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(54) SEALING SYSTEM TO PREVENT MOISTURE LEAKS IN BATHROOMS

(57) The invention comprises a waterproof panel (3) and at least one base profile (1) that rests on a floor surface (2); wherein one of the perimeter portions of said waterproof panel (3) fits in a longitudinal channel (4) by means of a male-female coupling; and wherein the base profile (1) is configured to support a part of the perimeter of the shower tray (6) at a level below the longitudinal

channel (4). The longitudinal channel (4) of the base profile (1) is delimited by a base (4a), a first vertical surface (4b) that forms part of a wing (7) and a second vertical surface (4c) opposite the first vertical surface (4b); wherein the wing (7) of the base profile (1) extends upwards above a mouth (14) of said longitudinal channel (4).

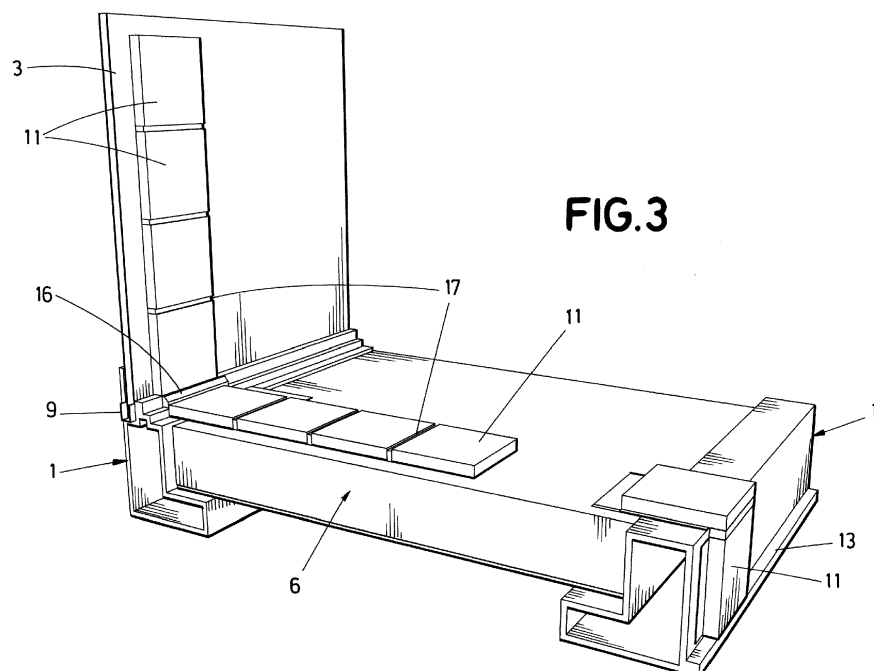


FIG. 3

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Description

Object of the invention

[0001] The present invention relates to a sealing system to prevent moisture leaks in bathrooms that is intended to be applied to the manufacturing of shower facilities such as shower trays. These facilities are provided with lining means on the visible faces of vertical walls, at the same time providing them with total sealing to thereby protect the surface of said visible faces of the vertical walls against moisture, especially in the areas where the shower tray and the vertical walls meet; wherein said vertical walls are covered by waterproof panels; and wherein the system of the invention provides sealing precisely in said areas where the shower tray and the vertical walls meet.

Technical problem to be solved and background of the invention

[0002] Currently, shower facilities and shower stalls have vertical walls with a surface made up of ceramic pieces, such as tiles and other similar elements, and in other cases said surface is formed by strips made of plastic or other similar materials, such that some facilities are occasionally prone to moisture and leakage due to a defective sealing of said surfaces.

[0003] In other cases, problems of moisture and leakage are solved by waterproof panels, such as the one described in PCT application no. WO 2018/220255, wherein said waterproof panels are applicable both to vertical walls and shower trays.

[0004] However, in the areas where the shower tray meets the waterproof panels installed on the vertical walls, water leaks causing moisture sometimes occur, which is due to the fact that in said areas the joint is not completely waterproof, or even if it is made waterproof the moment it is installed by applying an adhesive material, such as silicone or other similar products, over time the seal becomes defective due to the deterioration of the adhesive material or to the fact that it starts to peel off.

