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(54) **Multifunctional bathroom facility and a method for manufacturing it**

(57) A bathroom facility provided with a bidet bowl (15) and a WC bowl (14) adjacent to each other. The bathroom facility comprises a monolithic body (12) which

forms an upper wall (13) of the bathroom facility and a first of said two bowls (15), said upper wall being provided with an opening (60) which provides access to a second of said two bowls (14).

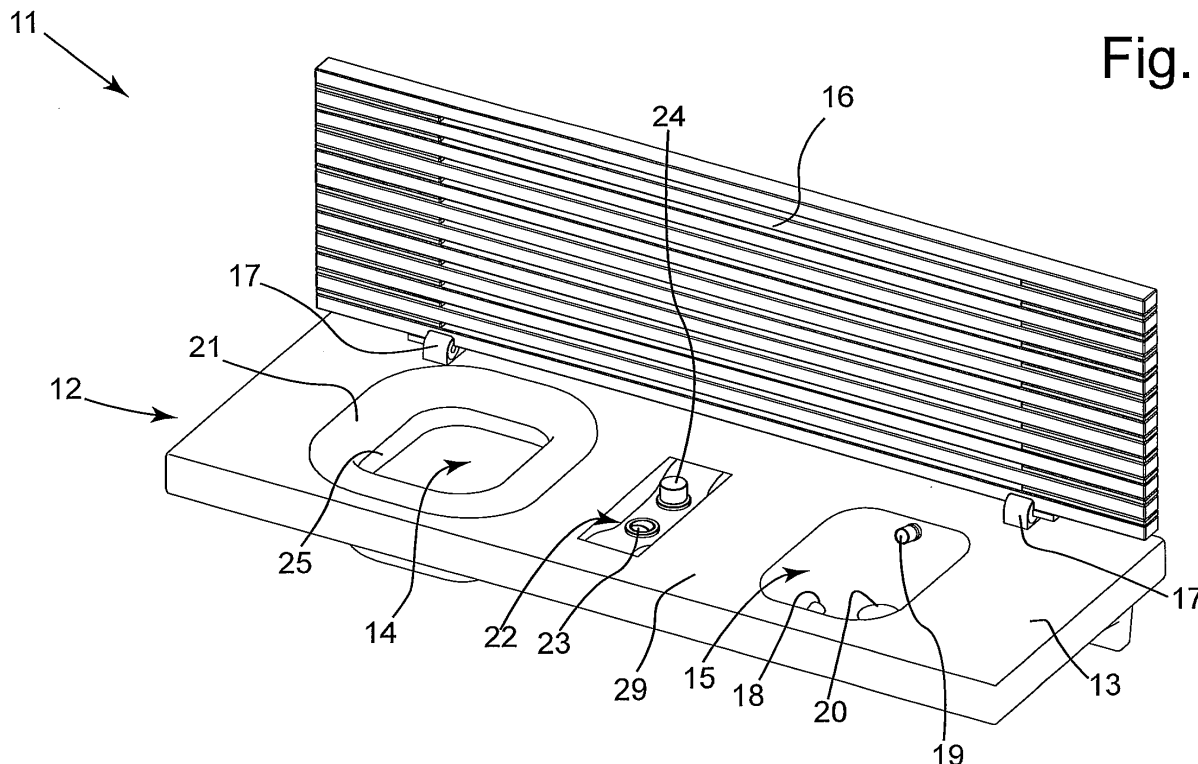


Fig. 1

Description

[0001] The present invention refers to an innovative multifunctional bathroom facility and to a method for manufacturing such a bathroom facility.

[0002] In the field, multifunctional bathroom facilities are known to be made comprising both a WC bowl and a bidet bowl, adjacent to each other. Such solutions, however, normally foresee the assembly of the single prefabricated components, causing the end product to be costly to make and of poor quality. Moreover, the various components (WC and Bidet) are simply juxtaposed adjacent to each other in this way substantially being positioned close to each other, to such an extent that the use of one of the components prevents the use of the other. The water dispensing controls are also difficult to reach for the user seated on the bathroom facility.

