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(54) **Sanitary fixture**

(57) A sanitary fixture (100) comprising a bathtub (101) provided with a main concave body (102) surrounded by a rim (103) equipped with a trough (109) to drain the recirculating water. The fixture (100) is characterized in that, in use, the trough (109) is covered by at least one removable solid panel (110a, 110b, 110c, 110d, 110e,

110f, 110g, 110h, 110i, 110l, 110m, 110n), and in that between the rim (103) of the bathtub (101) and the removable solid panel (110a, 110b, 110c, 110d, 110e, 110f, 110g, 110h, 110i, 110l, 110m, 110n) there is at least one gap (INT1) to drain the recirculating water towards said trough (109).

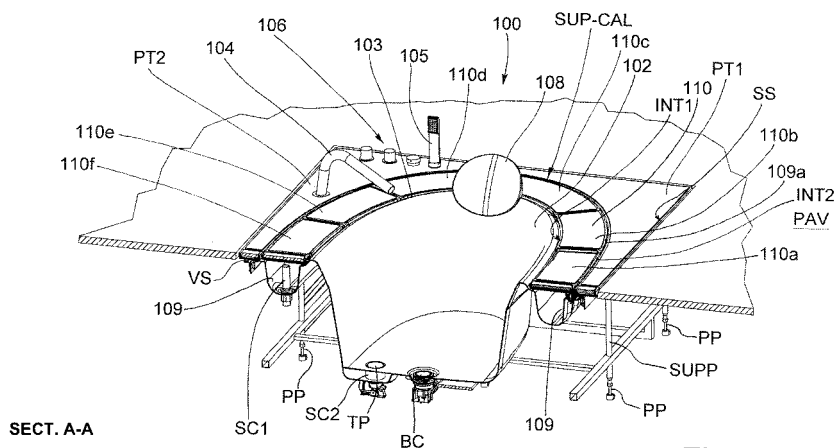


Fig.2

Description

[0001] The present invention relates to a sanitary fixture.

[0002] Sanitary fixtures are known in the prior art that consist of a bathtub provided with a tap through which water enters the bathtub, controls to adjust the flow and temperature of said water, a drainage pipe for the waste water and possibly a series of other accessory devices, such as whirlpool jet outlets, ultrasound outlets, etc.

[0003] To prevent the water from flowing over the top of the rim of the bathtub an "overflow" outlet is usually provided on the wall of said bathtub. However, the "overflow" outlet is located at a certain distance from the rim of the bathtub. This fact thus prevents the complete filling of the bathtub. This means that a portion of the user's body is not submerged in the water unless said user lies flat on the bottom of the bathtub, which involves assuming uncomfortable and unnatural positions.

[0004] Moreover, the use of bathtubs in which the rim is flush with the floor is becoming more widespread; in other words, these new-generation bathtubs, which may be able to accommodate more than one person, are like real "small-scale swimming-pools" completely integrated into the floor of any kind of room, that need not necessarily be a bathroom.

[0005] The purpose of the present invention is thus to produce a sanitary fixture comprising a bathtub which can be filled with water right up to the rim. The recirculating water flows over the top of the rim of the bathtub and through at least one gap towards a drainage trough.

[0006] The present invention will now be described with reference to the accompanying drawings, illustrating a non-limiting embodiment thereof, in which:

- figure 1 is a three-dimensional view of a sanitary fixture according to the present invention;
- figure 2 shows a three-dimensional cross-section along the line A-A of the sanitary fixture in figure 1;
- figure 3 is an enlarged view of some details of the sanitary fixture illustrated in figures 1, 2; and
- figure 4 is a three-dimensional bottom view of an element used in the sanitary fixture of figures 1, 2, 3.

[0007] Incidentally, in the present description only the details shown in the accompanying drawings that are important for the comprehension of the present invention are numbered and described.

[0008] In figures 1, 2 designated as a whole by number 100 is a sanitary fixture according to the present invention.

[0009] The sanitary fixture 100 substantially comprises a bathtub 101.

[0010] The bathtub 101 may be of the conventional type i.e. provided only with at least one opening through which the water enters the bathtub (the temperature of the water is adjusted before being introduced into the bathtub) via a tap and possibly via a shower head, and

at least one waste water drainage pipe.