Description of the invention

[0005] With the aim of achieving the objectives and avoiding the drawbacks mentioned in the previous sections, the invention proposes a sealing system to prevent moisture leaks in bathrooms that is configured to prevent moisture leaks in areas where a shower tray and vertical walls that delimit a space for the shower meet; wherein each one of said vertical walls is covered by at least one waterproof panel that is joined to the vertical wall.

[0006] The sealing system of the invention comprises a waterproof panel and at least one base profile that rests on a floor surface; wherein one of the perimeter portions of said waterproof panel fits in a longitudinal channel by means of a male-female coupling; and wherein the base

profile is configured to support a part of the perimeter of the shower tray at a level below the longitudinal channel.

[0007] The longitudinal channel of the base profile is delimited by a base, a first vertical surface that forms part of a wing and a second vertical surface opposite the first vertical surface; wherein the wing of the base profile extends upwards above a mouth of said longitudinal channel.

[0008] The waterproof panel has two opposite faces: a first visible face and a second face; wherein the waterproof panel is joined to the vertical wall by the second face thereof, with the exception of a portion of said second face that is joined to the first vertical surface of the longitudinal channel of the base profile, and to another complementary surface of the wing that is an extension of the first vertical surface; wherein the joining of the waterproof panel to the vertical wall and to the base profile is done using an adhesive material.

[0009] In the male-female coupling of the perimeter portion of the waterproof panel in the longitudinal channel, a sealing material is inserted, placed inside the longitudinal channel; wherein said sealing material holds a lower part of the waterproof panel; and wherein the sealing material is an adhesive that joins the waterproof panel to a base of the longitudinal channel.

[0010] The base profile comprises a stepped part parallel to the longitudinal channel; wherein said stepped part comprises an upper step and a lower step that is located below the upper step.

[0011] The sealing system of the invention comprises a first joiner fixed to the upper step of the base profile by means of an adhesive material; wherein said first joiner is configured to create a coherent separation with respect to lining elements adhered to faces of the shower tray and the waterproof panel.

[0012] The lower step of the base profile is configured so that a portion of the shower tray can be fixed to the same.

[0013] The shower tray rests on a lower seat of the base profile; wherein said lower seat is situated below the longitudinal channel of the base profile.

[0014] This described structure of the system of the invention avoids the use of anti-moisture strips that complicate mounting and make the installation of shower trays of this type more expensive.

[0015] Next, to help better understand this specification and as an integral part thereof, a series of figures is attached in which the object of the invention is depicted in an illustrative and non-limiting manner.

Brief description of the figures

[0016]

Figure 1 shows a view of an installation of a shower tray that includes the sealing system to prevent moisture leaks in bathrooms, object of the invention.

Figure 2 shows a cross-sectional view according to

section A-B of Figure 1.

Figure 3 shows a perspective view of the installation of a shower tray which includes the sealing system of the invention.

Figure 4 shows an elevation view of that which is represented in Figure 3; wherein in this figure 2 it is shown the sealing system that is located in the area where a vertical wall and shower tray meet.

Description of an exemplary embodiment of the invention

[0017] Considering the numbering used in the figures, the sealing system to prevent moisture leaks in bathrooms comprises at least one base profile 1 that rests on a floor surface 2 and a waterproof panel 3, one of the perimeter portions thereof being inserted and fit in a longitudinal channel 4 located throughout the entire length of the base profile 1; wherein said waterproof panel 3 is attached to a vertical wall 5 by means of an adhesive material, while the base profile 1 is configured to support and couple to a part of the perimeter of a shower tray 6.

[0018] In the embodiment shown in Figure 1, the shower tray 6 comprises a rectangular configuration and is installed in a corner area delimited by the floor 2 and two vertical walls 5 covered by the waterproof panels 3 that also meet in a corner area, and, in turn, in correspondence with the areas where said vertical walls 5 and the floor 2 meet, two base profiles 1 are mounted, on which two of the four sides of the rectangular shower tray 6 are adapted, while on the other two sides of the shower tray, other additional base profiles 1' will be mounted.