[0003] Moreover, the personalization of the reciprocal position of the WC and the bidet normally requires an *ad hoc* costly operation, according to the requirements.

[0004] The general purpose of the present invention is to avoid the aforementioned drawbacks by providing a method for the manufacture of multifunctional bathroom facilities which is cost-effective and which allows a desired position of both the WC and the bidet in the end product to be selected, without requiring exceedingly expensive machinery.

[0005] A further purpose of the invention is that of providing a multifunctional high quality bathroom facility, which is convenient to use as well as comfortable for the user. Another purpose of the invention is that of providing a bathroom facility which can be used as a furnishing element when it is not carrying out its primary function as a bathroom facility. In view of such a purpose, it has been thought to make, according to the invention, a method for manufacturing a bathroom facility provided with a bidet bowl and with a WC bowl adjacent to each other, comprising the steps of:

- making a monolithic body provided with an upper wall in which there are two concave portions each suitable for making a first type of bowl selected between WC bowl and bidet bowl,
- cutting one of the two concave portions from the monolithic body in such a manner to form an opening in said upper wall,
- fixing a bowl of a second type selected between WC bowl and bidet bowl at said opening.

[0006] Again according to the invention, it has been thought to make a bathroom facility provided with a bidet bowl and a WC bowl adjacent to each other, **characterized in that** it comprises a monolithic body which forms an upper wall of the bathroom facility and a first of said two bowls, said upper wall being provided with an opening which provides access to a second of said two bowls.

[0007] In order to clarify the explanation of the innovative principles of the present invention together with its

advantages with respect to the prior art, hereafter, with the help of the attached drawings, a possible embodiment shall be described given as an example applying such principles.

[0008] In the drawings:

- figure 1 represents a perspective view of a bathroom facility according to the invention with its cover raised,
- figure 2 represents a transversal section view of the bathroom facility, sectioned at the height of the WC bowl,
- figure 3 represents a sequence of operations for manufacturing of a bathroom facility according to the invention with the WC arranged on the left,
- figure 4 represents a sequence of operations for the manufacture of a bathroom facility with the WC arranged on the right.

[0009] With reference to the figures, in figure 1 a multifunctional bathroom facility 11 is shown, comprising a monolithic body 12 which forms an upper wall 13 of the bathroom facility and a bidet bowl 15, integral with the wall 13. The monolithic body 12 is made of ceramic material.

[0010] On its perimeter edge, the wall 13 comprises a downward projection 29, clearly represented also in figure 2. The upper wall 13 almost has an elongated rectangular shape. Laterally with respect to the bidet bowl 15, the body 12 has an opening 60 through which the WC bowl 14 can be accessed (see fig. 2). A ring-shaped slab 21, like the type normally used to form the seat for the user, is arranged above the WC bowl 14.

[0011] The bidet bowl comprises a lower discharge 20, and two water dispensers 18, 19, arranged at the front side and back side of the bowl, respectively.

[0012] The bathroom facility also advantageously comprises a cover 16, moveable between a vertical raised position (fig. 1), and a horizontal lowered position to cover the bidet bowl 15 and the WC bowl 14 (fig. 2). In the raised position, the cover 16 can act as a backrest, whereas in the lowered position, it has the function of a seat, forming a bench. Advantageously, the cover 16 has a rectangular shape, corresponding to that of the wall 13 of the monolithic body 12. The cover 16 is hinged to the body 12 at the hinges 17, on the rear side of the wall 13. Control means for supplying water to the two bowls are arranged between the bidet bowl 15 and the WC bowl 14. In particular, the control means comprise a handle 24 to control the dispensers of the bidet, and a button 23 to control the flushing of the WC. The control means 23, 24 are arranged in a concavity 22 formed on the upper surface of the wall 13, in such a manner so as to not interfere with the movement of the cover 16 towards the lowered horizontal position. The WC bowl 14 is formed with a separate piece that is fixed at the bottom of the monolithic body 12 at the opening 60. Advantageously, the monolithic body 12 is provided with an annular pro-

jection 25 which surrounds the opening 60 and faces downwards. The projection 25 is enclosed by an upper edge of the WC bowl 14 (fig. 2).