[0011] The bathtub may also be provided with a series of other accessory devices, such as whirlpool jet outlets, ultrasound outlets, etc.

5 **[0012]** However, for the purpose of the comprehension and scope of the present invention the functions of any other accessory devices present in the bathtub are not important.

10 **[0013]** The bathtub 101 comprises a main concave body 102 surrounded by a rim 103.

[0014] As is known in the prior art, the sanitary fixture 100 comprises a tap 104, a shower head 105, a series of hydraulic controls 106 and a control panel 107 for further devices connected to the bathtub 101 but not illustrated in the accompanying drawings. The control panel 107 is arranged opposite a head rest 108 on which the user may rest his head when lying in the bathtub 101.

15 **[0015]** The sanitary fixture 100 according to the present invention is characterized in that a trough 109 is connected to the bathtub 101 to drain the recirculating water.

[0016] The trough 109 follows the path of the rim 103.

20 **[0017]** Moreover, the trough 109 can be obtained as an integral piece with the rim 103 and with the main concave body 102.

25 **[0018]** In use, the rim 103 of the bathtub 101 is substantially flush with a floor PAV (which may be of the "floating" type) and the trough 109 extends substantially beneath said floor PAV.

30 **[0019]** Moreover, in use, the trough 109 is covered by at least one removable horizontal solid cover panel 110.

35 **[0020]** In this context the term "solid" used with reference to the generic panel 110 means that said panel 110 is completely covered with a layer of material without any apertures, slits, etc.

[0021] On the opposite side with respect to the rim 103 the trough 109 continues in a tray VS the perimeter of which, in the embodiment shown in figure 1, is substantially rectangular in shape.

40 **[0022]** According to a preferred embodiment the tray VS and the trough 109 are obtained as an integral piece (for example moulded from a single sheet) with the rim 103 and the main concave body 102.

45 **[0023]** Between the rim 103 and the removable solid panel 110 there is a first gap INT1 to drain the recirculating water towards the trough 109. In use, the recirculating water skims over the rim 103 as it flows out of the main concave body 102 towards a first drainage pipe SC1.

50 **[0024]** Moreover, the bathtub 101, the trough 109 and the tray VS are housed in a recess SS obtained in the floor PAV. The perimeter of the tray VS substantially traces the edge SS* of the recess SS.

55 **[0025]** In the embodiment illustrated in figures 1, 2 the recess SS is substantially rectangular in shape to house the oblong-shaped bathtub 101.

[0026] The bathtub 101 and the trough 109 are supported by a supporting structure SUPP provided with feet

PP.

[0027] Moreover, in the space between an outer edge 109a of the trough 109 and the edge SS* of the recess SS there are four removable plates PT1, PT2, PT3, PT4 which rest on the tray VS. A second gap INT2 is formed between the removable plates PT1, PT2, PT3, PT4 and the outside edge 109a of the trough 109 through which a portion of the recirculating water flows towards said trough 109.

[0028] In other words, the recirculating water flows from the main concave body 102 to the trough 109 via the two gaps INT1 and INT2.

[0029] As shown in figure 1, the tap 104, the shower head 105 and the controls 106 are mounted on the removable plate PT2, while the control panel 107 rests on the removable plate PT3. Each removable plate PT1, PT2, PT3, PT4, fixed to the tray VS, is triangular in shape with two rectilinear catheti (along the edge SS* of the recess SS) and a curved hypotenuse (along the trough 109) and such as to follow a quarter of the length of the trough 109.

[0030] The removable plates PT1, PT2, PT3, PT4 are also supported by the supporting structure SUPP of the fixture 100.

[0031] In the embodiment illustrated in figures 1, 2 the trough 109 is covered with a plurality of removable solid panels 110a, 110b, 110c, 110d, 110e, 110f, 110g, 110h, 110i, 110l, 110m, 110n. For example, in correspondence with the removable plate PT1 there are the three removable solid panels 110a, 110b, 110c.

[0032] Moreover, each removable solid panel 110a, 110b, 110c, 110d, 110e, 110f, 110g, 110h, 110i, 110l, 110m, 110n represents a segment of the length of the trough 109.