[0019] In one embodiment of the invention, as shown in Figure 1, the corner area where the two waterproof panels 3 meet is covered, on the outer part thereof, by an angular profile 18 formed by two wings, one of which has an angled longitudinal edge 18a that fits in a vertical groove of the respective waterproof panel 3.

[0020] Therefore, a lower portion of the waterproof panel 3 fits in the longitudinal channel 4 by means of a male-female coupling that secures and reinforces the fit, the positioning and the stability of said waterproof panel 3, both when being mounted and after being mounted; wherein in said male-female coupling a sealing material 9 is inserted and placed inside the channel 4, and wherein said sealing material 9 holds a lower part of the waterproof panel 3. The sealing material 9 is further used as an adhesive to join the waterproof panel 3 to a base 4a of the channel 4.

[0021] In the embodiment shown in the figures, the base profile 1 comprises a tubular configuration, although it could also comprise a solid or partially solid configuration.

[0022] The longitudinal channel 4 of the base profile 1 is delimited by the base 4a, a first vertical surface 4b that forms part of a wing 7 and a second vertical surface 4c opposite the first vertical surface 4b; wherein said wing 7 extends upwards above a horizontal edge 8 that de-

limits the height of said second vertical surface 4c of the base profile 1.

[0023] The waterproof panel 3 has two opposite faces; a first visible face 3a and a second face 3b; wherein the waterproof panel 3 is joined to the vertical wall 5 by the second face 3b thereof by means of the adhesive material, with the exception of a lower portion of said second face 3b that is placed against and joined to the first vertical surface 4b of the longitudinal channel 4 of the base profile 1 and to another complementary surface of the wing 7 that is an extension of the first vertical surface 4b; wherein the joining of the waterproof panel 3 to the vertical surface 4b and to the complementary surface is also done using an adhesive material.

[0024] The base profile 1 comprises a stepped part parallel to the longitudinal channel 4. Said stepped part comprises an upper step 10a and a lower step 10b, each one of which is formed by a horizontal surface and another vertical surface.

[0025] In one embodiment of the invention, the lower step 10b is configured to facilitate the coupling of a perimeter part of the shower tray 6 that will rest on a seat 12 of the base profile 1; and wherein said seat 12 is located at a level below the stepped part formed by the upper step 10a and by the lower step 10b.

[0026] The system of the invention further comprises a first joiner 16 fixed to the upper step 10a of the base profile 1 by means of an adhesive material; wherein said first joiner 16 is configured to create a coherent separation with respect to lining pieces 11 adhered to faces of the shower tray 6 and the waterproof panel 3.

[0027] In turn, the lower step 10b of the base profile 1 is configured so that a portion of the shower tray 6 can be fixed to it.

[0028] In the practical embodiment shown in Figure 1, two waterproof panels 3 constitute walls of the shower tray 6; wherein the lower portions of said waterproof panels 3 are inserted in the respective channels 4 of the base profiles 1 that are complemented by the other additional base profiles 1', which also include the seats 12 on which the shower tray 6 rests.

[0029] Furthermore, the shower tray 6 is joined to the seats 12 of the base profiles 1 and additional base profiles 1' by means of an adhesive material; wherein these four profiles 1, 1' constitute a frame structure that delimits a perimeter recess with the seats 12 as bases on which said shower tray 6 rests.

[0030] In an embodiment of the invention, the shower tray 6 comprises a horizontal waterproof panel such as the previously mentioned vertical waterproof panel 3 and which is described in PCT application WO 2018/220255; wherein said waterproof panels, both vertical and horizontal, include several lining pieces 11 on the visible faces thereof that are separated by second joiners 17; for example mosaic tile pieces.

[0031] The lining pieces 11 of the shower tray 6 also cover the additional base profiles 1' and also rest on the lower step 10b of each base profile 1. In all cases, the

set of lining pieces 11 is joined by means of adhesive material.

[0032] In this embodiment being described, the additional profiles 1' include ribs 13 that are flush with the lining pieces 11 that cover outer side faces of said additional profiles 1'.

[0033] In another embodiment of the invention, the shower plate 6 could comprise a conventional structure adapted to the perimeter recess delimited by the frame structure formed by the base profiles 1 and by the additional base profiles 1'; in this case the shower tray 6 also resting on the lower seats 12 of said profiles 1, 1'.

