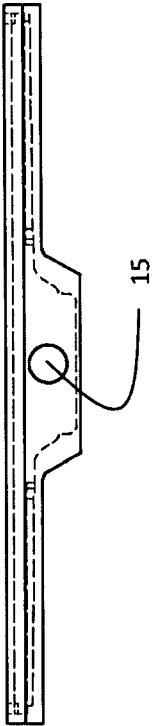


Fig 2

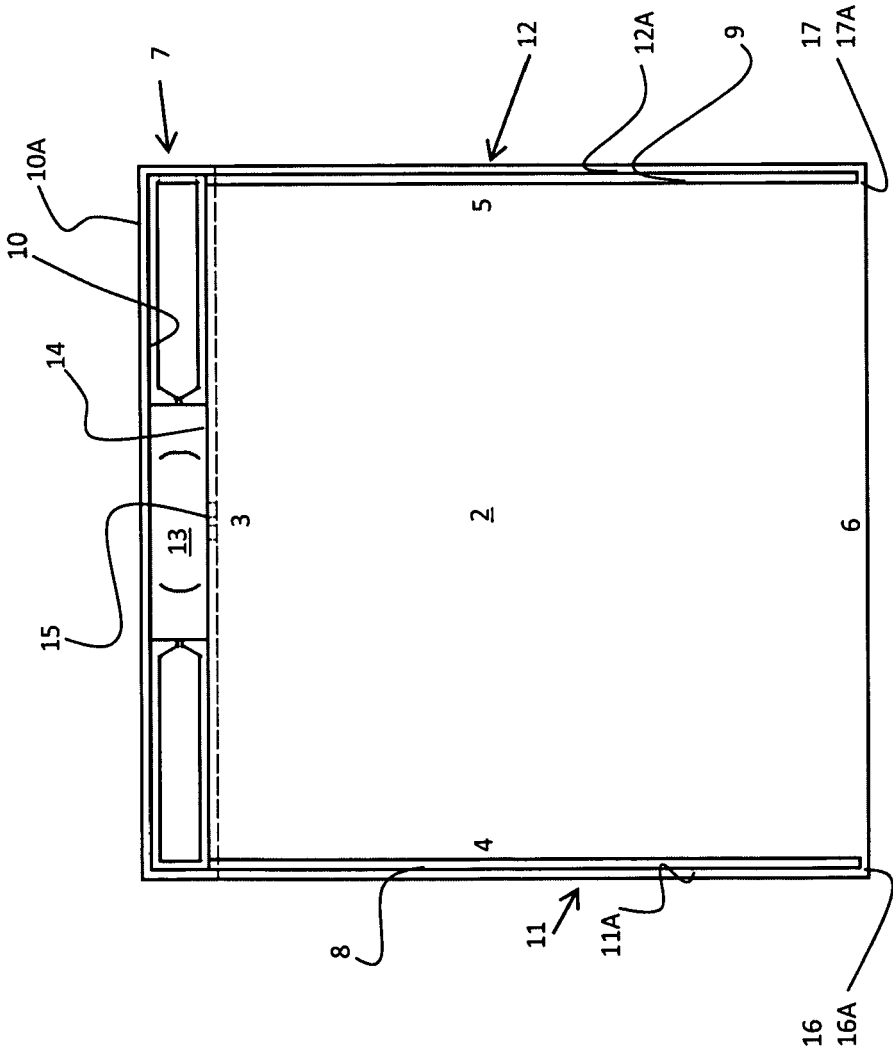
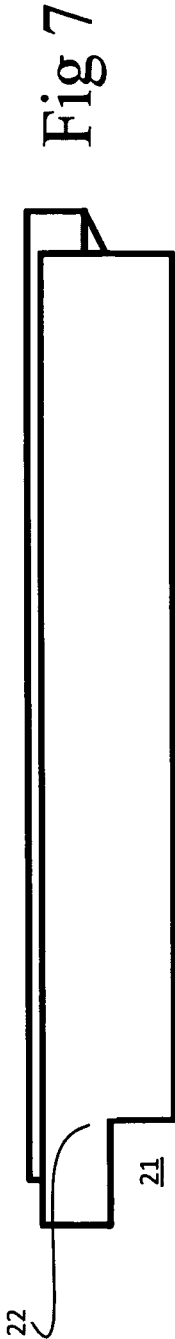
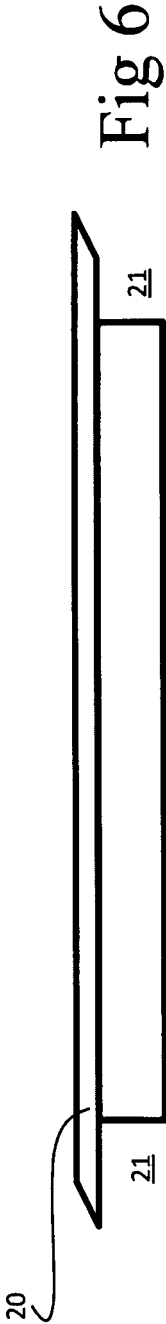
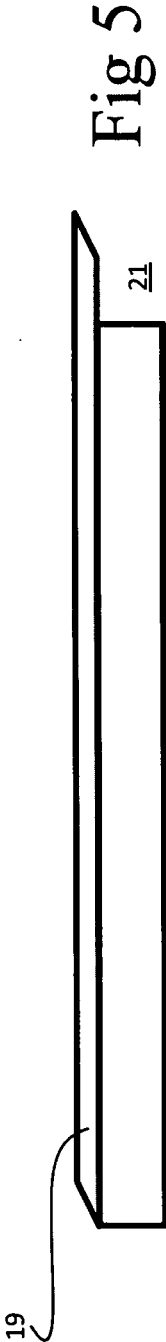