[0033] For the expert in the field it is apparent that, according to the general principles of the present invention, the removable solid panels 110a, 110b, 110c, 110d, 110e, 110f, 110g, 110h, 110i, 110l, 110m, 110n, which are flush with the removable plates PT1, PT2, PT3 and PT4 and with the floor PAV, can be of any shape, but must, of course, guarantee complete covering of the trough 109, except, of course, for the gaps INT1, INT2.

[0034] Each removable plate PT1, PT2, PT3, PT4 and each removable solid panel 110a, 110b, 110c, 110d, 110e, 110f, 110g, 110h, 110i, 110l, 110m, 110n is covered with a respective material which may match the material (brick, terracotta, stone, marble, etc.) used to make the floor PAV, or may be covered with an anti-slip material that is different to the material used to make the floor PAV.

[0035] In either case the visual continuity of the floor PAV and of the respective removable plates PT1, PT2, PT3, PT4 and removable solid panels 110a, 110b, 110c, 110d, 110e, 110f, 110g, 110h, 110i, 110l, 110m, 110n must be guaranteed. In this respect, the removable solid panels 110a, 110b, 110c, 110d, 110e, 110f, 110g, 110h, 110i, 110l, 110m, 110n cannot be replaced by grids or the like.

[0036] The removable plates PT1, PT2, PT3, PT4 and

the removable solid panels 110a, 110b, 110c, 110d, 110e, 110f, 110g, 110h, 110i, 110l, 110m, 110n are the pieces of a kind of jigsaw puzzle, contained in the tray VS, a jigsaw puzzle that the user can put together to suit his specific functional requirements and taste.

[0037] Moreover, the material used to cover the removable solid panels 110a, 110b, 110c, 110d, 110e, 110f, 110g, 110h, 110i, 110l, 110m, 110n may be different to the material used to cover the removable plates PT1, PT2, PT3, PT4. Likewise, the removable solid panels 110b, 110c, 110d, 110e, 110f, 110g, 110h, 110i, 110l, 110m, 110n and removable plates PT1, PT2, PT3, PT4 may consist of different materials and/or have different designs

[0038] Together the floor PAV, the removable solid panels 110a, 110b, 110c, 110d, 110e, 110f, 110g, 110h, 110i, 110l, 110m, 110n and the removable plates PT1, PT2, PT3, PT4 form a floor surface SUP-CAL.

[0039] Moreover, the removable solid panels 110a, 110b, 110c, 110d, 110e, 110f, 110g, 110h, 110i, 110l, 110m, 110n and possibly the removable plates PT1, PT2, PT3, PT4 can be arranged so as to slope slightly towards one of the gaps INT1, INT2 to facilitate drainage towards the first drainage pipe SC1 of any water spray or drops that have landed on these (figure 2).

[0040] The trough 109 can also be arranged at a slope to facilitate the drainage of the recirculating water towards the first drainage pipe SC1.

[0041] As illustrated in figure 2, on the bottom of the main concave body 102 there is an inlet BC through which pressurized water enters the bathtub 101.

[0042] The water that is pumped into the bathtub 101 through the inlet BC is the recirculating water that is carried along the trough 109 and the first drainage pipe SC1.

It is apparent that the recirculating water is purified by means of specific purifying means (not illustrated) before being pumped into the bathtub through the inlet BC.

[0043] The water can be pumped through the inlet BC at a pressure such that the free surface of the water that is already in the bathtub 101 is raised slightly in the centre and, as it drains off into the gap INT1, forms a sort of convex surface which, especially if appropriately illuminated, generally has a significant emotional impact on the onlookers.

[0044] A second drainage pipe SC2 is also provided on the bottom of the main concave body 102 and is fitted with a plug TP, which can be removed by hand, or operated by means of a mechanism that is not illustrated. The second drainage pipe SC2 is used to empty the bathtub 102 quickly.

[0045] Therefore, the water enters the bathtub 101 through the tap 104 and/or the inlet BC, and leaves either through the first drainage pipe SC1, which is located in the trough 109, or, quickly, through the second drainage pipe SC2 on the bottom of said bathtub 101.

[0046] As illustrated in greater detail in figures 3, 4 a generic solid panel 110 comprises a plate 150 on the base 150a of which there are a plurality of transverse

ribs 150b that protrude with respect to said base 150a. Moreover, some of the transverse ribs 150b extend on two opposite sides of the plate 150 to form beak-like structures 150c that act as spacers for the formation of the gaps INT1, INT2.