[0013] The WC bowl 14 comprises a water inlet 26 and a lower discharge 28, which communicates with the main cavity of the bowl through a siphon 27. The bowl 14 is advantageously realized in a single piece of ceramic. The gluing point of the bowl 14 against the wall 13 of the body 12 remains covered from sight due to the presence of the edge 29.

[0014] In figure 2 the vertical wall of the room in which the bathroom facility is applied is indicated with reference numeral 50.

[0015] Figures 3 and 4 show two sequences of manufacturing operations of bathroom facilities according to the invention with the WC and the bidet in different positions.

[0016] In particular, figure 3 shows the sequence for making a bathroom facility having the WC on the left.

[0017] Initially the monolithic body 12 is produced in ceramic, using techniques known in the field of manufacturing bathroom facilities. For example, the body 12 is made by casting the ceramic material in a suitable mould, drying the product, and then painting it after it has been extracted from the mould to then subject it to a baking process.

[0018] The monolithic body 12 is initially made with an upper wall 13 in which two concave portions 15, 15a are formed both suitable for making a bidet bowl. The two concave portions 15, 15a are almost identical to each other.

[0019] In a second step of the process, the concavity 15a is cut from the monolithic ceramic body 12, with a horizontal cut, in such a manner so as to form the opening 60 on the wall 13 of the body 12.

[0020] As can be clearly seen, the cutting is carried out in such a manner so as to keep the annular projection 25, already previously described.

[0021] Then, in a third step of the process, a WC bowl 14 is provided, which is brought close to the body 12 at the projection 25.

[0022] Finally, as shown in the last image of figure 3, the WC bowl 14 is fixed to the body 12, in such a manner so as to remain accessible through the opening 60. The fixing can be carried out according to any prior art, for example through gluing, on the lower bottom of the wall 13. Figure 4 shows an analogous sequence of images representing the productive process of a bathroom facility, this time with the WC on the right.

[0023] The monolithic body 112 is initially made identical to the monolithic body 12, with two bidet bowls 115, 115a. In this case, however, it is the bowl 115a on the right that is cut out from the body 112. At the opening which is formed on the upper wall 113 a WC bowl 114 is fixed, so as to enclose the annular projection 125.

[0024] A multifunctional bathroom facility is thus obtained having the WC positioned on the right.

[0025] The manufacturing method of the aforementioned

bathroom facilities allows the reciprocal positions of the WC and bidet to be personalized in a cost-effective manner, starting from a same piece obtained with a same mould.

[0026] At this point it is clear how the purposes of the present invention have been achieved.

[0027] In particular a multifunctional bathroom facility which is comfortable for the user has been provided. The WC and the bidet are not simply juxtaposed, but rather inserted in a ceramic plane, at a certain distance from one another. Between the two bowls there is space for the water supply controls, which can be easily accessed even in a seated position.

[0028] Moreover, the bathroom facility can be easily transformed into a bench, thanks to the cover element. The product is of high quality, from both a functional and aesthetic point of view. The bathroom facility can be manufactured cost-effectively, and the reciprocal position of the WC and bidet can be easily personalized during the production stage, without requiring special machinery, such as different shaped moulds.

[0029] Of course, the description above of an embodiment applying the innovative principles of the present invention is given as an example of such innovative principles and therefore should not be taken to limit the scope of protection claimed hereby.

[0030] For example, in the manufacturing method of the bathroom facility, the monolithic ceramic body could initially be made with two WC bowls, rather than two bidet bowls, foreseeing a subsequent cutting step of one of the two WCs and the fixing of a bidet bowl.