[0034] The height of the wing 7 of the base profile 1 that is elevated above a mouth 14 of the longitudinal channel 4 prevents any possible water leaks that could cause moisture; even in the hypothetical case that the shower water leaked through the cracks adjacent to the longitudinal channel 4, moisture would be prevented since the leaked water could not reach by overflow an upper edge 15 of the wing 7 of the base profile 1 that delimits the height thereof, and which is above the mouth 14 of the longitudinal channel 4.

Claims

1. A sealing system to prevent moisture leaks in bathrooms, which is configured to prevent moisture leaks in areas where a shower tray (6) and vertical walls (5) which delimit a space for the shower meet; wherein each one of said vertical walls (5) is covered by at least one waterproof panel (3) that is joined to the vertical wall (5); **characterised in that:**

- it comprises the waterproof panel (3) and at least one base profile (1) that rests on a floor surface (2); wherein one of the perimeter portions of said waterproof panel (3) fits in a longitudinal channel (4) by means of a male-female coupling; and wherein the base profile (1) is configured to provide support to a part of the perimeter of the shower plate (6) at a level below the longitudinal channel (4);
- the longitudinal channel (4) of the base profile (1) is delimited by a base (4a), a first vertical surface (4b) that forms part of a wing (7) and a second vertical surface (4c) opposite the first vertical surface (4b); wherein the wing (7) of the base profile (1) extends upwards above a mouth (14) of said longitudinal channel (4).

2. The sealing system to prevent moisture leaks in bathrooms, according to claim 1, **characterised in that** the waterproof panel (3) has two opposite faces: a first visible face (3a) and a second face (3b); wherein the waterproof panel (3) is joined to the vertical wall (5) by the second face (3b) thereof, with the exception of a portion of said second face (3b) that

is joined to the first vertical surface (4b) of the longitudinal channel (4) of the base profile (1), and to another complementary surface of the wing (7) that is an extension of the first vertical surface (4b); wherein the joining of the waterproof panel (3) to the vertical wall (5) and to the base profile (1) is done using an adhesive material.