[0047] The upper surface 150d of the plate 150 is covered, using known methods, with the material as chosen by the user (marble, terracotta, etc.).

[0048] The same applies for the general structure (with the exception in this case of transverse ribs) and for the covering of the removable plates PT1, PT2, PT3, PT4, which are screwed to the tray VS by means of screws VT (figure 3).

[0049] One of the advantages of the sanitary fixture according to the present invention consists of the fact that the free surface of the water in the bathtub can substantially be flush with the floor and the bathtub can be filled completely.

[0050] The panels also enable the trough to be inspected with ease.

Claims

1. Sanitary fixture (100) comprising a bathtub (101) provided with a main concave body (102) surrounded by a rim (103); sanitary fixture (100) wherein the rim (103) is provided with a trough (109) to drain the recirculating water, and wherein the length of the trough (109) follows the length of the rim (103); sanitary fixture (100) **characterized in that**, in use, the trough (109) is covered with at least one removable solid cover panel (110a, 110b, 110c, 110d, 110e, 110f, 110g, 110h, 110i, 110l, 110m, 110n), and **in that** between the rim (103) of the bathtub (101) and said at least one removable solid cover panel (110a, 110b, 110c, 110d, 110e, 110f, 110g, 110h, 110i, 110l, 110m, 110n) there is at least one gap (INT1) through which the recirculating water is drained towards said trough (109).
2. Sanitary fixture (100), according to claim 1, **characterized in that** said trough (109) is obtained as an integral piece with said rim (103) and with a tray (VS).
3. Sanitary fixture (100), according to claim 2, **characterized in that** said trough (109) is also obtained as an integral piece with said main concave body (102).
4. Sanitary fixture (100), according to any one of the previous claims, **characterized in that**, in use, the rim (103) of the bathtub (101) is substantially flush with the floor (PAV) and that the trough (109) extends substantially beneath said floor (PAV).
5. Sanitary fixture (100), according to claim 4, **characterized in that**, in use, the recirculating water skims over the rim (103) as it flows from the main concave

body (102) towards the trough (109).

6. Sanitary fixture (100), according to any one of the previous claims, **characterized in that**, in use, the cover of said trough (109) consists of a plurality of removable solid panels (110a, 110b, 110c, 110d, 110e, 110f, 110g, 110h, 110i, 110l, 110m, 110n) arranged in series and flush with the floor (PAV).
7. Sanitary fixture (100), according to claim 6, **characterized in that** a generic removable solid panel (110a, 110b, 110c, 110d, 110e, 110f, 110g, 110h, 110i, 110l, 110m, 110n) comprises a plate (150) on the base (150a) of which there are a plurality of transverse ribs (150b) which protrude with respect to said base (150a); some of the transverse ribs (150b) extending on two opposite sides of the plate (150) to form beak-like structures (150c) that act as spacers for the formation of the gaps (INT1, INT2).
8. Sanitary fixture (100), according to claim 6, **characterized in that** said removable solid panels (110a, 110b, 110c, 110d, 110e, 110f, 110g, 110h, 110i, 110l, 110m, 110n) and said floor (PAV) form part of a floor surface (SUP-CAL).
9. Sanitary fixture (100), according to any one of the previous claims, **characterized in that** the bathtub (101) and the trough (109) are supported by a supporting structure (SUPP).
10. Sanitary fixture (100), according to any one of the previous claims, **characterized in that** the bathtub (101), the trough (109) and a tray (VS) are housed in a recess (SS) obtained in a floor (PAV).
11. Sanitary fixture (100), according to claim 10, **characterized in that** in the space between the outer edge (109a) of the trough (109) and the edge (SS*) of the recess (SS) there are removable horizontal plates (PT1, PT2, PT3, PT4) fixed to said tray (VS).
12. Sanitary fixture (100), according to claim 11, **characterized in that** on at least one removable horizontal plate (PT1, PT2, PT3, PT4) there is at least one functional device (104, 105, 106, 107).
13. Sanitary fixture (100), according to claim 11 or claim 12, **characterized in that** each removable horizontal plate (PT1, PT2, PT3, PT4) is triangular in shape with two rectilinear catheti along the edge (SS*) of the recess (SS), and a curved hypotenuse along the trough (109) and such as to follow a portion of the length of said trough (109).
14. Sanitary fixture (100), according to claim 6 and claim 11, **characterized in that** the floor (PAV), the removable solid panels (110a, 110b, 110c, 110d, 110e,

110f, 110g, 110h, 110i, 110l, 110m, 110n) and the removable plates (PT1, PT2, PT3, PT4) together form a floor surface (SUP-CAL).