[0031] Other materials could also be used to make the bathroom facility, instead of ceramic, for example Corian, metal, impregnated wood or marble.

Claims

1. Method for making a bathroom facility provided with a bidet bowl (15) and a WC bowl (14) adjacent to each other, comprising the steps of:
 - making a monolithic body (12) provided with an upper wall (13) in which are present two concave portions (15, 15a) each adapted to realize a first type of bowl selected between WC bowl and bidet bowl,
 - cutting one (15a) of the two concave portions from the monolithic body in such a manner to form an opening (60) in the said upper wall (13),
 - fixing the bowl (14) of a second type selected between WC bowl and bidet bowl at said opening (60).
2. Method according to claim 1, **characterised in that** the monolithic body (12) is made of ceramic material.
3. Method according to claim 1, **characterised in that**

the monolithic body (12) is made by casting ceramic material in a mould, drying the cast material, painting and subsequent baking.

4. Method according to claim 1, **characterised in that** the said monolithic body (12) is initially made with two concave portions (15, 15a) adapted to make a bidet bowl. 5

5. Method according to claim 4, **characterised in that** the concave portion (15a) is cut leaving an annular portion (25) projecting downwards from the upper wall (13), the WC bowl (14) being fixed to the monolithic body (12) in such a manner to enclose said annular portion (25). 10
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6. Bathroom facility provided with a bidet bowl (15) and a WC bowl (14) adjacent to each other, **characterised in that** it comprises a monolithic body (12) which forms an upper wall (13) of the bathroom facility and a first of said two bowls (15), said upper wall being provided with an opening (60) which provides access to a second of said two bowls (14). 20

7. Bathroom facility according to claim 6, **characterised in that** the monolithic body (12) forms the bidet bowl (15) of the bathroom facility in a single piece. 25

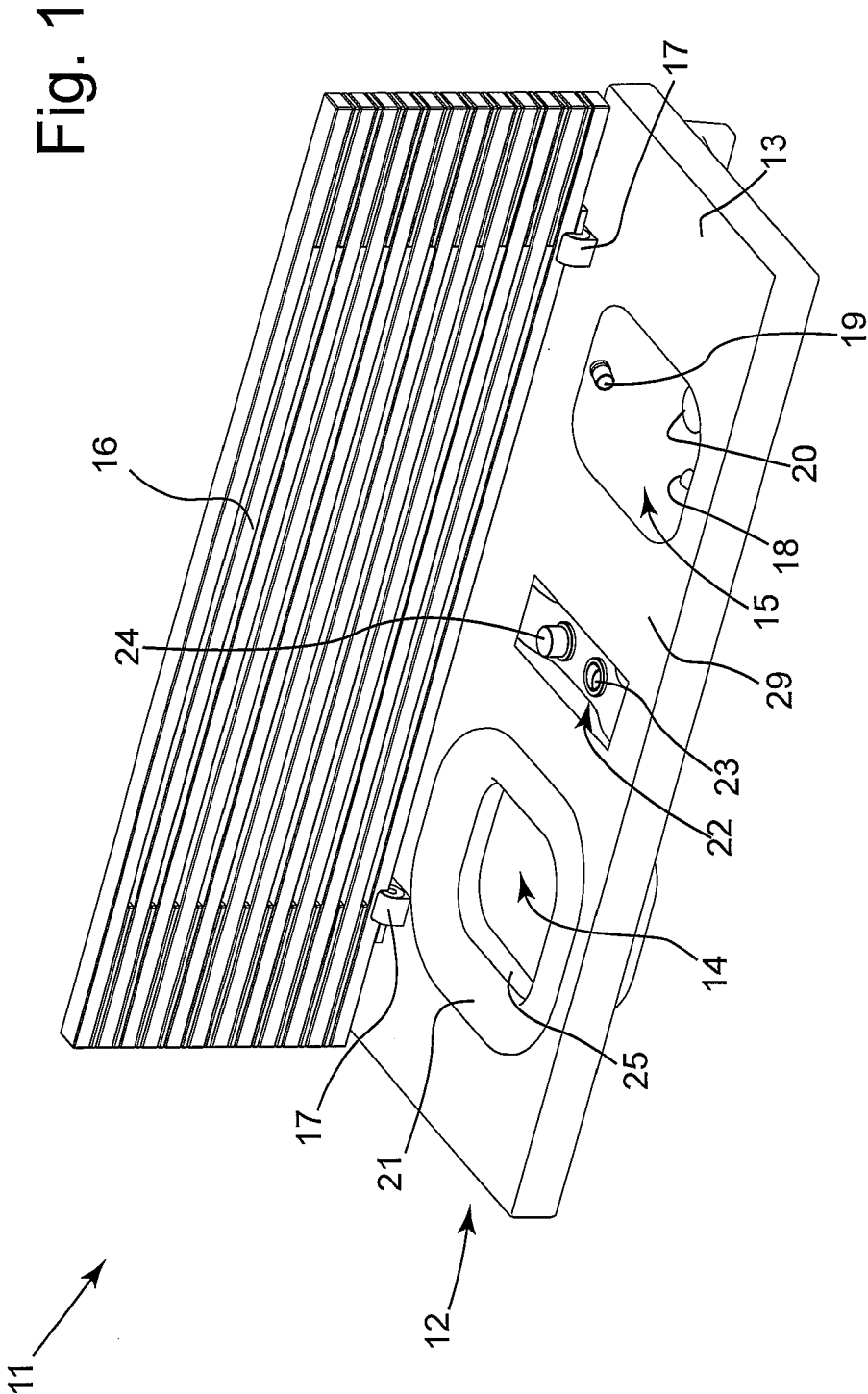
8. Bathroom facility according to claim 6, **characterised in that** the monolithic body (12) is made of ceramic material. 30