Fig 3





EUROPEAN SEARCH REPORT

Application Number
EP 11 44 7028

DOCUMENTS CONSIDERED TO BE RELEVANT			
Category	Citation of document with indication, where appropriate, of relevant passages	Relevant to claim	CLASSIFICATION OF THE APPLICATION (IPC)
X	DE 20 2008 011038 U1 (FRANK HUSTER PROF FREIER ARCHI [DE]) 24 December 2008 (2008-12-24)	1,4	INV. A47K3/40
Y	* paragraph [0022] - paragraph [0025]; figures *	2,3	
Y	FR 2 917 592 A1 (DAVOUDI FARHOOMAN [FR]) 26 December 2008 (2008-12-26)	2,3	
A	* page 1, line 1 - page 2, line 62; figures 4-12 *	1,4	
A	DE 20 2009 004446 U1 (SCHULTE DUSCHKABINEN [DE]) 18 June 2009 (2009-06-18) * the whole document *	1-4	
A	DE 20 2010 003239 U1 (HUSTER FRANK [DE]) 1 July 2010 (2010-07-01) * the whole document *	1	
X	DE 20 2007 015355 U1 (SCHACO HANDEL AG [CH]) 27 March 2008 (2008-03-27) * paragraph [0023]; figure 3a *	5,6	TECHNICAL FIELDS SEARCHED (IPC)
			A47K
The present search report has been drawn up for all claims			
Place of search The Hague		Date of completion of the search 13 March 2012	Examiner Fordham, Alan
CATEGORY OF CITED DOCUMENTS X : particularly relevant if taken alone Y : particularly relevant if combined with another document of the same category A : technological background O : non-written disclosure P : intermediate document T : theory or principle underlying the invention E : earlier patent document, but published on, or after the filing date D : document cited in the application L : document cited for other reasons & : member of the same patent family, corresponding document			

 2
EPO FORM 1503 03.82 (P04C01)

**ANNEX TO THE EUROPEAN SEARCH REPORT
ON EUROPEAN PATENT APPLICATION NO.**

EP 11 44 7028

This annex lists the patent family members relating to the patent documents cited in the above-mentioned European search report.
The members are as contained in the European Patent Office EDP file on
The European Patent Office is in no way liable for these particulars which are merely given for the purpose of information.

13-03-2012

Patent document cited in search report	Publication date	Patent family member(s)	Publication date
DE 202008011038 U1	24-12-2008	NONE	

FR 2917592 A1	26-12-2008	CA 2692208 A1	29-01-2009
		EP 2166909 A1	31-03-2010
		FR 2917592 A1	26-12-2008
		US 2010180374 A1	22-07-2010
		WO 2009013401 A1	29-01-2009

DE 202009004446 U1	18-06-2009	NONE	

DE 202010003239 U1	01-07-2010	NONE	

DE 202007015355 U1	27-03-2008	NONE	