15. Sanitary fixture (100), according to claim 14, 5
characterized in that the removable solid panels (110a, 110b, 110c, 110d, 110e, 110f, 110g, 110h, 110i, 110l, 110m, 110n) and possibly the removable plates (PT1, PT2, PT3, PT4) are arranged so as to slope slightly towards a gap (INT1, INT2) to facilitate the drainage towards a drainage pipe (SC1) of any water spray or drops that have fallen on these. 10

16. Sanitary fixture (100), according to claim 14 or claim 15, **characterized in that** the trough (109) is arranged at a slope so as to facilitate the drainage of the recirculating water towards a drainage pipe (SC1). 15

17. Sanitary fixture (100), according to any one of the previous claims, **characterized in that** on the bottom of the main concave body (102) there is an inlet (BC) through which pressurized water enters the bathtub (101); the water is pumped at a pressure such that the free surface of the water already in the bathtub (10) is raised slightly in the centre and, when it drains into a gap (INT1), forms a convex surface. 20
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18. Sanitary fixture (100), according to claim 6 and claim 11, **characterized in that** the removable solid panels (110a, 110b, 110c, 110d, 110e, 110f, 110g, 110h, 110i, 110l, 110m, 110n) and the removable plates (PT1, PT2, PT3, PT4) are the pieces of a jigsaw puzzle, contained in the tray VS, a jigsaw puzzle that the user can put together to suit his specific functional requirements and taste. 30
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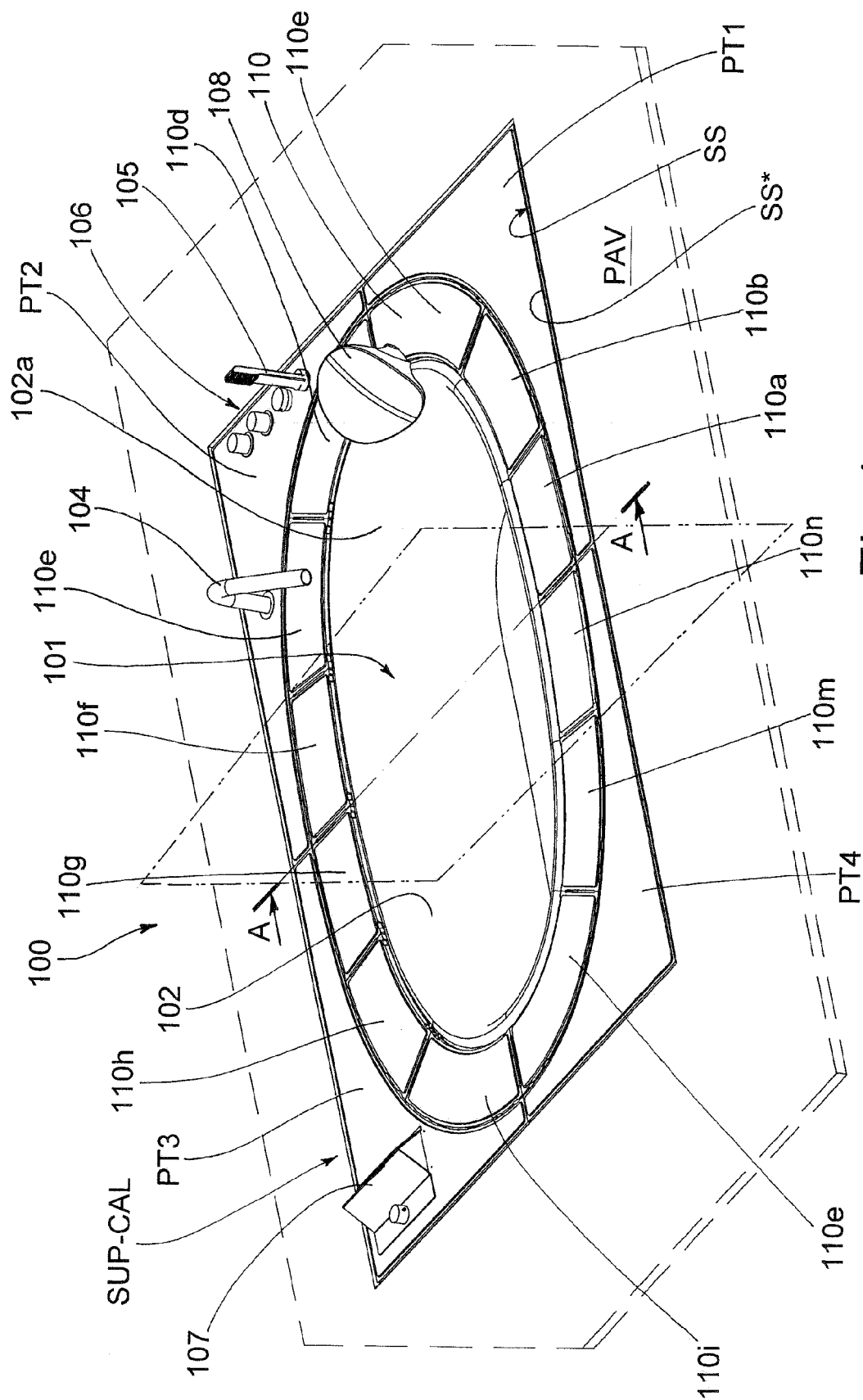