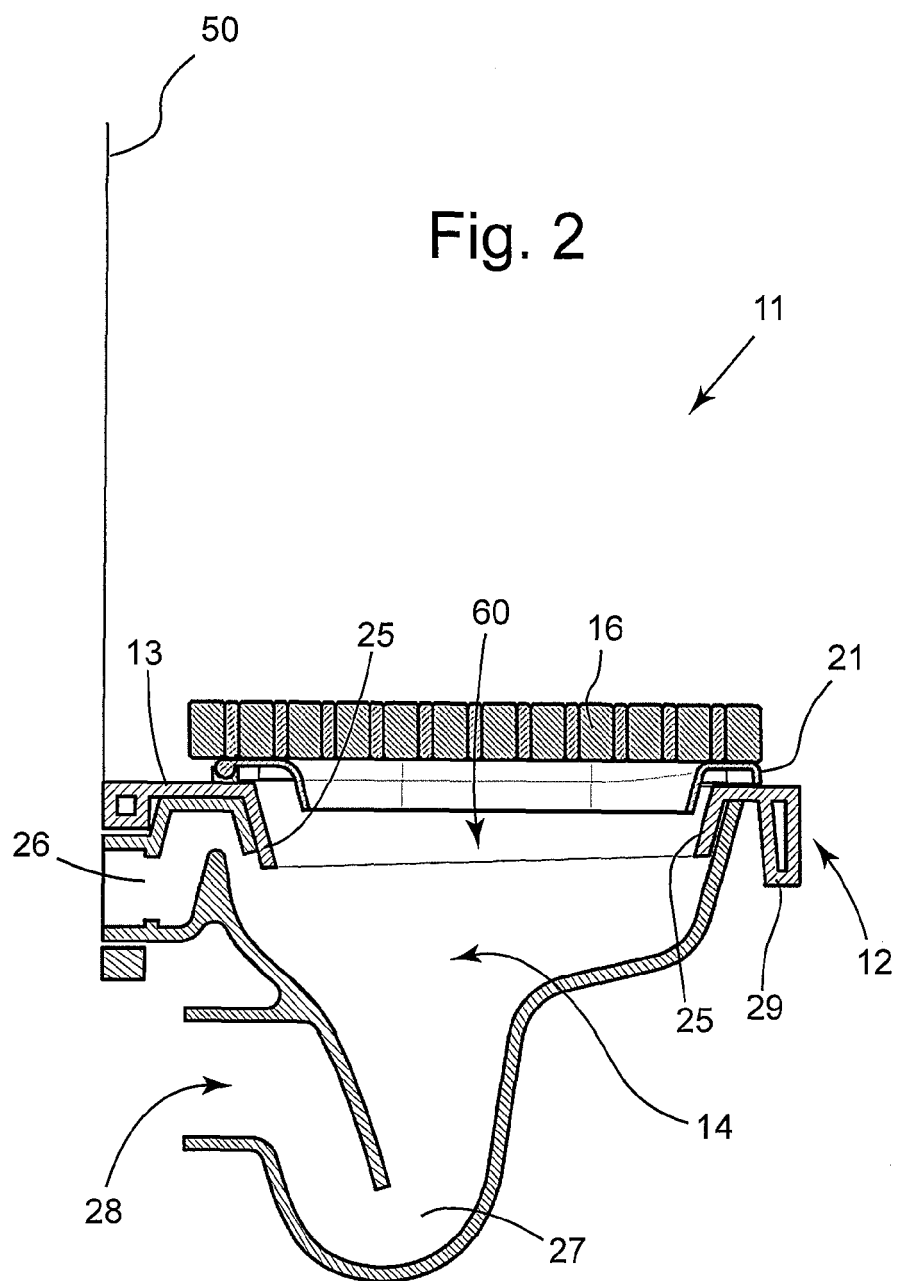
9. Bathroom facility according to claim 6, **characterised in that** it comprises a cover (16) moveable between a vertical position to render the bowls (14, 15) accessible and a horizontal position to cover both said bowls in such a manner to provide a seat. 35