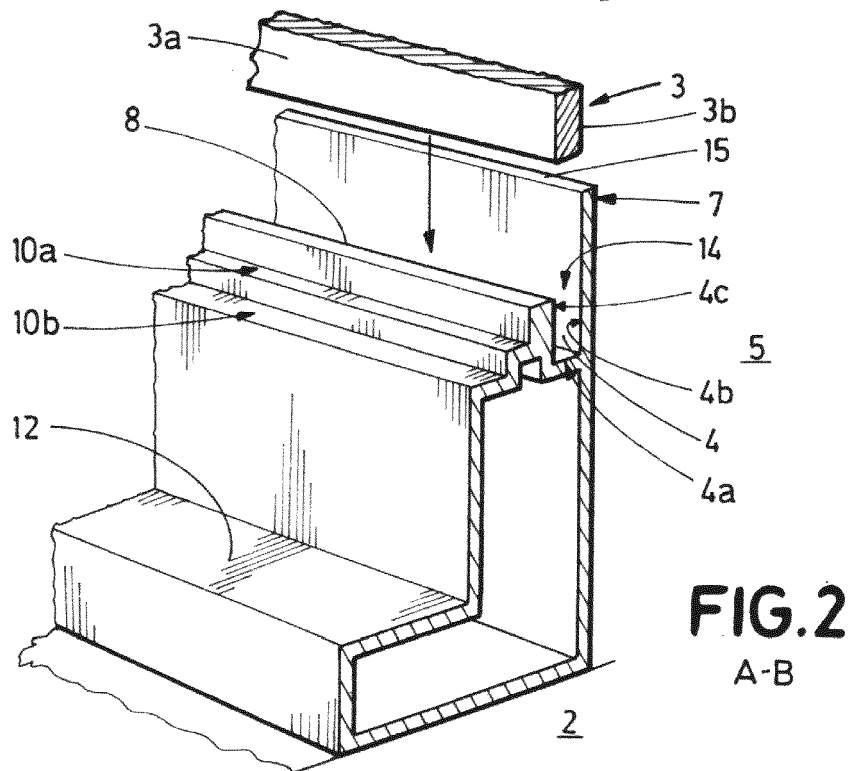
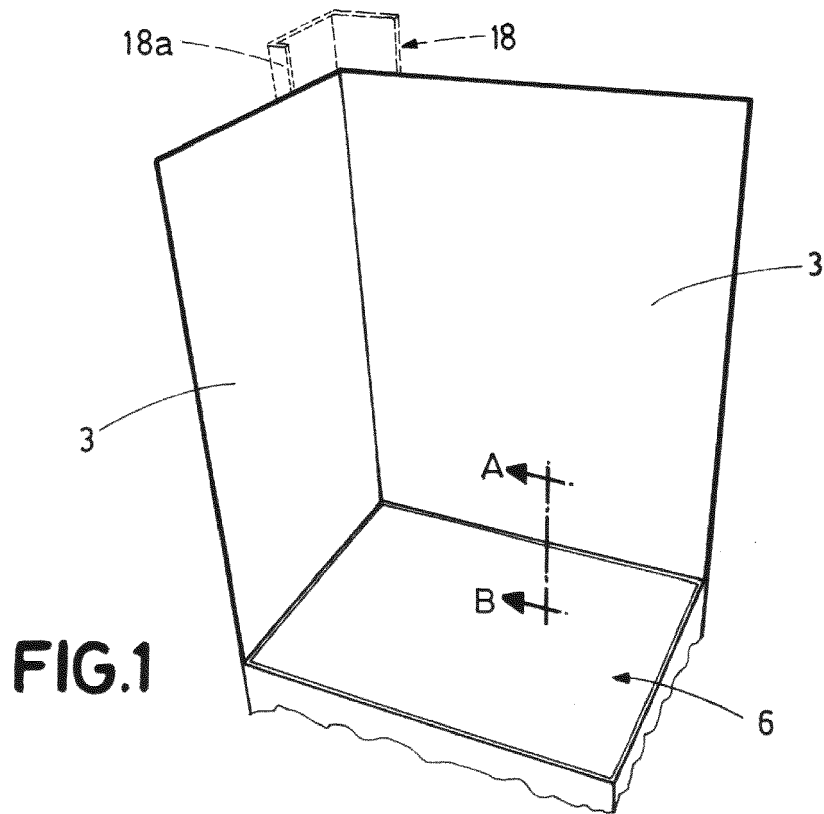
3. The sealing system to prevent moisture leaks in bathrooms, according to claim 2, **characterised in that** in the male-female coupling of the perimeter portion of the waterproof panel (3) in the longitudinal channel (4), a sealing material (9) is inserted, placed inside the longitudinal channel (4); wherein said sealing material (9) holds a lower part of the waterproof panel (3); and wherein the sealing material (9) is an adhesive that joins the waterproof panel (3) to a base (4a) of the longitudinal channel (4).

4. The sealing system to prevent moisture leaks in bathrooms, according to any one of the preceding claims, **characterised in that** the base profile (1) comprises a stepped part parallel to the longitudinal channel (4); wherein said stepped part comprises an upper step (10a) and a lower step (10b) that is located below the upper step (10a).

5. The sealing system to prevent moisture leaks in bathrooms, according to claim 4, **characterised in that** it comprises a first joiner (16) fixed to the upper step (10a) of the base profile (1) by means of an adhesive material; wherein said first joiner (16) is configured to create a coherent separation with respect to lining pieces (11) adhered to faces of the shower tray (6) and the waterproof panel (3).

6. The sealing system to prevent moisture leaks in bathrooms, according to claim 4, **characterised in that** the lower step (10b) of the base profile (1) is configured so that a portion of the shower tray (6) can be fixed to the same.

7. The sealing system to prevent moisture leaks in bathrooms, according to any one of the preceding claims, **characterised in that** the shower tray (6) rests on a lower seat (12) of the base profile (1); wherein said lower seat (12) is situated below the longitudinal channel (4) of the base profile (1).