Fig. 1

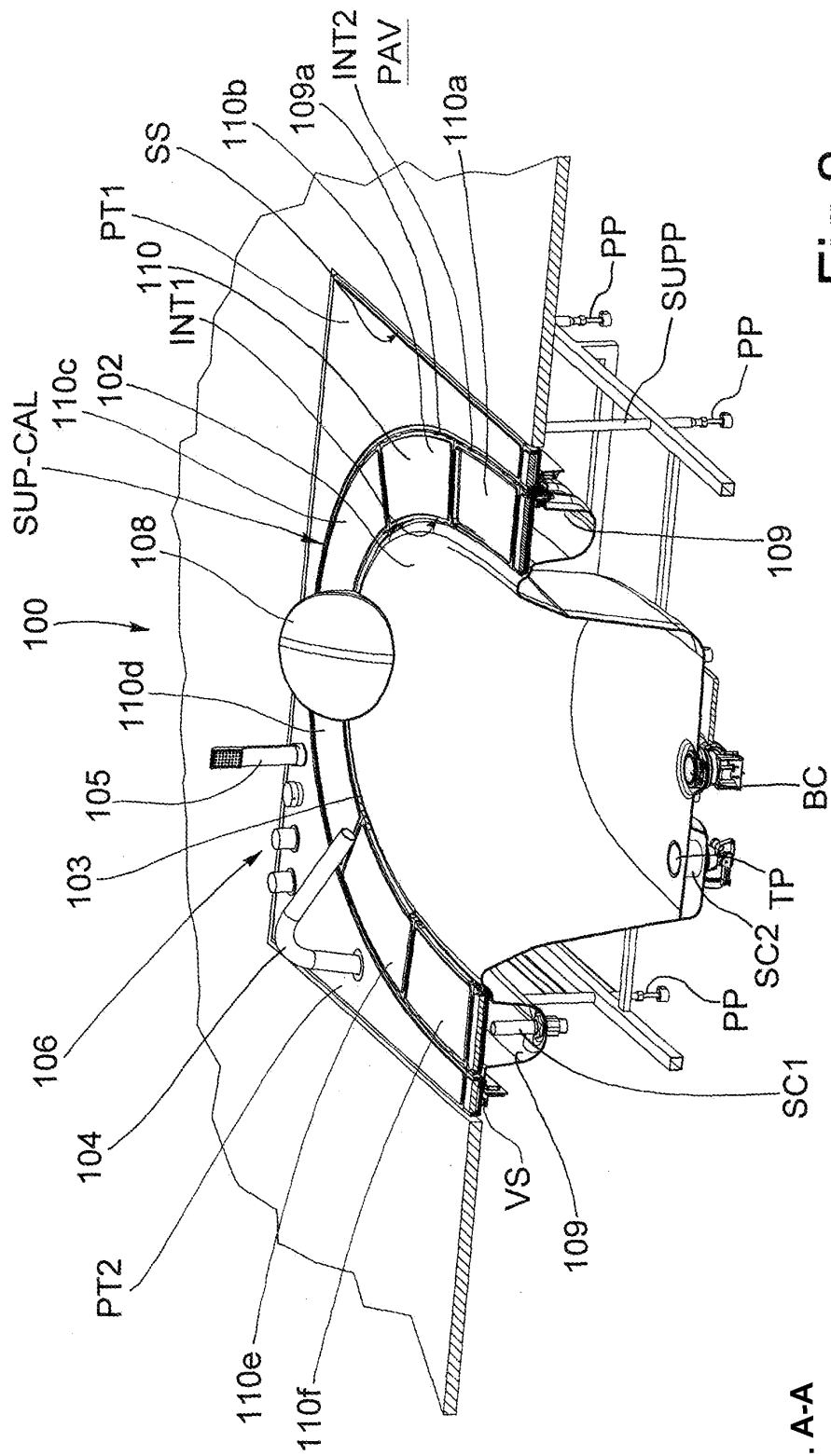


Fig. 2