10. Bathroom facility according to claim 6, **characterised in that** it comprises control means (23, 24) for supplying water to the bidet and WC bowls, the control means being arranged at the upper wall (13) of the bathroom facility between the two bowls (14, 15). 40

11. Bathroom facility according to claims 9 and 10, **characterised in that** the control means (23, 24) are arranged in a concavity (22) of the upper wall (13) of the bathroom facility, in such a manner not to interfere with the movement of the cover (16) towards the horizontal lowered position. 45
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12. Bathroom facility made by implementing the method according to one of claims 1 - 5. 55





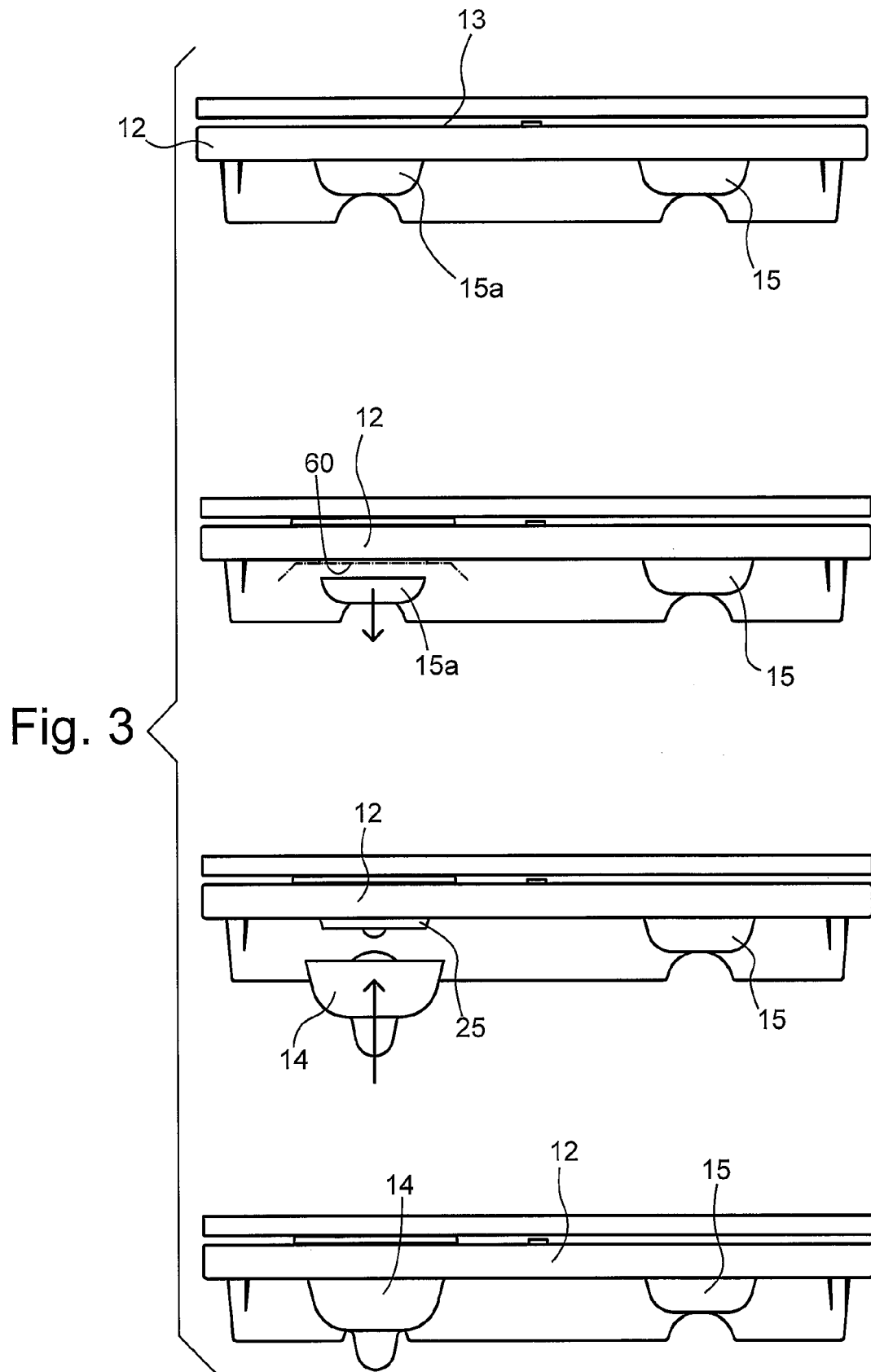
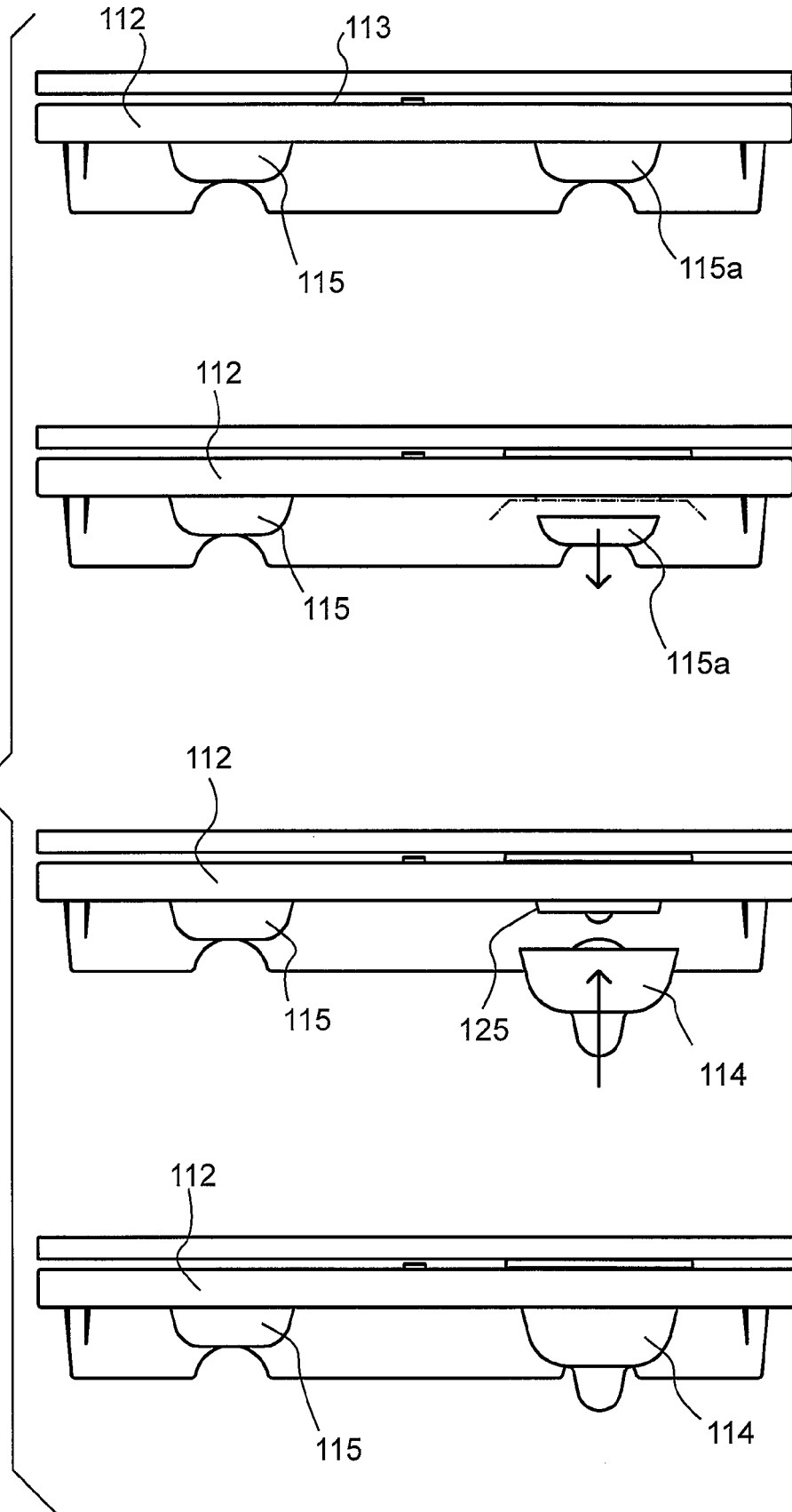