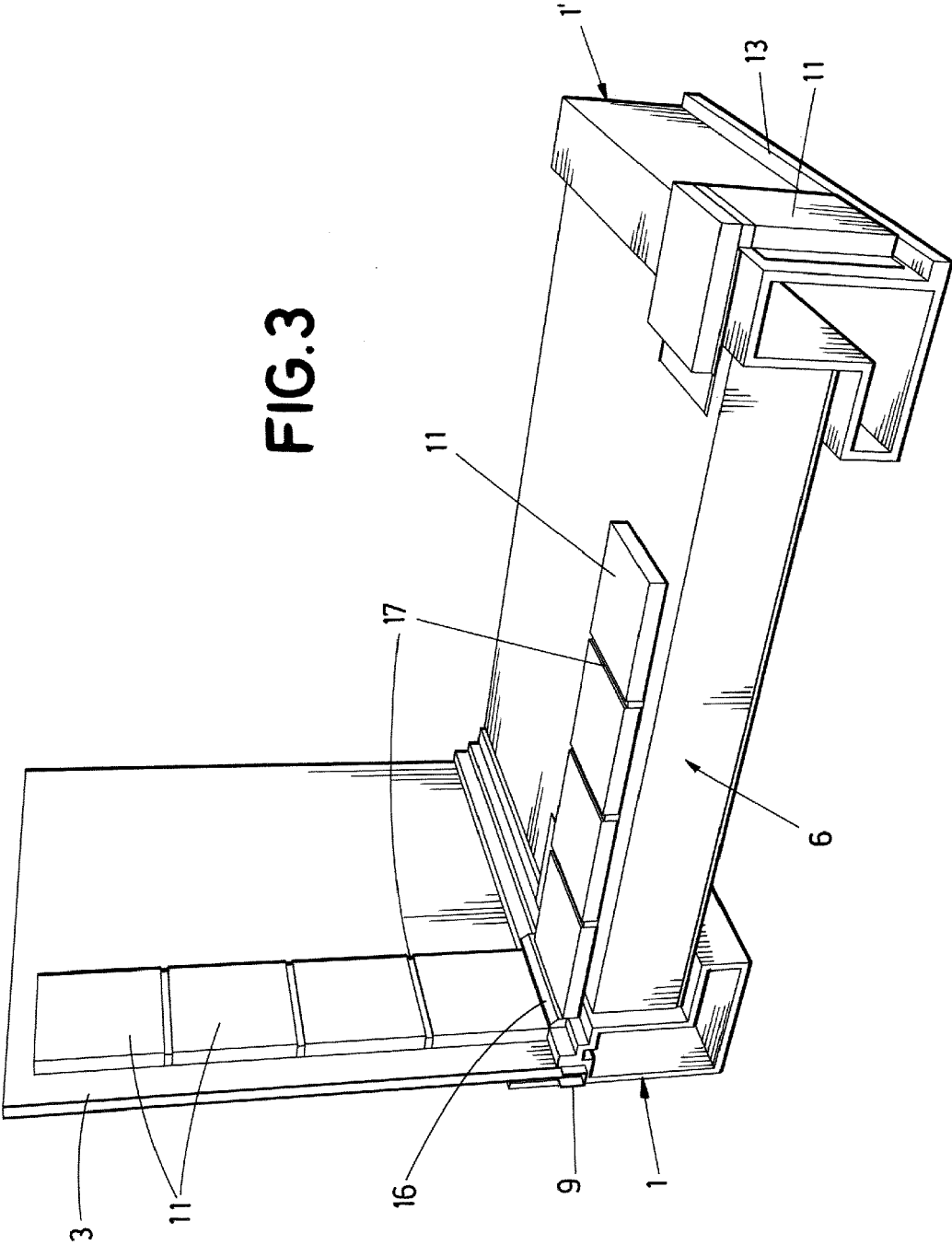
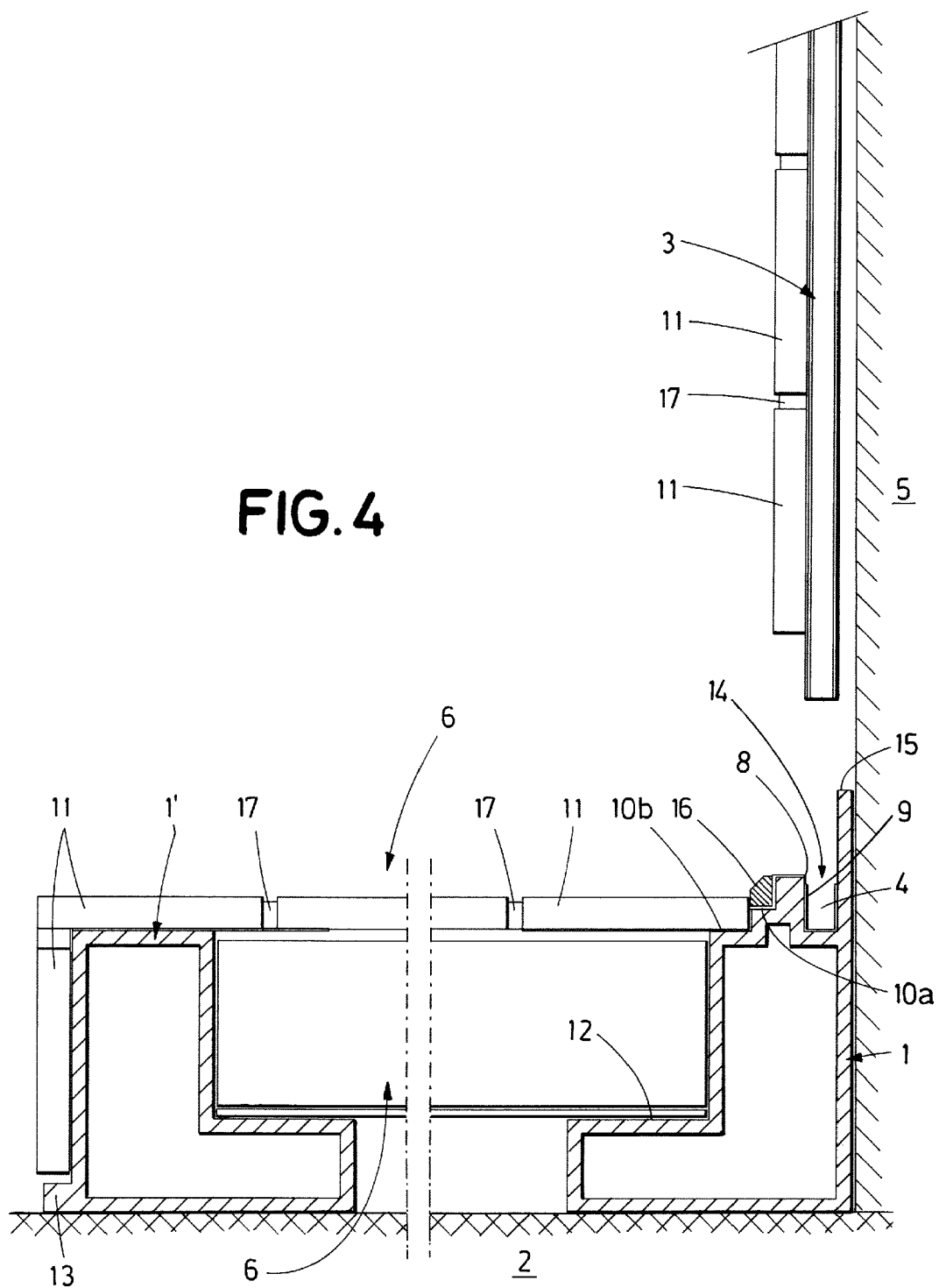


FIG. 4





EUROPEAN SEARCH REPORT

Application Number
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A	* page 10, line 11 - page 11, line 2; figures *	4-6	
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The present search report has been drawn up for all claims			TECHNICAL FIELDS SEARCHED (IPC)
			A47K
Place of search		Date of completion of the search	Examiner
The Hague		30 August 2021	van de Beek-Duijker
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			

**ANNEX TO THE EUROPEAN SEARCH REPORT
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For more details about this annex : see Official Journal of the European Patent Office, No. 12/82

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