SECT. A-A

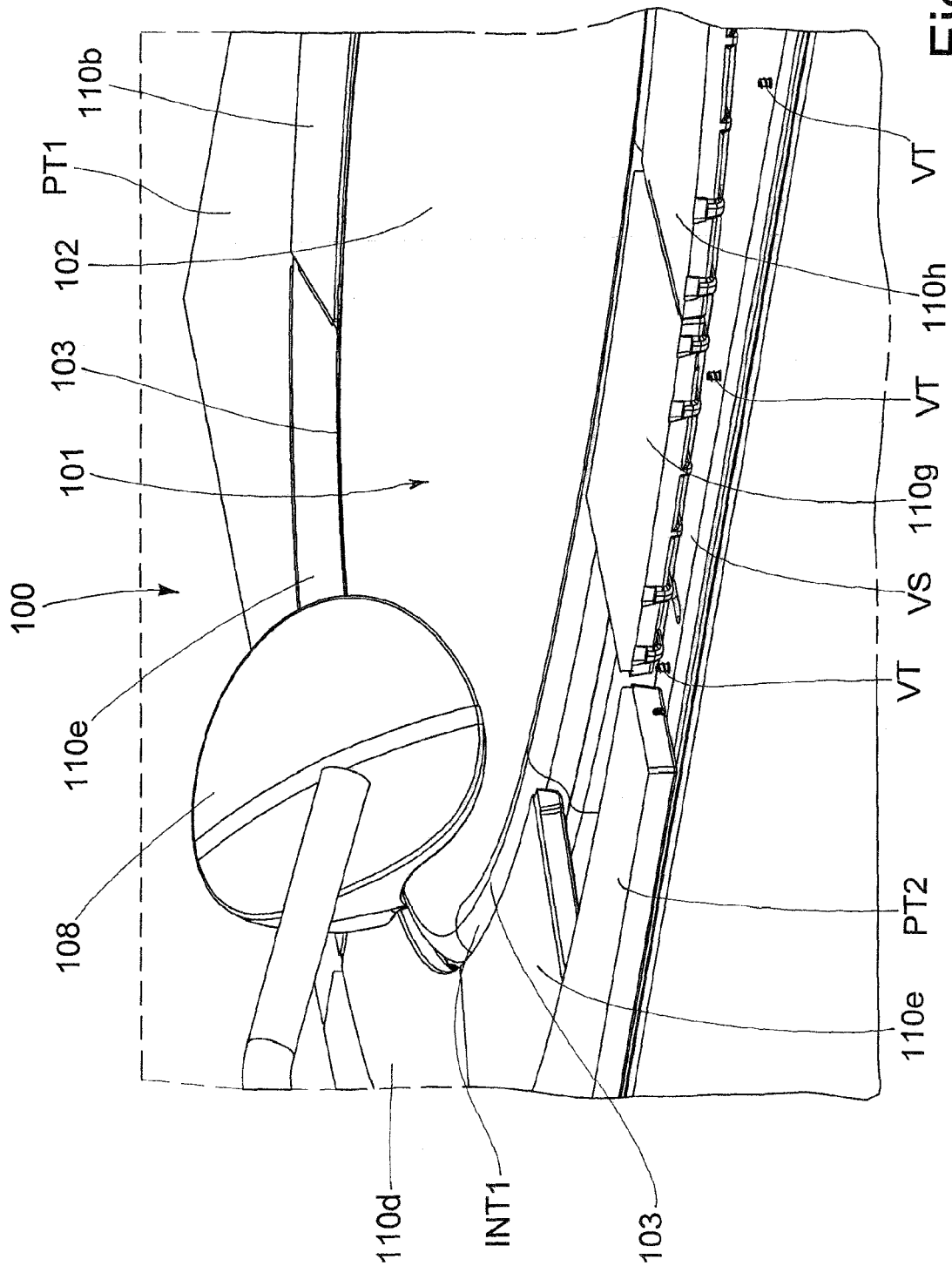