Fig. 4





EUROPEAN SEARCH REPORT

Application Number
EP 09 17 0381

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 43 08 269 A1 (JONETAT RENATO [DE]) 22 September 1994 (1994-09-22)	6-11	INV. E03C1/01 E03D11/02
A	* the whole document *	1,12	

X	US 2004/083543 A1 (STAMPONE ANTONIO MARIO [AR]) 6 May 2004 (2004-05-06)	6-11	
A	* abstract *	1,12	

X	US 2004/098799 A1 (ABNEY ERNEST [US]) 27 May 2004 (2004-05-27)	6-11	
A	* paragraph [0009]; figure 1 *	1,12	

The present search report has been drawn up for all claims			TECHNICAL FIELDS SEARCHED (IPC)
			E03C E03D
Place of search		Date of completion of the search	Examiner
Munich		10 February 2010	Flygare, Esa
<p>CATEGORY OF CITED DOCUMENTS</p> <p>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</p> <p>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</p> <p>& : member of the same patent family, corresponding document</p>			

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EPO FORM 1503 03/82 (P04C01)

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

EP 09 17 0381

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
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10-02-2010

Patent document cited in search report		Publication date	Patent family member(s)	Publication date
DE 4308269	A1	22-09-1994	NONE	

US 2004083543	A1	06-05-2004	NONE	

US 2004098799	A1	27-05-2004	NONE	

EPO FORM P0459

For more details about this annex : see Official Journal of the European Patent Office, No. 12/82