Fig.3

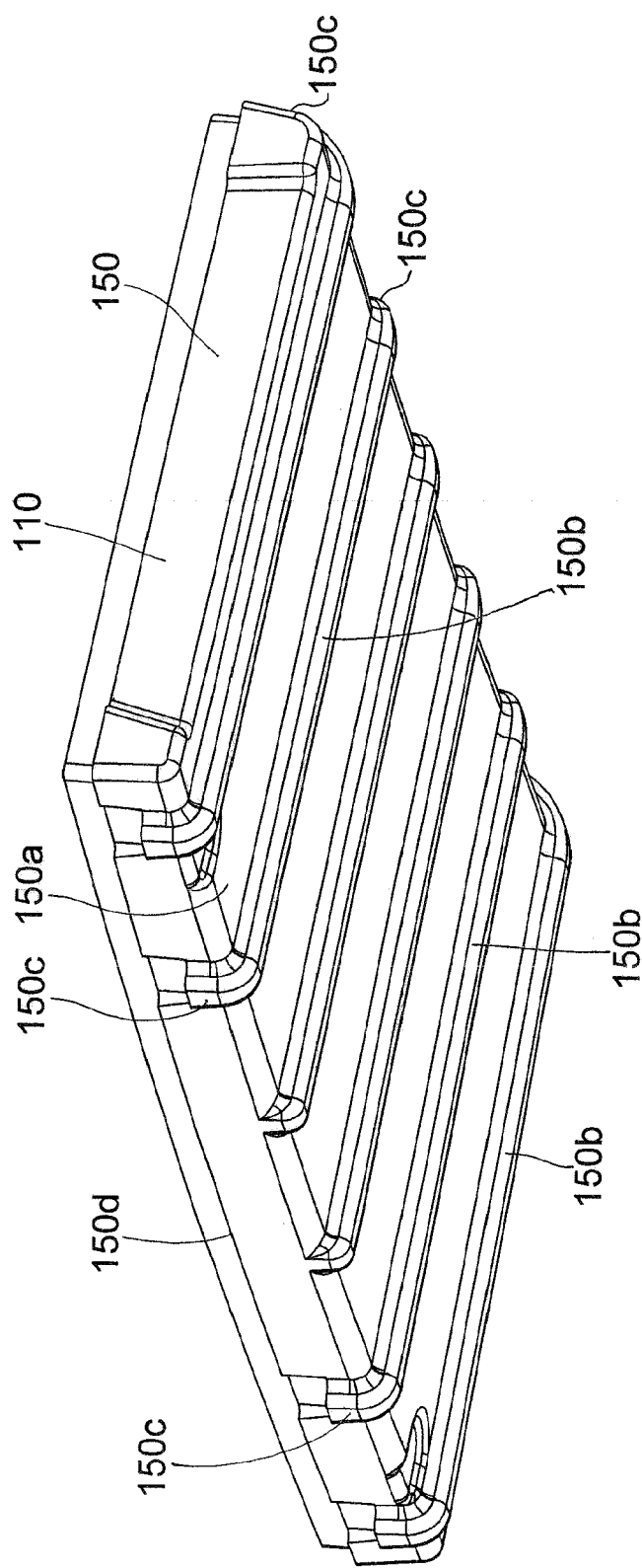


Fig.4